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## GENERAL: OIL FIELD EQUIPMENT AND MATERIALS

### The API Composite List

This is a directory of companies licensed to use the API Monogram and APIQR Registration Mark. This directory also lists the companies who have registered Perforator Designs with API, companies who participate in API's Training Provider Certification Program (TPCP), and ISO 14001 registered firms. It provides an alphabetical list of approximately 3,000 manufacturers licensed (at the time of publication) to mark their products with the API Monogram. It also contains a classified listing (by specific API specification) of these licensed manufacturers, as well as approximately 700 APIQR ISO 9000 registered firms. This directory was developed to assist those individuals desiring to purchase products and services meeting API specifications from companies whose quality systems and capabilities are verified by API's Training and Certification Programs. It is updated and published quarterly. A searchable on-line version of the composite list is continuously updated and can be found at <http://www.api.org/compositelist>.

Free\*

### Spec Q1/ISO 29001:2007 ◆

#### Specification for Quality Programs for the Petroleum and Natural Gas Industry

*Petroleum petrochemical and natural gas industries—Sector-specific quality management systems—Requirements for product and service supply organizations* (includes Addendum 1, June 2010)

Defines the quality management system requirements for the design, development, production, installation and service of products for the petroleum, petrochemical and natural gas industry. This specification also sets forth the minimum quality management system requirements, which applied in conjunction with API industry standards, are necessary to obtain a license to use the API monogram.

This edition of API Spec Q1 is the identical national adoption of ISO 29001, *Petroleum petrochemical and natural gas industries—Sector-specific quality management systems—Requirements for product and service supply organizations*. This specification contains the API Monogram Annex as part of the U.S. national adoption. Pages: 29

8th Edition | December 2007 | Product Number: GXQ108 | Price: \$102.00  
You may access Spec Q1 in a read-only platform at: [publications.api.org](http://publications.api.org)

### Spec Q1/ISO 29001:2007 \*

#### Specification for Quality Programs for the Petroleum and Natural Gas Industry—Chinese

Chinese translation of Specification Q1.

8th Edition | December 2007 | Product Number: GQ1007C | Price: \$107.00

### Spec Q1/ISO 29001:2007 \*

#### Specification for Quality Programs for the Petroleum and Natural Gas Industry—Russian

Russian translation of Specification Q1.

8th Edition | December 2007 | Product Number: GQ1007R | Price: \$107.00

### API Specification Q1 Training for Quality Programs

[www.api-u.org/Q1.html](http://www.api-u.org/Q1.html)

In two information-packed days you'll get an overview of the requirements of API Spec Q1, what makes it so valuable, and why you need to know about these essential elements of the program.

## OFFSHORE STRUCTURES

### RP 2A-WSD

#### Planning, Designing and Constructing Fixed Offshore Platforms—Working Stress Design

(includes Errata/Addenda dated December 2002, Errata/Supplement dated October 2005 and Errata/Supplement dated October 2007)

Contains requirements for the design and construction of new platforms and for the relocation of existing platforms used for drilling, development, and storage of hydrocarbons in offshore areas. In addition, guidelines are provided for the assessment of existing platforms in the event that it becomes necessary to make a determination of the "fitness for purpose" of the structure. Pages: 226

21st Edition | December 2000 | Reaffirmed: October 2010

Product Number: G2AWSWSD | Price: \$341.00

You may access RP 2A-WSD in a read-only platform at: [publications.api.org](http://publications.api.org)

### RP 2A-WSD-S2

#### Errata/Supplement 2 to Planning, Designing and Constructing Fixed Offshore Platforms—Working Stress Design

Contains new provisions for determining joint strength criteria, greatly expanded fatigue design considerations, and an improved presentation and discussion for the assessment of existing platforms. Also included are additional errata items and updated references to other standards. Pages: 92

21st Edition | October 2005 | Product Number: G2AWSWSDS | Price: \$118.00

### Spec 2B ◆

#### Fabrication of Structural Steel Pipe

Covers the fabrication of structural steel pipe formed from plate steel with longitudinal and circumferential butt-welded seams. Pipe is typically in sizes of 14 in. outside diameter and greater, with a wall thickness  $\frac{3}{8}$  in. and greater (up to a nominal 40 ft in length) and is suitable for use in construction of welded offshore structures. The use of the ERW process or spiral welded pipe is not included in this specification. Pipe fabricated under this specification is intended to be used primarily in piling and main structural members, including tubular truss connections, where internal stiffeners are not usually required. Pages: 8

6th Edition | July 2001 | Reaffirmed: February 2007

Product Number: G02B06 | Price: \$80.00

### Spec 2C ◆

#### Offshore Cranes

Details the requirements for design, construction, and testing of offshore pedestal mounted cranes. Offshore cranes are defined in this specification as pedestal mounted elevating and rotating lift devices for transfer of materials or personnel to or from marine vessels and structures. Offshore cranes are typically mounted on a fixed (bottom supported) or floating platform structure used in drilling and production operations. API Spec 2C is not intended to be used for the design, fabrication, and testing of davits and/or emergency escape devices. API Spec 2C is also not intended to be used for shipboard cranes or heavy lift cranes. Pages: 58

6th Edition | March 2004 | Effective Date: September 1, 2004

Reaffirmed: October 2010 | Product Number: G02C06 | Price: \$129.00

You may access Spec 2C in a read-only platform at: [publications.api.org](http://publications.api.org)

\* These translated versions are provided for the convenience of our customers and are not officially endorsed by API. The translated versions shall neither replace nor supersede the English-language versions, which remain the official Standards. API shall not be responsible for any discrepancies or interpretations of these translations. Translations may not include any Addenda or Errata to the document. Please check the English-language versions for any updates to the documents.

# Exploration and Production

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## RP 2D

### Operation and Maintenance of Offshore Cranes

Intended to serve as a guide to crane owners and operators in developing operating and maintenance practices and procedures for use in the safe operation of pedestal-mounted revolving cranes on fixed or floating offshore platforms, jackup drilling rigs, semi-submersible drilling rigs and other types of mobile offshore drilling units (MODUs). Guidelines are also given for the pre-use inspection and testing of temporary cranes (also called self-erecting, leapfrog or bootstrap cranes) that are erected offshore. Pages: 54

6th Edition | May 2007 | Product Number: G02D06 | Price: \$120.00

You may access RP 2D in a read-only platform at: [publications.api.org](http://publications.api.org)

## Spec 2F ♦

### Mooring Chain

This specification covers flash-welded chain and forged center connecting links used for mooring of offshore floating vessels such as drilling vessels, pipe lay barges, derrick barges, and storage tankers. Pages: 16

6th Edition | June 1997 | Reaffirmed: October 2010

Product Number: G02F06 | Price: \$86.00

## RP 2FB

### Recommended Practice for Design of Offshore Facilities Against Fire and Blast Loading

Provides an assessment process for the consideration of fire and blast in the design of offshore structures and includes guidance and examples for setting performance criteria. This document complements the contents of the Section 18 of API RP 2A-WSD, 21st Edition with more comprehensive guidance in design of both fixed and floating offshore structures against fire and blast loading. Guidance on the implementation of safety and environmental management practices and hazard identification, event definition and risk assessment can be found in API RP 75 and the API RP 14 series. The interface with these documents is identified and emphasized throughout, as structural engineers need to work closely with facilities engineers experienced in performing hazard analysis as described in API RP 14J, and with the operator's safety management system as described in API RP 75. Pages: 63

1st Edition | April 2006 | Product Number: G2FB01 | Price: \$152.00

## RP 2FPS

### Recommended Practice for Planning, Designing, and Constructing Floating Production Systems

This recommended practice provides guidelines for design, fabrication, installation, inspection and operation of floating production systems (FPSs). A FPS may be designed with the capability of one or more stages of hydrocarbon processing, as well as drilling, well workover, product storage, and export. This document addresses only floating systems where a buoyant hull of some form supports the deck, production, and other systems. Bottom-fixed components, such as self-supporting risers, and station keeping systems, such as turret mooring, catenary anchor leg mooring (CALM), single anchor leg mooring (SALM), etc. are considered as ancillary components and are addressed in more detail in other API recommended practices. Pages: 95

1st Edition | March 2001 | Reaffirmed: October 2010

Product Number: G2FPS1 | Price: \$165.00

You may access RP 2FPS in a read-only platform at: [publications.api.org](http://publications.api.org)

## Spec 2H ♦

### Carbon Manganese Steel Plate for Offshore Platform Tubular Joints

Covers two grades of intermediate strength steel plates up to 4 in. thick for use in welded construction of offshore structures, in selected critical portions which must resist impact, plastic fatigue loading, and lamellar tearing. These steels are intended for fabrication primarily by cold forming and welding as per API Spec 2B. The welding procedure is of fundamental importance and it

is presumed that procedures will be suitable for the steels and their intended service. Conversely, the steels should be amenable to fabrication and welding under shipyard and offshore conditions. Pages: 24

9th Edition | July 2006 | Effective Date: February 1, 2007

Product Number: G02H09 | Price: \$91.00

## Bull 2HINS

### Guidance for Post-hurricane Structural Inspection of Offshore Structures

This bulletin provides guidance for above- and below-water post-hurricane structural inspections of fixed and floating structures in the Gulf of Mexico. The goal of these special inspections is to determine if a structure sustained hurricane-induced damage that affects the safety of personnel, the primary structural integrity of the asset, or its ability to perform the purpose for which it was intended. This document should be used in conjunction with the applicable API RPs for the structure as well as any structure specific owner or regulatory requirements. Pages: 16

1st Edition | May 2009 | Product Number: G2HINS01 | Price: \$80.00

## RP 2I

### In-Service Inspection of Mooring Hardware for Floating Drilling Units

RP 2I provides guidelines for inspecting mooring components of mobile offshore drilling units (MODUs) and permanent floating installations. This edition includes:

- inspection guidelines for steel permanent moorings on permanent floating installations are added;
- inspection guidelines for fiber ropes used for permanent and MODU moorings are included;
- special guidance for MODU mooring inspection in the areas of tropical cyclone is provided.

Although this recommended practice was developed for the primary moorings of MODUs and permanent floating installations, some of the guidelines may be applicable to moorings of other floating vessels such as pipe-laying barges and construction vessels. Also some of the guidelines may be applicable to secondary or emergency moorings such as mooring for jack-up units, shuttle tanker mooring, and dynamic positioning (DP) vessel harbor mooring. The applicability of this document to other floating vessels and moorings is left to the discretion of the user. Pages: 73

3rd Edition | April 2008 | Product Number: G02I03 | Price: \$143.00

## Bull 2INT-DG

### Interim Guidance for Design of Offshore Structures for Hurricane Conditions

This bulletin provides guidance on the use of updated hurricane winds, waves, surge and current conditions in API Bull 2INT-MET in the design of offshore structures in the Gulf of Mexico, particularly in the central region and its adjoining transitions. This bulletin is intended to cover the design of the structural systems of the following types of offshore platforms:

- steel jacket or template platforms, towers and compliant towers;
- minimum non-jacket and special structures (including caissons) defined in API RP 2A-WSD;
- tension leg platforms;
- moored, floating platforms (semi-submersible shaped, spar shaped, ship shaped).

Bulletin 2INT-DG should be used in conjunction with RP 2A-WSD, Bull 2TD, RP 2T, RP 2FPS, RP 2SK, and RP 2RD. Pages: 9

1st Edition | May 2007 | Product Number: G2DGINT | Price: \$55.00

## Bull 2INT-EX

### Interim Guidance for Assessment of Existing Offshore Structures for Hurricane Conditions

This bulletin provides guidance on the use of updated hurricane winds, waves, surge and current conditions in API Bull 2INT-MET for the assessment of existing offshore structures in the Gulf of Mexico, particularly in the central region and its adjoining transitions. This bulletin is intended to cover the design of the structural systems of the following types of offshore platforms:

- steel jacket or template platforms, towers and compliant towers;
- minimum non-jacket and special structures (including caissons) defined in RP 2A-WSD;
- tension leg platforms;
- moored, floating platforms (semi-submersible shaped, spar shaped, ship shaped).

Bulletin 2INT-EX should be used in conjunction with RP 2A-WSD, Bull 2TD, RP 2T, RP 2FPS, RP 2SK, and RP 2RD. Pages: 11

1st Edition | May 2007 | Product Number: G2EXINT | Price: \$55.00

## Bull 2INT-MET

### Interim Guidance on Hurricane Conditions in the Gulf of Mexico

Presents hurricane-driven metocean conditions (wind, wave, current and surge) for use with and reference by other API standards. These conditions are intended to replace the conditions currently found in API RP 2AWSD. The hurricane metocean conditions presently contained in the 21st Edition of API RP 2A have not been updated since 1993. Since that time, several major severe storms, most notably Opal (1995), Ivan (2004) and Katrina (2005) have affected the Gulf, resulting in increases to local extremes in the areas affected by these storms. Most importantly, however, industry's understanding of hurricane risk has continues to evolve. A new set of hurricane conditions have been derived for reference by other API standards using the latest hindcast storm record and incorporating the industry's best understanding to date of the regional dependence of storm intensity. Conditions are presented for four regions: West, West Central, Central, and East. Pages: 54

1st Edition | May 2007 | Product Number: G2INTMET | Price: \$82.00

## RP 2L

### Planning, Designing and Constructing Heliports for Fixed Offshore Platforms

Provides a guide for planning, designing, and constructing heliports for fixed offshore platforms. It includes operational consideration guidelines, design load criteria, heliport size and marking recommendations, and other heliport design recommendations. Pages: 14

4th Edition | May 1996 | Effective Date: June 1, 1996

Reaffirmed: March 2006 | Product Number: G02L04 | Price: \$80.00

## RP 2MOP/ISO 19901-6:2009 ■

### Marine Operations

#### Petroleum and natural gas industries—Specific requirements for offshore structures—Part 6: Marine Operations

Provides requirements and guidance for the planning and engineering of marine operations, encompassing the design and analysis of the components, systems, equipment and procedures required to perform marine operations, as well as the methods or procedures developed to carry them out safely. This document is also applicable to modifications of existing structures, e.g. installation of additional topsides modules.

This edition of RP 2MOP is the identical national adoption of ISO 19901-6:2009 (Identical), *Petroleum and natural gas industries—Specific requirements for offshore structures—Part 6: Marine Operations*. Pages: 168

1st Edition | July 2010 | Product Number: GG2MOP1 | Price: \$235.00

## Spec 2MT1 ◆

### Carbon Manganese Steel Plate With Improved Toughness for Offshore Structures

This specification covers one grade of intermediate strength steel plates for use in welded construction of offshore structures. These steels are intended for fabrication primarily by cold forming and welding as per API Spec 2B. The primary use of these steels is for Class "B" applications as defined in API RP 2A. API Specs 2H, 2W, and 2Y cover other steels providing improved mechanical properties and toughness for Class "A" applications and should be used where substantial z-direction stresses are expected. Pages: 6

2nd Edition | September 2001 | Effective Date: March 1, 2002

Reaffirmed: February 2007 | Product Number: G2MT12 | Price: \$80.00

## Spec 2MT2 ◆

### Rolled Shapes with Improved Notch Toughness

This specification covers rolled shapes (wide flange shapes, angles, etc.), having a specified minimum yield strength of 50 ksi (345 Mpa), intended for use in offshore structures. Commonly available Class A, Class B, and Class C beams refer to degrees of fracture criticality as described in API RP 2A-WSD, with Class C being for the least critical applications. For special critical applications, Class AAZ shapes may be specified, by agreement, using Supplement S101. Pages: 8

1st Edition | June 2002 | Effective Date: December 1, 2002

Reaffirmed: October 2010 | Product Number: G2MT21 | Price: \$76.00

## RP 2N

### Planning, Designing, and Constructing Structures and Pipelines for Arctic Conditions

(includes Errata dated December (2009))

Contains considerations that are unique for planning, designing, and constructing Arctic systems. Used with other applicable codes and standards like API RP 2A or RP 1111, this recommended practice provides guidance to those involved in the design of Arctic systems. The systems covered in this recommended practice for the Arctic environment include:

- offshore concrete, steel, and hybrid structures, sand islands, and gravel islands used as platforms for exploration drilling or production;
- offshore ice islands used as platforms for exploration drilling;
- near shore causeways;
- offshore pipelines;
- shore crossings for pipelines. Pages: 82

2nd Edition | December 1995 | Reaffirmed: April 2007

Product Number: G02N02 | Price: \$137.00

## RP 2RD

### Design of Risers for Floating Production Systems (FPSs) and Tension-Leg Platforms (TLPs)

(includes Errata dated June 2009)

This document addresses structural analysis procedures, design guidelines, component selection criteria and typical designs for all new riser systems used on FPSs. Guidance is also given for developing load information for the equipment attached to the ends of the risers. The recommended practice for structural design of risers, as reflected in this document, is generally based on the principles of limiting stresses in the risers and related components under normal, extreme, and accidental conditions. This document assumes that the risers will be made of steel or titanium pipe or unbonded flexible pipe. However, other materials, such as aluminum, are not excluded if risers built using these materials can be shown to be fit for purpose. Design considerations for unbonded flexible pipe are included primarily by reference to API RP 17B and API Spec 17J. Pages: 163

1st Edition | June 1998 | Reaffirmed: May 2006

Product Number: G02RD1 | Price: \$203.00

You may access RP 2RD in a read-only platform at: [publications.api.org](http://publications.api.org)

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## Bull 2S

### Design of Windlass Wildcats for Floating Offshore Structures

Covers the design of windlass wildcats to ensure proper fit and function between wildcat and mooring chain. Wildcats are of the five-whelp type for use with studlink anchor chain conforming to the classification society grades 1,2 and 3, ORQ and Grade 4 chain. Wildcat dimensions are provided for chains in integral  $\frac{1}{8}$  in. (3 mm) steps, ranging in size from 2 in. to 4 in. (51 mm to 102 mm). Wildcat dimensions for chain in intermediate  $\frac{1}{16}$  in. (1.5 mm) steps are not provided, but wildcats in these sizes are permitted within the scope of this publication. Pages: 7

2nd Edition | November 1995 | Reaffirmed: January 2001

Product Number: G02S02 | Price: \$73.00

## RP 2SK

### Design and Analysis of Stationkeeping Systems for Floating Structures

(includes Addendum 1 dated May 2008)

Presents a rational method for analyzing, designing or evaluating mooring systems used with floating units. This method provides a uniform analysis tool which, when combined with an understanding of the environment at a particular location, the characteristics of the unit being moored, and other factors, can be used to determine the adequacy and safety of the mooring system. Some design guidelines for dynamic positioning systems are also included.

Appendix K of 2SK replaces Recommended Practice 95F. Pages 181

3rd Edition | October 2005 | Product Number: G2SK03 | Price: \$123.00

You may access RP 2SK in a read-only platform at: [publications.api.org](http://publications.api.org)

## RP 2SM

### Recommended Practice for Design, Manufacture, Installation, and Maintenance of Synthetic Fiber Ropes for Offshore Mooring (includes Addendum dated May 2007)

Provides guidelines on the use of synthetic fiber ropes for offshore mooring applications. The secondary purpose of this document is to highlight differences between synthetic rope and traditional steel mooring systems, and to provide practical guidance on how to handle these differences during system design and installation. Pages: 55

1st Edition | March 2001 | Product Number: G02SM1 | Price: \$165.00

You may access RP 2SM in a read-only platform at: [publications.api.org](http://publications.api.org)

## RP 2T

### Planning, Designing and Constructing Tension Leg Platforms

Provides an efficient approach to the design, fabrication, and installation of a tension leg platform (TLP) system. RP 2T has guidelines developed from successful practices employed for related structural systems in the offshore and marine industries. Emphasis is placed on participation of all engineering disciplines during each stage of planning, development, design, construction, installation, and inspection. Pages: 254

3rd Edition | July 2010 | Product Number: G02T04 | Price: \$220.00

You may access RP 2T in a read-only platform at: [publications.api.org](http://publications.api.org)

## Bull 2TD

### Guidelines for Tie-downs on Offshore Production Facilities for Hurricane Season

Addresses the need to evaluate the tie-downs in use on offshore production facilities for drilling rigs, permanent equipment, and facilities such as quarters, helidecks, etc. The information contained in this document is presented as recommendations to improve tie-down performance during hurricanes. Bulletin 2TD also addresses situations where failure of a drilling or workover rig would result in significant damage to the platform or adjacent infrastructure. Pages: 3

1st Edition | June 2006 | Product Number: G2TD01 | Price: \$49.00

## Bull 2U

### Stability Design of Cylindrical Shells

Contains semi-empirical formulations for evaluating buckling strength of stiffened and unstiffened cylindrical shells. Pages: 146

3rd Edition | June 2004 | Product Number: C02U03 | Price: \$185.00

## Bull 2V

### Design of Flat Plate Structures

Provides guidance for the design of steel flat plate structures. Pages: 139

3rd Edition | June 2004 | Product Number: G02V03 | Price: \$185.00

## Spec 2W

### Steel Plates for Offshore Structures, Produced by Thermo-Mechanical Control Processing (TMCP)

Covers two grades of high strength steel plates for use in welded construction of offshore structures, in selected critical portions which must resist impact, plastic fatigue loading, and lamellar tearing. Grade 50 is covered in thicknesses up to 6 in. (150 mm) inclusive, and Grade 60 is covered in thicknesses up to 4 in. (100 mm) inclusive. Pages: 15

5th Edition | December 2006 | Effective Date: June 1, 2007

Product Number: G02W05 | Price: \$91.00

## RP 2X

### Ultrasonic and Magnetic Examination of Offshore Structural Fabrication and Guidelines for Qualification of Technicians

Contains recommendations for determining the qualifications of technicians conducting inspections of offshore structural fabrication using ultrasonic and magnetic devices. Recommendations are also given for control of inspections in a general quality control program. Pages: 77

4th Edition | May 2004 | Reaffirmed: October 2010

Product Number: G02X04 | Price: \$142.00

## Spec 2Y

### Specification for Steel Plates, Quenched-and-Tempered, for Offshore Structures

Covers two grades of high strength steel plate for use in welded construction of offshore structures, in selected critical portions which must resist impact, plastic fatigue loading, and lamellar tearing. Grade 50 is covered in thicknesses up to 6 in. (150 mm) inclusive, and Grade 60 is covered in thicknesses up to 4 in. (100 mm) inclusive. Pages: 13

5th Edition | December 2006 | Effective Date: June 1, 2007

Product Number: G02Y05 | Price: \$91.00

## RP 2Z

### Preproduction Qualification for Steel Plates for Offshore Structures

Covers requirements for preproduction qualification, by special welding and mechanical testing, of specific steelmaking and processing procedures for the manufacture of steel of a specified chemical composition range by a specific steel producer. This is a Recommended Practice for material selection and qualification, but not for the performance of production weld joints. This Recommended Practice was developed in conjunction with, and is intended primarily for use with, API Specs 2W and 2Y. However, it may be used as a supplement to other material specifications (e.g. API Spec 2H) if so desired. Pages: 19

4th Edition | September 2005 | Reaffirmed: October 2010

Product Number: G02Z04 | Price: \$115.00

## RP 95J

### Gulf of Mexico Jackup Operations for Hurricane Season—Interim Recommendations

Presents an interim approach to siting jackup mobile offshore drilling units (MODUs) and to recommend certain operational procedures to enhance Jackup survivability and stationkeeping during hurricane season in the Gulf of Mexico during drilling, workover and while stacked (idled) at a non-sheltered location. This RP provides guidance and processes and when combined with an understanding of the environment at a particular location, the characteristics of the unit being utilized, and other factors, may be used to enhance operational integrity. This RP was developed through a cooperative arrangement with the International Association of Drilling Contractors' (IADC) Jackup Rig Committee. Specifically, this RP provides guidance in the following areas:

- site-including location-specific, geotechnical, and metocean;
- preloading process;
- air gap recommendations;
- unit preparations and evacuation;
- post storm recovery; and
- post storm inspections. Pages: 15

1st Edition | June 2006 | Reaffirmed: February 2008

Product Number: G95J01 | Price: \$60.00

You may access RP 95J in a read-only platform at: [publications.api.org](http://publications.api.org)

## DERRICKS AND MASTS

### Spec 4F ♦

#### Drilling and Well Servicing Structures

Covers the design, manufacture, and use of steel derricks, portable masts, crown block assemblies, and substructures suitable for drilling and well-servicing operations in the petroleum industry. It includes requirements for marking, inspection, a uniform method of rating, and design loading for the equipment. This document provides two product specification levels (PSLs) that define two levels of technical and quality requirements. Pages: 45

3rd Edition | January 2008 | Effective Date: July 1, 2008

Product Number: G04F03 | Price: \$93.00

### Spec 4F \*

#### Drilling and Well Servicing Structures—Chinese

Chinese translation of Specification 4F

3rd Edition | January 2008 | Product Number: G04F03C | Price: \$98.00

## RP 4G

### Recommended Practice for Use and Procedures for Inspection, Maintenance, and Repair of Drilling and Well Servicing Structures (includes Errata dated June 2004)

Provides guidelines and establishes recommended procedures for inspection, maintenance and repair of items for drilling and well servicing structures to maintain equipment serviceability. Items covered by this publication include masts/derricks, substructures, and accessories. This edition is a general revision and includes enhanced recommendations on inspection and personnel qualifications. Pages: 49

3rd Edition | April 2004 | Product Number: G04G03 | Price: \$103.00

## TUBULAR GOODS

### RP 5A3/ISO 13678:2010

#### Recommended Practice on Thread Compounds for Casing, Tubing, Line Pipe, and Drill Stem

Elements Petroleum and natural gas industries—Evaluation and testing of thread compounds for use with casing, tubing and line pipe (includes Errata dated April 2011)

Provides requirements, recommendations and methods for the testing of thread compounds intended for use on threaded casing, tubing, and line pipe connections; and for thread compounds intended for use on rotary shouldered connections. The tests outlined are used to evaluate the critical performance properties and physical and chemical characteristics of thread compounds under laboratory conditions.

This edition of API RP 5A3 is the identical national adoption of ISO 13678, *Petroleum and natural gas industries—Evaluation and testing of thread compounds for use with casing, tubing, line pipe and drill stem elements*. Pages: 47

3rd Edition | November 2009 | Product Number: GX5A303 | Price: \$140.00

### RP 5A5/ISO 15463:2003

#### Field Inspection of New Casing, Tubing, and Plain-end Drill Pipe

Petroleum and natural gas industries—Field inspection of new casing, tubing and plain end drill pipe (includes Errata dated December 2009)

Specifies requirements and gives recommendations for field inspection and testing of oil country tubular goods (OCTG). This International Standard covers the practices and technology commonly used in field inspection; however, certain practices may also be suitable for mill inspections. Covers the qualification of inspection personnel, a description of inspection methods and apparatus calibration and standardization procedures for various inspection methods. The evaluation of imperfections and marking of inspected OCTG are included. Applicable to field inspection of OCTG and is not applicable for use as a basis for acceptance or rejection.

This edition of API RP 5A5 is the identical national adoption of ISO 15463, *Petroleum and natural gas industries—Field inspection of new casing, tubing and plain end drill pipe*. Pages: 118

7th Edition | June 2005 | Reaffirmed: August 2010

Product Number: GX5A507 | Price: \$152.00

### Spec 5B ♦

#### Specification for Threading, Gauging, and Thread Inspection of Casing, Tubing, and Line Pipe Threads

Covers dimensions and marking requirements for API Master thread gauges. Additional product threads and thread gauges as well as instruments and methods for the inspection of threads for line pipe, round thread casing, buttress casing, and extreme-line casing connections are included. It is applicable when so stipulated in the API standard governing the product. The inspection procedures for measurements of taper, lead, height, and angle of thread are applicable to threads having 11 1/2 or less turns per in. (11 1/2 or less turns per 25.4 mm). All thread dimensions shown without tolerances are related to the basis for connection design and are not subject to measurement to determine acceptance or rejection of product. Pages: 125

15th Edition | April 2008 | Effective Date: October 1, 2008

Product Number: G05B15 | Price: \$114.00

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## RP 5B1

### Gauging and Inspection of Casing, tubing and Line Pipe Threads (includes Addendum 1 dated September 2004)

Covers threading, gauging, gauging practice, and inspection of threads for casing, tubing, and line pipe made under Specifications 5CT, 5DP, and 5L. Also covers gauge specifications and certification for casing, tubing, and line pipe gauges. Pages: 48

5th Edition | August 1999 | Reaffirmed: August 2010  
Product Number: G05B15 | Price: \$137.00

## RP 5C1

### Recommended Practice for Care and Use of Casing and Tubing

Covers use, transportation, storage, handling, and reconditioning of casing and tubing. Pages: 31

18th Edition | May 1999 | Reaffirmed: August 2010  
Product Number: G05C18 | Price: \$111.00

## TR 5C3/ISO 10400:2007

### Technical Report on Equations and Calculations for Casing, Tubing, and Line Pipe used as Casing or Tubing; and Performance Properties Tables for Casing and Tubing

Petroleum and natural gas industries—Formulae and calculations for casing, tubing, drill pipe and line pipe properties

Illustrates the equations and templates necessary to calculate the various pipe properties given in International Standards, including:

- pipe performance properties, such as axial strength, internal pressure resistance and collapse resistance;
- minimum physical properties;
- product assembly force (torque);
- product test pressures;
- critical product dimensions related to testing criteria;
- critical dimensions of testing equipment; and
- critical dimensions of test samples.

This edition of API TR 5C3 is the identical national adoption of ISO 10400, *Petroleum and natural gas industries—Formulae and calculations for casing, tubing, drill pipe and line pipe properties*.

This edition of API TR 5C3 supersedes Bulletins 5C2 and 5C3. Pages: 378  
1st Edition | December 2008 | Product Number: G5C301 | Price: \$200.00

## RP 5C5/ISO 13679:2002

### Recommended Practice on Procedures for Testing Casing and Tubing Connections

Petroleum and natural gas industries—Testing procedures for casing and tubing connections

Establishes minimum design verification testing procedures and acceptance criteria for casing and tubing connections for the oil and natural gas industries. These physical tests are part of a design verification process and provide objective evidence that the connection conforms to the manufacturer's claimed test load envelope and limit loads.

This edition of API RP 5C5 is the identical national adoption of ISO 13679, *Petroleum and natural gas industries—Testing procedures for casing and tubing connections*. Pages: 139

3rd Edition | July 2003 | Reaffirmed: August 2010  
Product Number: GX5C503 | Price: \$158.00

## RP 5C6

### Welding Connections to Pipe

Created to provide a standard industry practice for the shop or field welding of connectors to pipe. The technical content provides requirements for welding procedure qualification, welder performance qualification, materials, testing, production welding and inspection. Additionally, suggestions for ordering are included. Pages: 7

2nd Edition | March 2006 | Product Number: G05C62 | Price: \$83.00

## RP 5C7

### Recommended Practice for Coiled Tubing Operations in Oil and Gas Well Services

Provided to meet the need for design and operating recommendations covering the coiled tubing industry. Pages: 70

1st Edition | December 1996 | Reaffirmed: December 2007  
Product Number: G05C71 | Price: \$128.00

## Spec 5CRA/ISO 13680:2010 ◆■

### Specification for Corrosion Resistant Alloy Seamless Tubes for Use as Casing, Tubing and Coupling Stock

International Standard specifies the technical delivery conditions for corrosion-resistant alloy seamless tubulars for casing, tubing and coupling stock for two product specification levels.

This edition of API Spec 5CRA is the modified national adoption of ISO 13680, *Petroleum, and natural gas industries—Corrosion-resistant alloy seamless tubes for use as casing, tubing and coupling stock—Technical delivery conditions*. This specification contains the API Monogram Annex as part of the U.S. national adoption. Pages: 87

1st Edition | February 2010 | Effective Date: August 1, 2010  
Product Number: GG5CRA01 | Price: \$150.00

## Spec 5CT/ISO 11960:2004 ◆

### Specification for Casing and Tubing

Petroleum and natural gas industries—Steel pipes for use as casing or tubing for wells  
(includes Errata dated April 2006)

Specifies the technical delivery conditions for steel pipes (casing, tubing, plain end casing liners and pup-joints) and accessories. This standard is applicable to the following connections in accordance with API Spec 5B:

- short round thread casing (STC);
- long round thread casing (LC);
- buttress thread casing (BC);
- extreme-line casing (XC);
- non-upset tubing (NU);
- external upset tubing (EU);
- integral joint tubing (IJ).

This edition of API Spec 5CT is the modified national adoption of ISO 11960, *Petroleum and natural gas industries—Steel pipes for use as casing or tubing for wells*. This specification contains the API Monogram Annex as part of the U.S. national adoption. Pages: 291

8th Edition | July 2005 | Effective Date: January 1, 2006  
2-Year Extension: July 2010 | Product Number: GX5CT08 | Price: \$206.00

## Spec 5CT/ISO 11960:2004 \*

### Specification for Casing and Tubing—Chinese

Chinese translation of Specification 5CT.

8th Edition | July 2005 | Product Number: GX5CT08C | Price: \$217.00

\* These translated versions are provided for the convenience of our customers and are not officially endorsed by API. The translated versions shall neither replace nor supersede the English-language versions, which remain the official Standards. API shall not be responsible for any discrepancies or interpretations of these translations. Translations may not include any Addenda or Errata to the document. Please check the English-language versions for any updates to the documents.

## Spec 5DP/ISO 11961:2008 ◆■

### Specification for Drill Pipe

Petroleum and natural gas industries—Steel drill pipe

Specifies the technical delivery conditions for steel drill-pipes with upset pipe-body ends and weld-on tool joints for use in drilling and production operations in petroleum and natural gas industries for three product specification levels (PSL-1, PSL-2 and PSL-3).

This International Standard covers the following grades of drill-pipe:

- grade E drill-pipe;
- high-strength grades of drill-pipe, grades X, G and S.

This International Standard can also be used for drill-pipe with tool joints not specified by ISO or API standards. This International Standard is based on API Spec 5D and API Spec 7.

This edition of API Spec 5DP is the identical national adoption of ISO 11961, *Petroleum, petrochemical and natural gas industries—Steel drill pipe*. This specification contains the API Monogram Annex as part of the U.S. national adoption. Pages: 112

1st Edition | August 2009 | Effective Date: August 1, 2010

Product Number: GX5DP01 | Price: \$175.00

## Spec 5DP/ISO 11961:2008 \*

### Specification for Drill Pipe—Chinese

Chinese translation of Specification 5DP.

1st Edition | August 2009 | Product Number: GX5DP01C | Price: \$184.00

## Spec 5L/ISO 3183:2007 ◆

### Specification for Line Pipe

Petroleum and natural gas industries—Steel pipe for pipeline transportation systems

(includes Errata 1 dated January 2009, Addendum 1 dated February 2009, and Addendum 2 dated March 2010)

Specifies requirements for the manufacture of two product specification levels (PSL 1 and PSL 2) of seamless and welded steel pipes for use in pipeline transportation systems in the petroleum and natural gas industries.

This edition of API Spec 5L is the modified national adoption of ISO 3183, *Petroleum and natural gas industries—Steel pipe for pipeline transportation systems*. This specification contains the API Monogram Annex as part of the U.S. national adoption. Pages: 154

44th Edition | October 2007 | Effective Date: October 1, 2008

Product Number: G05L44 | Price: \$245.00

You may access Spec 5L in a read-only platform at: [publications.api.org](http://publications.api.org)

## Spec 5L/ISO 3183:2007 \*

### Specification for Line Pipe—Chinese

Chinese translation of Specification 5L.

44th Edition | October 2007 | Product Number: G05L44C | Price: \$258.00

## RP 5L1

### Recommended Practice for Railroad Transportation of Line Pipe

The recommendations provided herein apply to the transportation on railcars of API Spec 5L steel line pipe in sizes 2-<sup>3</sup>/<sub>8</sub> and larger in lengths longer than single random. These recommendations cover coated or uncoated pipe, but they do not encompass loading practices designed to protect pipe coating from damage. Pages: 5

7th Edition | September 2009 | Product Number: G5L107 | Price: \$57.00

You may access RP 5L1 in a read-only platform at: [publications.api.org](http://publications.api.org)

## RP 5L2

### Recommended Practice for Internal Coating of Line Pipe for Non-Corrosive Gas Transmission Service

Provides for the internal coating of line pipe used for non-corrosive natural gas service. It is limited to the application of internal coatings on new pipe prior to installation. Pages: 21

4th Edition | July 2002 | Reaffirmed: December 2007

Product Number: G5L204 | Price: \$80.00

## RP 5L3

### Recommended Practice for Conducting Drop-Weight Tear Tests on Line Pipe

Describes procedures for a recommended method for conducting drop-weight tear tests to measure the fracture appearance or fracture ductility of line pipe as referenced in API Spec 5L. Pages: 9

3rd Edition | January 1996 | Reaffirmed: October 2008

Product Number: G05L33 | Price: \$80.00

## RP 5L7

### Recommended Practice for Unprimed Internal Fusion Bonded Epoxy Coating of Line Pipe

Provides recommendations for materials, application, testing and inspection of internal fusion bonded epoxy coatings on line pipe. Pages: 25

2nd Edition | June 1988 | Reaffirmed: August 2010

Product Number: G02906 | Price: \$86.00

## RP 5L8

### Field Inspection of New Line Pipe

Covers the qualification of inspection personnel, a description of inspection methods, and apparatus calibration and standardization procedures for various inspection methods. The evaluation of imperfections and marking of inspected new line pipe are included. Also included are recommended procedures for field inspection and testing of new plain-end line pipe. This document was prepared specifically to address the practices and technology used in field inspection of line pipe, and certain parts are not suitable or appropriate for mill inspections. Pages: 39

2nd Edition | December 1996 | Reaffirmed: August 2010

Product Number: G05L82 | Price: \$121.00

## Spec 5L9 ◆

### Recommended Practice for External Fusion Bonded Epoxy Coating of Line Pipe

Provides standards for pipe suitable for use in conveying gas, water, and oil in both the oil and natural gas industries. Covers seamless and welded steel line pipe, including standard-weight and extra-strong threaded line pipe; and standard-weight plain-end, regular-weight plain-end, special plain-end, extra-strong plain-end, and double-extra-strong plain-end pipe; as well as bell and spigot and through-flowing (TFL) pipe. Pages: 35

1st Edition | December 2001 | Reaffirmed: August 2010

Product Number: G5L901 | Price: \$76.00

\* These translated versions are provided for the convenience of our customers and are not officially endorsed by API. The translated versions shall neither replace nor supersede the English-language versions, which remain the official Standards. API shall not be responsible for any discrepancies or interpretations of these translations. Translations may not include any Addenda or Errata to the document. Please check the English-language versions for any updates to the documents.

# Exploration and Production

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## Spec 5LC ♦

### Specification for CRA Line Pipe

Covers seamless, centrifugal cast and welded corrosion resistant alloy line pipe. Austenitic Stainless, and Martensitic Stainless, Duplex Stainless and Ni Base Alloys. Includes standard weight, regular weight, special, extra strong, and double extra strong plain end line pipe. Processes of manufacturer, chemical and physical requirements and methods of test. Metric units in this specification are shown in italic type in parentheses in the text and in many tables. Pages: 72

3rd Edition | July 1998 | Effective Date: December 31, 1998  
Reaffirmed: August 2006 | Product Number: G05LC3 | Price: \$152.00

## Spec 5LCP ♦

### Specification on Coiled Line Pipe (includes Errata dated July 2007)

Provides standards for pipe suitable for use in conveying gas, water, and oil in both the oil and natural gas industries. Covers welded steel continuously milled coiled line pipe in the size range 0.5 in. (12.7 mm) to 6.625 in. (168.3 mm). Pipe that is pipe-to-pipe welded outside the confines of the manufacturing plant is not included within this document. Pages: 42

2nd Edition | October 2006 | Product Number: G5LCP2 | Price: \$141.00

## Spec 5LD ♦

### CRA Clad or Lined Steel Pipe

Covers seamless, centrifugal cast, and welded clad steel line pipe, and lined steel pipe with improved corrosion-resistant properties. The clad and lined steel line pipe specified in this document shall be composed of a base metal outside and CRA layer inside the pipe. The base material shall conform to API Spec 5L, *Specification for Line Pipe*, except as modified in the 5LC document. Provides standards for pipe with improved corrosion resistance suitable for use in conveying gas, water, and oil in both the oil and natural gas industries. Pages: 36

3rd Edition | March 2009 | Effective Date: September 1, 2009  
Product Number: G05LD3 | Price: \$125.00

## RP 5LW

### Recommended Practice for Transportation of Line Pipe on Barges and Marine Vessels

Applies to the transportation of API Spec 5L steel line pipe by ship or barge. Covers both inland and marine waterways except in cases where the specific requirement of a paragraph references only marine or only inland-waterway transport. Pages: 5

3rd Edition | September 2009 | Product Number: G5LW03 | Price: \$57.00  
You may access RP 5LW in a read-only platform at: [publications.api.org](http://publications.api.org)

## RP 5SI

### Recommended Practice for Purchaser Representative Surveillance and/or Inspection at the Supplier

Establishes a set of general guidelines addressing the protocol between purchasers, suppliers and the purchaser representative for surveillance and/or inspection by the purchaser representative. It is a general document for use at the request of the purchaser of API products, and is intended to provide only general guidance to the industry. Addresses the relationship and responsibility of the purchaser, suppliers, and purchaser representatives regarding surveillance and/or inspection of products from placement of the order or the pre-production meeting, as appropriate, through the point of title transfer from suppliers to purchasers. Pages: 7

1st Edition | January 2006 | Product Number: G5SI01 | Price: \$55.00

## Spec 5ST ■

### Specification for Coiled Tubing—U.S. Customary and SI Units

Covers the manufacturing, inspection, and testing of all carbon and low alloy steel coiled tubing in Grades CT70, CT80, CT90, CT100 and CT110, in the designations and wall thicknesses given in Table A.5, that can be used as work strings, completion strings, and static installations in oil and gas wells. Coiled tubing may be ordered to this specification.

Coiled tubing is manufactured using the continuously milled process. This specification does not cover the joining of seamless or welded tubing segments in lengths less than 200 ft (61 m). Pages 68

1st Edition | April 2010 | Product Number: G5ST01 | Price: \$130.00

## Std 5T1

### Standard on Imperfection Terminology (includes Addendum 1 dated September 2003)

Provides definitions in English, French, German, Italian, Japanese, and Spanish for a number of defects which commonly occur in steel pipe. Pages: 44

10th Edition | September 2003 | Reaffirmed: August 2010  
Product Number: G05T10 | Price: \$111.00

## TR 5TRSR22

### Technical Report in SR22 Supplementary Requirements for Enhanced Leak Resistance LTC

Covers the supplemental requirements for Enhanced Leak Resistance LTC (SC22) connections and the changes in API Spec 5CT, API Std 5B, API 5B1, and API RP 5C1 needed to produce and inspect these connections. By agreement between the purchaser and manufacturer, the supplemental requirements for SR22 shall apply to connections manufactured in accordance with API Spec 5CT. Pages: 24

1st Edition | June 2002 | Product Number: GSR221 | Price: \$85.00

## RP 5UE

### Recommended Practice for Ultrasonic Evaluation of Pipe Imperfections (includes Addendum 1 dated April 2009)

Describes procedures which may be used to “prove-up” the depth or size of imperfections. Included in this practice are the recommended procedures for ultrasonic prove-up inspection of new pipe using the Amplitude Comparison Technique and the Amplitude-Distance Differential Technique for evaluation of:

- surface breaking imperfections in the body of pipe; and
- surface breaking and subsurface imperfections in the weld area of electric resistance, electric induction or laser welded pipe; and
- surface breaking and subsurface imperfections in the weld area of arc welded pipe. Pages: 22

2nd Edition | June 2005 | Reaffirmed: August 2010  
Product Number: G5UE02 | Price: \$76.00

## VALVES AND WELLHEAD EQUIPMENT

### Spec 6A/ISO 10423 ■◆

#### Specification for Wellhead and Christmas Tree Equipment Petroleum and natural gas industries—Drilling and production equipment—Wellhead and christmas tree equipment

Specifies requirements and gives recommendations for the performance, dimensional and functional interchangeability, design, materials, testing, inspection, welding, marking, handling, storing, shipment, purchasing, repair and remanufacture of wellhead and christmas tree equipment for use in the petroleum and natural gas industries. This document does not apply to field use, field testing or field repair of wellhead and christmas tree equipment.

This document is applicable to the following specific equipment: wellhead equipment (casing head housings, casing head spools, tubing head spools, cross-over spools, multi-stage head housings and spools); connectors and fittings (cross-over connectors, tubing head adapters, top connectors, tees and crosses, fluid-sampling devices, adapter and spacer spools); casing and tubing hangers (mandrel hangers, slip hangers); valves and chokes (single valves, multiple valves, actuated valves, valves prepared for actuators, check valves, chokes, surface and underwater safety valves and actuators, back-pressure valves); loose connectors (weld neck connectors, blind connectors, threaded connectors, adapter and spacer connectors, bullplugs, valve-removal plugs); and other equipment (actuators, hubs, pressure boundary penetrations, ring gaskets, running and testing tools, wear bushings).

This document defines service conditions, in terms of pressure, temperature and material class for the well-bore constituents, and operating conditions. This International Standard establishes requirements for five product specification levels (PSL). These five PSL designations define different levels of technical quality requirements.

This edition of Spec 6A is the modified national adoption of ISO 10423:2009, *Petroleum and natural gas industries—Drilling and production equipment—Wellhead and christmas tree equipment*. This specification contains the API Monogram Annex as part of the U.S. national adoption. Pages: 436

20th Edition | October 2010 | Effective Date: April 1, 2011

Product Number: GX06A20 | Price: \$252.00

You may access Spec 6A in a read-only platform at: [publications.api.org](http://publications.api.org)

### Std 6A718

#### Nickel Base Alloy 718 (UNS N07718) for Oil and Gas Drilling and Production Equipment

Provides requirements for Nickel Base Alloy 718 (UNS N07718) that are intended to supplement the existing requirements of API Spec 6A and ISO 10423. These additional requirements include detailed process control requirements and detailed testing requirements. The purpose of these additional requirements is to ensure that the Nickel Base Alloy 718 used in the manufacture of API Spec 6A or ISO 10423 pressure-containing and pressure-controlling components is not embrittled by the presence of an excessive level of deleterious phases. This standard is intended to apply to pressure containing and pressure controlling components covered by API Spec 6A and ISO 10423, but is not invoked by API Spec 6A and ISO 10423. This standard is applicable when invoked by the equipment manufacturer or the equipment purchaser. Pages: 18

2nd Edition | December 2009 | Product Number: G6A7182 | Price: \$85.00

### TR 6AF

#### Technical Report on Capabilities of API Flanges Under Combinations of Load

Presents the results of analysis work done in to establish the load capacity of all flanges give in the April 1986 editions of API 6A and API 6AB. A total of 69 different geometries were analyzed initially. The various loads considered were bolt makeup (preload), internal pressure, tension, and bending moment. All flanges were analyzed with an axisymmetric finite model for each of the four load cases. A post-processor program was written to calculate the maximum moment capacity for various levels of pressure and tension, based on linear superposition of results. Three different criteria were used to establish the maximum moment:

- ASME Section VIII, Division 2 allowable stress categories for the flange with the basic membrane stress allowable established by API;
- allowable bolt stresses as established by API; and
- loss of preload on the ring joint.

The results of this post-processing are presented in plots of pressure vs. allowable moment for various tension levels. Limitations to this work include:

- the effects of transverse shear or torsion were not considered in the analysis;
- dynamic, fatigue or fretting phenomena were not considered in these results; and
- thermal stresses or elevated temperature effects were not considered.

The charts are intended to be used only as general guidelines for design. These charts are not intended to replace a critical evaluation of any particular connection in an application where the charts show the flange to be marginal. Pages: 79

3rd Edition | September 2008 | Product Number: G6AF03 | Price: \$145.00

### TR 6AF1

#### Technical Report on Temperature Derating of API Flanges Under Combination of Loading

Continuation to the report on the capabilities of flanges under combined loadings (PRAC 86-21) which resulted in the publication of API Bulletin 6AF. Included in this technical report is an in-depth look into the effect of elevated temperatures of API flanges. The results in this report are analytical and assume a temperature gradient across the flange as stated in this report. Pages: 256

2nd Edition | November 1998 | Product Number: G06AF1 | Price: \$152.00

### TR 6AF2 ■

#### Technical Report on Capabilities of API Integral Flanges Under Combination of Loading—Phase II

Evaluates the load carrying capacity of API 6A integral flanges. The applied loading includes the end tension and bending moment in addition to the conventional rated pressure and makeup forces. The effect of a temperature difference corresponding to 250°F on the inside and 30°F on the outside is also evaluated. Three-dimensional finite element meshes are generated for each of the flanges. The computer program SESAM was used to obtain the stresses at selected critical flange and hub sections and to determine the gasket reaction due to the four unit load cases and the temperature difference load case. Leakage Criterion is defined as the load combination which reduces the initial makeup compressive forces in the gasket to zero. The stresses in each defined section are linearized in accordance with the ASME Section VIII, Division 2, procedure to determine the membrane and membrane-plus-bending stress intensities. These stress intensities are checked against the allowable conditions specified in API 6A, and the limiting loads are determined. A computer program LCCP was written to carry out this code check and a LOTUS 1-2-3 Release 3 worksheet was used to plot the load combination charts.

The three-dimensional model analyses of this study provide verification that axisymmetric finite elements results of flanges, as used in Bulletin 6AF, are conservative. Additionally, this study determined a few flanges to have less loading capacity than originally defined in API Spec 6A for makeup loading, and thus have been reduced to meet design requirements. Pages: 118

4th Edition | October 2010 | Product Number: G6AF24 | Price: \$161.00

### API 6AM

#### Technical Report on Material Toughness

This technical report includes CVN toughness requirement that can be used as a quality assurance measure in API Spec 6A equipment to screen materials with poor notch toughness. Pages: 12

2nd Edition | September 1995 | Product Number: G06AM2 | Price: \$73.00

# Exploration and Production

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## Spec 6AV1 ♦

**Specification for Verification Test of Wellhead Surface Safety Valves and Underwater Safety Valves for Offshore Service**  
(includes Errata dated December 1996)

The purpose of this specification is to establish requirements to:

- verify the basic performance requirements (PR1) standard service surface safety valves (SSV) and underwater safety valves (USV) valve design;
- verify the basic SSV/USV actuator design;
- verify the basic PR2 sandy service SSVNSV valve design; and,
- to demonstrate the verification testing covered by this specification that is required to qualify specific valve bore sealing mechanism manufactured under API Spec 6A for PR2 sandy service safety valves.

Included are minimum acceptable standards for verification testing of SSVs AJSVs for two performance requirement levels. To qualify, a SSVNSV valve must pass the verification test specified in Section 4. The two performance requirement levels are as follows.

- PR1 Standard Service—This performance requirement level of SSV/USV is intended for use on oil or gas wells that do not exhibit the detrimental effects of sand erosion or fouling; and.
- PR2 Sandy Service—This performance level of SSVNSV is intended for use on oil or gas wells where a substance such as sand could be expected to cause a SSV/USV valve failure.

This valve must also meet the requirements of performance level PR1 Standard Service. Pages: 14

1st Edition | February 1996 | Reaffirmed: April 2008

Product Number: G06AV1 | Price: \$73.00

You may access Spec 6AV1 in a read-only platform at: [publications.api.org](http://publications.api.org)

## Spec 6AV1 \*

**Specification for Verification Test of Wellhead Surface Safety Valves and Underwater Safety Valves for Offshore Service—Russian**

Russian translation of Spec 6AV1.

1st Edition | February 1996 | Product Number: G06AV1R | Price: \$77.00

## Spec 6D/ISO 14313:2007 ♦

**Specification for Pipeline Valves**

**Petroleum and natural gas industries—Pipeline transportation systems—Pipeline valves**

Specifies requirements and provides recommendations for the design, manufacturing, testing and documentation of ball, check, gate and plug valves for application in pipeline systems meeting ISO 13623 or similar requirements for the petroleum and natural gas industries. This Specification is not applicable to subsea pipeline valves, as they are covered by a separate Specification (API Spec 6DSS). This Specification is not for application to valves for pressure ratings exceeding PN 420 (Class 2 500).

This edition of API Specification 6D is the identical national adoption of ISO 14313:2007, *Petroleum and natural gas industries—Pipeline transportation systems—Pipeline valves*. This specification contains the API Monogram Annex as part of the U.S. national adoption. Pages: 79

23rd Edition | March 2008 | Effective Date: October 1, 2008

Product Number: GX6D23 | Price: \$127.00

You may access Spec 6D in a read-only platform at: [publications.api.org](http://publications.api.org)

## Spec 6D \*

**Specification for Pipeline Valves—Chinese**

Chinese translation of Specification 6D.

23rd Edition | March 2008 | Product Number: GX6D23C | Price: \$133.00

## Spec 6D \*

**Specification for Pipeline Valves—Russian**

Russian translation of Specification 6D.

23rd Edition | March 2008 | Product Number: GX6D23R | Price: \$133.00

## RP 6DR

**Repair and Remanufacture of Pipeline Valves**

Provides guidelines for the repair and remanufacture of steel ball, check, gate, and plug valves normally used in pipeline applications, as defined by API Spec 6D. This RP covers repair or remanufacturing of end user's (owner's) valves for continued service in the owner's production applications. Repaired or remanufactured valves may not meet API and/or the OEM standard requirements for new valves. The owner is responsible for the correct application of valves repaired or remanufactured per this document. It does not cover repair or remanufacture of used or surplus valves intended for resale. Furthermore, field repair is outside the scope of this document. Pages: 9

1st Edition | February 2006 | Product Number: G06DR1 | Price: \$73.00

## Spec 6DSS/ISO 14723:2009 ♦ ■

**Specification for Subsea Pipeline Valves**

**Petroleum and natural gas industries—Pipeline transportation systems—Subsea pipeline valves**

Specifies requirements and gives recommendations for the design, manufacturing, testing and documentation of ball, check, gate and plug valves for subsea application in offshore pipeline systems meeting the requirements of ISO 13623 for the petroleum and natural gas industries. This Standard is not applicable to valves for pressure ratings exceeding PN 420 (Class 2500).

This edition of API Spec 6DSS is the identical national adoption of ISO 14723, *Petroleum and natural gas industries—Pipeline transportation systems—Subsea pipeline valves*. This specification contains the API Monogram Annex as part of the U.S. national adoption. Pages: 72

2nd Edition | December 2009 | Effective Date: June 1, 2010

Product Number: GX6DSS2 | Price: \$160.00

## TR 6F1

**Technical Report on Performance of API and ANSI End Connections in a Fire Test According to API Specification 6FA**

The summarization of results of four projects to test the performance of API and ANSI end connections in a fire test according to API Specification 6FA. The appendixes present the analytical procedures used to generate performance prediction. Pages: 29

3rd Edition | April 1999 | Product Number: G06F13 | Price: \$111.00

## TR 6F2

**Technical Report on Fire Resistance Improvements for API Flanges**

This technical report establishes recommended methods for improving the performance of standard API flanges when subjected to the adverse effects of external high temperatures induced by exposure to fires. This publication does not cover fire prevention, suppression, or firefighting practices. Pages: 19

3rd Edition | April 1999 | Product Number: G06F23 | Price: \$105.00

\* These translated versions are provided for the convenience of our customers and are not officially endorsed by API. The translated versions shall neither replace nor supersede the English-language versions, which remain the official Standards. API shall not be responsible for any discrepancies or interpretations of these translations. Translations may not include any Addenda or Errata to the document. Please check the English-language versions for any updates to the documents.

## Spec 6FA

### Fire Test for Valves

(includes Errata 2, December 2008)

It is the purpose of this document to establish, the requirements for testing and evaluating the pressure-containing performance of API Specs 6A and 6D valves when exposed to fire. The performance requirements of this document are intended to establish standard limits of acceptability regardless of size or pressure rating. This document establishes acceptable levels for leakage through the test valve and also external leakage after exposure to a fire for a 30 minute time period. The burn period has been established on the basis that it represents the maximum time required to extinguish most fires. Fires of greater duration are considered to be of a major magnitude with consequences greater than those anticipated in this test. This standard covers the requirements for testing and evaluating the performance of API Specs 6A and 6D valves when exposed to specifically defined fire conditions. However, this standard is not intended to cover check valves or end connections. Pages: 7

3rd Edition | April 1999 | Reaffirmed: July 2006

Product Number: G06FA3 | Price: \$94.00

## Spec 6FA \*

### Fire Test for Valves—Russian

Russian translation of Specification 6FA.

3rd Edition | April 1999 | Product Number: G06FA3R | Price: \$99.00

## Spec 6FB

### Specification for Fire Test for End Connections

(includes Errata 2 December 2008)

This specification was formulated to establish procedures for testing and evaluating the pressure-containing performance of API end connections when exposed to fire. Valves, wellhead seals, or other related equipment, are not included in the scope of this document. The procedures are presented in two parts: Part I represents conditions in an onshore or open offshore location and Part II represents conditions in an offshore platform well bay. Background information on fire-resistance of API end connections is contained in API Bull 6F1. Further background on fire-resistance improvements of API flanges is contained in API Bull 6F2. This specification covers API Spec 6A end connections, which include:

- API Flanged End and Outlet Connections (6B, 6BX, and Segmented);
- API Threaded End and Outlet Connections; and,
- Other End Connections (OECs). Pages: 20

3rd Edition | May 1998 | Effective Date: November 30, 1998

Reaffirmed: July 2006 | Product Number: G06FB3 | Price: \$105.00

## Spec 6FC

### Specification for Fire Test for Valves With Automatic Backseats

Establishes the requirements for testing and evaluating the pressure-containing performance of API Specs 6A and 6D automatic backseating valves when exposed to fire. The performance requirements of this document are intended to establish standard limits of acceptability regardless of size or pressure rating. This document establishes acceptable levels for leakage through the test valve and also external leakage after exposure to a fire for a 30-minute time period, both before and after reworking the stuffing box. The burn period has been established on the basis that it represents the maximum time required to extinguish most fires. Fires of greater duration are considered to be of a major magnitude with consequences greater than those anticipated in this test. Pages: 9

4th Edition | March 2009 | Product Number: G06FC3 | Price: \$94.00

## Spec 6FD

### Specification for Fire Test for Check Valves

Establishes the requirements for testing and evaluating the pressure containing performance of API Specs 6A and 6D check valves when exposed to fire. The performance requirements of this document are intended to establish standard limits of acceptability regardless of size or pressure rating. This document establishes acceptable levels of leakage through the test valve and also external leakage after exposure to a fire for a 30-minute time period. The burn period has been established on the basis that it represents the maximum time required to extinguish most fires. Fires of greater duration are considered to be of a major magnitude with consequences greater than those anticipated in this test. Pages: 9

1st Edition | February 1995 | Reaffirmed: September 2008

Product Number: G06FD1 | Price: \$86.00

## Spec 6FD \*

### Specification for Fire Test for Check Valves-Russian

Russian translation of Specification 6FD.

1st Edition | February 1999 | Product Number: G06FD1R | Price: \$90.00

## Spec 6H ◆

### Specification on End Closures, Connectors, and Swivels

This specification covers the following:

- pipeline closures;
- connectors;
- couplings;
- misalignment devices (swivels); and
- split mechanical fittings.

This specification does not apply to welded, flanged, or threaded fittings that are specified in other recognized standards. Pages: 21

2nd Edition | May 1998 | Effective Date: November 1, 1998

Reaffirmed: July 2006 | Product Number: G06H02 | Price: \$94.00

## RP 6HT

### Heat Treatment and Testing of Large Cross Section and Critical Section Components

Supplements API equipment specifications for large cross section and critical components. The recommend practice described herein suggests the requirements for batch-type bath quench and water spray quench-type heat treating practices. Pages: 7

1st Edition | February 2005 | 2-Year Extension: May 2010

Product Number: G6HT01 | Price: \$73.00

## Bull 6J

### Testing of Oilfield Elastomers (A Tutorial)

(ANSI/API Bull 6J-1992)

A tutorial for the evaluation of elastomer test samples of actual elastomeric seal members intended for use in the oil and gas industry. It is also a review of the testing criteria, environments, evaluation procedures, guidelines for comparisons, and effects of other considerations on the evaluation of elastomeric seal materials and members. Pages: 15

2nd Edition | May 1998 | Product Number: G03230 | Price: \$76.00

\* These translated versions are provided for the convenience of our customers and are not officially endorsed by API. The translated versions shall neither replace nor supersede the English-language versions, which remain the official Standards. API shall not be responsible for any discrepancies or interpretations of these translations. Translations may not include any Addenda or Errata to the document. Please check the English-language versions for any updates to the documents.

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## TR 6J1

### Elastomer Life Estimation Testing Procedures

The proposed procedure discussed in this publication outlines a technique based on the Arrhenius principle of chemical reaction rates, which permits the life of an elastomeric material to be estimated when exposed to a severe service environment. This is a companion document to API Bull 6J, 2nd Edition. Pages: 14

1st Edition | August 2000 | Product Number: G06J11 | Price: \$76.00

## TR 6MET ■

### Metallic Material Limits for Wellhead Equipment Used in High Temperature for API 6A and 17D Applications

Examines mechanical properties of metallic materials used for API 6A and 17D wellhead equipment for service above 250°F. A total of eleven different alloys meeting API 6A, PSL 3 conditions were supplied "in condition" by a variety of suppliers. Materials in this test program included alloys common to the oil and gas industry. The alloys tested included low alloy steels, martensitic, precipitation hardened and duplex stainless steels, and nickel alloys. Yield strength reduction ratios at temperatures of 300, 350, 400, and 450 °F are reported. As a result of testing, yield strength reduction ratios at 300°F to 450°F ranged from 92% to 87% for the low alloy steels, 92% to 88% for the martensitic stainless steels 81% to 73% for super duplex, 99% to 89% for the precipitation hardened stainless steel and 94% to 89% for the nickel alloys. The reported results represent an average over the different heats for each type of material. These results are intended to expand the data shown in API 6A, Appendix G. Pages: 32

1st Edition | October 2010 | Product Number: G6MET1 | Price: \$95.00

## Spec 11IW ◆

### Specification for Independent Wellhead Equipment

Formulated to provide for the availability of safe, dimensionally and functionally interchangeable independent wellhead equipment. The technical content provides requirements for performance, design, materials, testing, inspection, welding, marking, handling, storing and shipping. This specification covers the independent wellhead equipment utilized for pressure control systems for the production of oil and gas. Specific equipment covered by this specification is listed as follows:

- independent wellheads;
- top connectors;
- tubing and casing slip hangers;
- tubing and casing mandrel hangers;
- packoffs;
- belled nipples;
- connector flanges; and,
- stripper adapters. Pages: 21

1st Edition | June 2000 | Reaffirmed: March 2008

Product Number: G11IW1 | Price: \$80.00

## RP 14H

### Recommended Practice for Installation, Maintenance and Repair of Surface Safety Valves and Underwater Safety Valves Offshore

One of the means of assuring positive wellstream shutoff is the use of the wellhead surface safety valve (SSV) or underwater safety valve (USV). It is imperative that the SSV/USV be mechanically reliable. It should therefore be operated, tested and maintained in a manner to assure continuously reliable performance. The purpose of this recommended practice is to provide guidance for inspecting, installing, operating, maintaining, and onsite repairing SSVs/USVs manufactured according to API Spec 6A (17th Edition or later), Clause 10.20 or API Spec 14D (withdrawn). Included are procedures for testing SSVs/USVs. This document covers guidelines for inspecting, installing, maintaining, onsite repairing, and operating SSVs/

USVs. Nothing in this document is to be construed as a fixed rule without regard to sound engineering judgment nor is it intended to override applicable federal, state or local laws. Pages: 15

5th Edition | August 2007 | Product Number: G14H05 | Price: \$115.00

This document can be viewed for free at: <http://publications.api.org>

## RP 14H \*

### Recommended Practice for Installation, Maintenance and Repair of Surface Safety Valves and Underwater Safety Valves Offshore—Russian

Russian translation of Recommended Practice 14H.

5th Edition | August 2007 | Product Number: G14H05R | Price: \$121.00

## VALVES AND WELLHEAD EQUIPMENT—TRAINING COURSES

### Overview of API Spec 6A

[www.api-u.org/6A.html](http://www.api-u.org/6A.html)

API 6A has been revised in many significant ways. New products have been added to the scope; requirements have been changed. The specification is now primarily in the ISO metric system with traditional dimensions in parentheses or annexes. Additionally, the specification addresses the rules of the new NACE Standard, MR0175-2003.

### Overview of API Specification 6D

[www.api-u.org/6D.html](http://www.api-u.org/6D.html)

Each section of the current edition of Specification 6D is covered in detail, followed by a section-by-section coverage of API 6DSS highlighting the common requirements and the differences between the two specifications. The relationship of these specifications and ASME B16.34, Steel Valves, and API Specification 6A/ISO 10423, Wellhead and Christmas Tree Equipment, will be clarified.

## DRILLING EQUIPMENT

### Spec 7-1/ISO 10424-1:2004 ◆

#### Specification for Rotary Drill Stem Elements

Petroleum and natural gas industries—Rotary drilling equipment—

Part 1: Rotary Drill stem elements

(includes Addendum 1 dated March 2007, Addendum 2 dated August 2009, and Addendum 3 dated April 2011)

The following products are covered by this standard:

- upper and lower kelly valves,
- square and hexagon kellys,
- drill-stem subs,
- drill collars,
- drilling and coring bits.

Rotary shouldered connections and gauging for drill stem elements are covered in API Spec 7-2.

This edition of API Spec 7-1 is the modified national adoption of ISO 10424-1, *Petroleum and natural gas industries—Rotary drilling equipment—Part 1: Rotary Drill stem elements*. This specification contains the API Monogram Annex as part of the U.S. national adoption. Pages: 87

1st Edition | February 2006 | Effective Date: September 1, 2006

Product Number: GX7101 | Price: \$157.00

### Spec 7-1/ISO 10424-1:2004 \*

#### Specification for Rotary Drill Stem Elements—Chinese

Chinese translation of Specification 7-1

1st Edition | February 2006 | Product Number: GX7101C | Price: \$165.00

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## Spec 7-2/ISO 10424-2:2007 ♦

### Specification for Threading and Gauging of Rotary Shouldered Thread Connections

Petroleum and natural gas industries—Rotary drilling equipment—Part 2: Threading and gauging of rotary shouldered threaded connections (includes Addendum 1, dated December 2010)

Specifies requirements on rotary shouldered connections for use in petroleum and natural gas industries, including dimensional requirements on threads and thread gauges, stipulations on gauging practice, gauge specifications, as well as instruments and methods for inspection of thread connections. These connections are intended primarily for use in drill-string components. Other supplementary specifications can be agreed between interested parties for special tolerance requirements, qualification, testing, inspection and finishing. Specification 7-2 is applicable to the following preferred rotary shouldered connection designs:

- number (NC) style;
- regular (REG) style;
- full hole (FH) style.

These are traceable to an internationally supported system of gauges and calibration.

This edition of API Spec 7-2 is the identical (with a few editorial changes) national adoption of ISO 10424-2, *Petroleum and natural gas industries—Rotary drilling equipment—Part 2: Threading and gauging of rotary shouldered thread connections*. Spec 7-2 replaces threading and gauging previously covered by API Spec 7. This specification contains the API Monogram Annex as part of the U.S. national adoption. Pages: 102

1st Edition | June 2008 | Effective Date: December 1, 2008

Product Number: GX70201 | Price: \$167.00

## RP 7A1

### Recommended Practice for Testing of Thread Compound for Rotary Shouldered Connections (ANSI/API RP 7A1-1992)

Provides recommendations for testing the frictional performance of thread compounds for rotary shouldered connections. Pages: 13

1st Edition | November 1992 | Reaffirmed: March 2005

2-Year Extension: May 2010 | Product Number: G03305 | Price: \$62.00

## Spec 7F ■ ♦

### Oil Field Chain and Sprockets

Covers the manufacture of the components for, and the assembly and packaging of, single and multiple strand, number 40 through 240, standard and heavy series roller chains for oil field applications, including chain designation, chain length tolerance, tensile strength specifications, pin and bushing press-out specifications, and dynamic test requirements.

For informational purposes, Annex A provides recommendations for installation, lubrication, and maintenance of oil field chain drives and Annex B includes a basic description of roller chain sprockets. Pages: 29

8th Edition | November 2010 | Effective Date: May 1, 2011

Product Number: G7F008 | Price: \$112.00

## RP 7G

### Recommended Practice for Drill Stem Design and Operating Limits (includes Errata dated May 2000, Addendum 1 dated November 2003 and Addendum 2 dated August 2009)

Covers recommendations for the design and selection of drill string members and includes considerations of hole angle control, drilling fluids, weight, and rotary speed. Tables and graphs are included that present dimensional, mechanical, and performance properties of new and used drill pipe; new tool joints used with new and used drill pipe; drill collars; and kellys. Recommended standards for inspection of used drill pipe, used tubing work strings, and used tool joints are included. Pages: 154

16th Edition | August 1998 | Effective Date: December 1, 1998

Under Revision | Product Number: G07G6A | Price: \$188.00

## RP 7G-2/ISO 10407-2:2008

### Recommended Practice for Drill Stem Element Inspection Petroleum and natural gas industries—Rotary drilling equipment—Part 2: Inspection and classification of drill stem elements (includes Errata dated October 2009)

Specifies the requirements for each level of inspection and procedures for the inspection and testing of used drill stem elements. This document has been prepared to address the practices and technology commonly used in inspection. This document also specifies the qualification of inspection personnel, a description of inspection methods and apparatus calibration and standardization procedures for various inspection methods. The evaluation of imperfections and the marking of inspected drill stem elements is included.

This edition of API RP 7G-2 is the identical national adoption of ISO 10407-2, *Petroleum and natural gas industries—Rotary drilling equipment—Part 2: Inspection and classification of used drill stem elements*. Pages: 213

1st Edition | August 2009 | Product Number: GX7G201 | Price: \$135.00

## RP 7HU1

### Safe Use of 2-Inch Hammer Unions for Oilfield Applications

Sets forth procedural recommendations as well as an engineering solution to the mismatching of a female 2-in. Figure 402, a female 2-in. Figure 602, or a female 2-in. Figure 1002 hammer union component (sub) with a male 2-in. Figure 1502 hammer union component (wing nut) as described in 3.2. The procedural recommendations described in this RP should be implemented to reduce further incidents. The engineering solution, which makes impossible the mating of female 2-in. Figure 402, 2-in. Figure 602 and/or 2-in. Figure 1002 subs with the wing nut of the 2-in. Figure 1502 hammer union, applies to the manufacture of new hammer union components and should not be applied in the modification of existing hammer union components due to unknown factors caused by field wear. Pages: 12

1st Edition | May 2009 | Product Number: H7HU11 | Price: \$35.00

## Spec 7K ■ ♦

### Drilling and Well Servicing Equipment

Provides general principles and specifies requirements for design, manufacture, and testing of new drilling and well-servicing equipment and of replacement primary load-carrying components manufactured subsequent to the publication of this specification.

This specification is applicable to the following equipment:

- rotary tables;
- rotary bushings;
- standard rotary slips designed for use in standard rotary bowls with a 33.333 cm/m (4 in./ft) API taper;
- nonstandard rotary slips without a taper of 33.333 cm/m (4 in./ft) for use in manual spiders as described in Item i);
- high-pressure mud and cement hoses;
- piston mud-pump components;
- drawworks components;
- manual spiders that use standard rotary slips as described in Item c) that are not capable for use as elevators and are installed on or above the master bushing/rotary table;
- manual spiders that use nonstandard rotary slips not having a taper of 33.333 cm/m (4 in./ft) not capable of use as elevators, and installed on or above the master bushing/rotary table;
- spring, pneumatic, or hydraulic spiders with integral slips not capable for use as elevators and are installed on or above the master bushing/rotary table;
- spring, pneumatic or hydraulic spiders with integral slips not capable for use as elevators and are installed in, or partly in, the rotary table;
- manual tongs;
- safety clamps not used as hoisting devices;
- power tongs, including spinning wrenches;

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- blowout preventer (BOP) handling systems;
- pressure-relieving devices for high-pressure drilling fluid circulating systems;
- snub-lines for manual and power tongs. Pages: 105

5th Edition | June 2010 | Effective Date: December 1, 2010  
Product Number: G07K05 | Price: \$176.00

## Spec 7K \*

### Drilling and Well Servicing Equipment—Chinese

Chinese translation of Spec 7K.

5th Edition | June 2010 | Product Number: G07K05C | Price: \$185.00

## RP 7L

### Inspection, Maintenance, Repair, and Remanufacture of Drilling Equipment

(includes Addendum 1 dated February 2006 and Addendum 2 dated, March 2006)

Provides owners and users of drilling equipment with guidelines for inspection, maintenance, repair, and remanufacture procedures that may be utilized to maintain serviceability of the drilling equipment. Covers the following drilling equipment:

- rotary tables;
- rotary bushings;
- rotary slips;
- rotary hoses;
- slush pump connectors;
- drawworks components;
- spiders not used as elevators;
- manual tongs; and
- safety clamps not used as hoisting devices. Pages: 26

1st Edition | December 1995 | Effective Date: April 1, 1996  
Product Number: G07L01 | Price: \$105.00

## Spec 7NRV ♦

### Specification on Non-Return Valves

Formulated to provide the minimum acceptable requirements for Drill String Non-return Valve (NRV) equipment. It covers Drill String Non-return Valves, Non-return Valve Subs, Non-return Valve landing nipples, Non-return Valve Equalizing Heads and all components that establish tolerances and/or clearances which may affect performance or interchangeability of the NRV equipment. Non-return Valve Subs, Non-return Valve landing nipples, Non-return Valve Equalizing Heads and NRVs manufactured by different facilities or manufacturers may be supplied as separate items. Pages: 19

1st Edition | July 2006 | Product Number: G7NRV01 | Price: \$67.00

## HOISTING TOOLS

## Spec 8A ♦

### Drilling and Production Hoisting Equipment

(includes Addendum 1 dated May 2001)

Provides a basis for establishing the ratings of main load carrying components of certain hoisting equipment used in drilling and production operations to include the maximum load and bearing load. This specification provides the manufacturer with material and process controls for adequately assuring that manufactured units will meet the established design load ratings. Pages: 26

13th Edition | December 1997 | Effective Date: May 1, 1998  
Product Number: G08A13 | Price: \$105.00

## RP 8B/ISO 13534:2000

### Inspection, Maintenance, Repair, and Remanufacture of Hoisting Equipment

Petroleum and natural gas industry—Drilling and production equipment—Inspection, maintenance, repair and remanufacture of hoisting equipment (includes Addendum 1 dated November 2003 and Addendum 2 dated April 2005)

Provides guidelines and establishes requirements for inspection, maintenance, repair, and remanufacture of items of hoisting equipment used in drilling and production operations to maintain equipment serviceability. This recommended practice covers such items as crown-block sheaves and bearings, drilling hooks, elevator links, rotary swivels, dead-line tie-down/wireline anchors, and safety clamps.

This edition of RP 8B is the modified national adoption of ISO 13534, *Petroleum and natural gas industry—Drilling and production equipment—Inspection, maintenance, repair and remanufacture of hoisting equipment*. Pages: 13

7th Edition | March 2002 | Under Revision, 2-Year Extension: June 2010  
Product Number: GX08B07 | Price: \$80.00

## Spec 8C/ISO 13535:2000 ♦

### Specification for Drilling and Production Hoisting Equipment (PSL 1 and PSL 2)

Petroleum and natural gas industries—Drilling and production equipment—Hoisting equipment (includes Addendum 1 dated May 2004 and Addendum 2 dated April 2005)

Provides requirements for the design, manufacture and testing of hoisting equipment suitable for use in drilling and production operations. This specification is applicable to numerous drilling and production hoisting equipment, some of which include: hoisting sheaves, travelling and hook blocks; elevator links, casing elevators, sucker rod elevators, rotary and power swivels, drilling hooks, wireline anchors, drill string motion compensators, and safety clamps.

This edition of Spec 8C is the modified national adoption of ISO 13535:2000, *Petroleum and natural gas industries—Drilling and production equipment—Hoisting equipment*. This specification contains the API Monogram Annex as part of the U.S. national adoption. Pages: 60

4th Edition | February 2003 | Effective Date: July 1, 2003  
Under Revision, 2-Year Extension: June 2010  
Product Number: GX08C04 | Price: \$125.00

## WIRE ROPE

## Spec 9A/ISO 10425 ♦

### Specification for Wire Rope

Petroleum and natural gas industries—Drilling and production equipment—Specification for wire rope

Steel wire ropes for the petroleum and natural gas industries—Minimum requirements and terms for acceptance Specifies the minimum requirements and terms of acceptance for the manufacture and testing of steel wire ropes not exceeding rope grade 2160 for the petroleum and natural gas industries.

This edition of API Spec 9A is a identical adoption of ISO 10425, *Petroleum and natural gas industries—Drilling and production equipment—Specification for wire rope* and includes the addition of an API Monogram Annex. This specification contains the API Monogram Annex as part of the U.S. national adoption. Pages: 57

25th Edition | February 2004 | Effective Date: August 1, 2004  
Under Revision, 2-Year Extension: May 2010  
Product Number: GX9A25 | Price: \$95.00

You may access Spec 9A in a read-only platform at: [publications.api.org](http://publications.api.org)

## RP 9B

### Application, Care, and Use of Wire Rope for Oil Field Service

Covers typical wire rope applications for the oil and gas industry. Typical practices in the application of wire rope to oil field service are indicated in Table 1, which shows the sizes and constructions commonly used. Because of the variety of equipment designs, the selection of other constructions than those shown is justifiable. In oilfield service, wire rope is often referred to as wire line or cable. For the purpose of clarity, these various expressions are incorporated in this recommended practice. Pages: 33

12th Edition | June 2005 | 2-Year Extension: May 2010

Product Number: G09B12 | Price: \$111.00

## OIL WELL CEMENTS

### Spec 10A/ISO 10426-1:2009 ■ ◆

#### Specification for Cements and Materials for Well Cementing

Petroleum and natural gas industries—Cements and materials for well cementing—Part 1: Specification

Specifies requirements and gives recommendations for six classes of well cements, including their chemical and physical requirements and procedures for physical testing.

Applicable to well cement classes A, B, C and D, which are the products obtained by grinding Portland cement clinker and, if needed, calcium sulfate as an interground additive. Processing additives can be used in the manufacture of cement of these classes. Suitable set-modifying agents can be interground or blended during manufacture of class D cement.

Also applicable to well cement classes G and H, which are the products obtained by grinding clinker with no additives other than one or more forms of calcium sulfate, water or chemical additives as required for chromium (VI) reduction.

This edition of Spec 10A is the identical national adoption of ISO 10426-1, *Petroleum and natural gas industries—Cements and materials for well cementing—Part 1: Specification* (includes ISO errata). Pages: 38

24th Edition | December 2010 | Effective Date: June 1, 2011

Product Number: GX10A24 | Price: \$140.00

### RP 10B-2/ISO 10426-2:2003

#### Recommended Practice for Testing Well Cements

Petroleum and natural gas industries—Cements and materials for well cementing—Part 2: Testing of well cement (includes Errata 1 dated June 2006, Errata 2 dated January 2007) (Supersedes API RP 10B)

Specifies requirements and gives recommendations for the testing of cement slurries and related materials under simulated well conditions.

This edition of API RP 10B-2 is the identical national adoption of ISO 10426-2, *Petroleum and natural gas industries—Cements and materials for well cementing—Part 2: Testing of well cement*. Pages:

1st Edition | July 2005 | Reaffirmed: August 2010

Product Number: GX10B201 | Price: \$205.00

### RP 10B-3/ISO 10426-3:2003

#### Recommended Practice on Testing of Deepwater Well Cement Formulations

Petroleum and natural gas industries—Cements and materials for well cementing—Part 3: Testing of deepwater cement formulations

Provides procedures for testing well cements and cement blends for use in the petroleum and natural gas industries in a deepwater environment.

This edition of API RP 10B-3 is the identical national adoption of ISO 10426-3, *Petroleum and natural gas industries—Cements and materials for well cementing—Part 3: Testing of deepwater cement formulations*. Pages: 13

1st Edition | July 2004 | Reaffirmed: August 2010

Product Number: GG10B31 | Price: \$74.00

### RP 10B-4/ISO 10426-4:2004

#### Recommended Practice on Preparation and Testing of Foamed Cement Slurries at Atmospheric Pressure

Petroleum and natural gas industries—Cements and materials for well cementing—Part 4: Preparation and testing of foamed cement slurries at atmospheric pressure

Defines the methods for the generation and testing of foamed cement slurries and their corresponding unfoamed base cement slurries at atmospheric pressure.

This edition of API RP 10B-4 is the identical national adoption of ISO 10426-4, *Petroleum and natural gas industries—Cements and materials for well cementing—Part 4: Preparation and testing of Foamed Cement Slurries at Atmospheric Pressure*. Pages: 13

1st Edition | July 2004 | Reaffirmed: August 2010

Product Number: GG10B41 | Price: \$74.00

### RP 10B-5/ISO 10426-5:2004

#### Recommended Practice on Determination of Shrinkage and Expansion of Well Cement Formulations at Atmospheric Pressure

Petroleum and natural gas industries—Cements and materials for well cementing—Part 5: Determination of shrinkage and expansion of well cement formulations at atmospheric pressure

Provides the methods for the testing of well cement formulations to determine the dimension changes during the curing process (cement hydration) at atmospheric pressure only. This is a base document, because under real well cementing conditions shrinkage and expansion take place under pressure and different boundary conditions.

This edition of API RP 10B-5 is the identical national adoption of ISO 10426-5, *Formulations at Atmospheric Pressure Petroleum and natural gas industries—Cements and materials for well cementing—Part 5: Determination of shrinkage and expansion of well cement formulations at atmospheric pressure*. Pages: 13

1st Edition | April 2005 | Reaffirmed: August 2010

Product Number: GG10B501 | Price: \$77.00

### RP 10B-6/ISO 10426-6

#### Recommended Practice on Determining the Static Gel Strength of Cement Formulations

Petroleum and natural gas industries—Cements and materials for well cementing—Part 6: Methods for determining the static gel strength of cement formulations

This document specifies requirements and provides test methods for the determination of static gel strength (SGS) of the cement slurries and related materials under simulated well conditions.

This edition of API RP 10B-6 is the modified national adoption of ISO 10426-6, *Petroleum and natural gas industries—Cements and materials for well cementing—Part 6: Methods for determining the static gel strength of cement formulations*.

1st Edition | August 2010 | Product Number: GG10B601 | Price: \$60.00

### Spec 10D/ISO 10427-1:2001 ◆

#### Specification for Bow-Spring Casing Centralizers

Petroleum and natural gas industries—Bow-spring casing centralizers—Part 1: Specification

Provides minimum performance requirements, test procedures and marking requirements for bow-spring casing centralizers for the petroleum and natural gas industries. The procedures provide verification testing for the manufacturer's design, materials and process specifications, and periodic testing to confirm the consistency of product performance. API Spec 10D is not applicable to rigid or positive centralizers.

This edition of API Spec 10D is the identical national adoption of ISO 10427-1:2001, *Petroleum and natural gas industries—Casing centralizers—Part 1: Bow-spring casing centralizers*. This specification contains the API Monogram Annex as part of the U.S. national adoption. Pages: 12

6th Edition | March 2002 | Effective Date: September 1, 2002

Reaffirmed: August 2010 | Product Number: GX10D06 | Price: \$86.00

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## RP 10D-2/ISO 10427-2:2004

### Recommended Practice for Centralizer Placement and Stop Collar Testing

Petroleum and natural gas industries—Equipment for well cementing—Part 2: Centralizer placement and stop-collar testing

Provides calculations for determining centralizer spacing, based on centralizer performance and desired standoff, in deviated and dogleg holes in wells for the petroleum and natural gas industries. It also provides a procedure for testing stop collars and reporting test results.

This edition of API RP 10D-2 is the identical national adoption of ISO 10427-2, *Petroleum and natural gas industries—Equipment for well cementing—Part 2: Centralizer placement and stop-collar testing*. Pages: 14

1st Edition | August 2004 | Reaffirmed: August 2010

Product Number: GG10D21 | Price: \$74.00

## RP 10F/ISO 10427-3:2003

### Recommended Practice for Performance Testing of Cementing Float Equipment

Petroleum and natural gas industries—Equipment for well cementing—Part 3: Performance testing of cementing float equipment

(includes Errata, dated September 2003)

Describes testing practices to evaluate the performance of cementing float equipment for the petroleum and natural gas industries. This recommended practice is applicable to float equipment that will be in contact with water-based fluids used for drilling and cementing wells. It is not applicable to float equipment performance in non-water-based fluids.

This edition of API RP 10F is an identical adoption of ISO 18165:2001, *Petroleum and natural gas industries—Equipment for well cementing—Part 3: Performance testing of cementing float equipment*. Pages: 12

3rd Edition | April 2002 | Reaffirmed: August 2010

Product Number: GX10F03 | Price: \$62.00

## TR 10TR1

### Cement Sheath Evaluation

Provides the current principles and practices regarding the evaluation and repair of primary cementations of casing strings in oil and gas wells. Cement bond logs, compensated logging tools, ultrasonic cement logging tools, and borehole fluid-compensated logging tools are covered. Pages: 124

2nd Edition | September 2008 | Product Number: G10TR12 | Price: \$140.00

## TR 10TR2

### Shrinkage and Expansion in Oilwell Cements

Presents the results of research into shrinkage and expansion of oilwell cements in the wellbore as well as a series of test methods and procedures developed to measure these phenomena. Pages: 57

1st Edition | July 1997 | Reaffirmed: September 2002

Product Number: G10TR2 | Price: \$118.00

## TR 10TR3

### Temperatures for API Cement Operating Thickening Time Tests

Work performed by the 1984-91 API Task Group on Cementing Temperature Schedules to update the temperatures in API well-simulation test schedules found in Recommended Practice 10B are summarized in this report. The Task Group reviewed the largest set of temperature data available to the industry to date, resulting in significant improvements to the temperatures in the well-simulation test schedules. Pages: 97

1st Edition | May 1999 | Reaffirmed: May 2005

Product Number: G10TR3 | Price: \$152.00

## TR 10TR4

### Technical Report on Considerations Regarding Selection of Centralizers for Primary Cementing Operations

The goal of this document is to provide the petroleum industry with information for three types of centralizers, their selection and application, and their advantages and limitations. Pages: 23

1st Edition | May 2008 | Product Number: G10TR40 | Price: \$59.00

## TR 10TR5

### Technical Report on Methods for Testing of Solid and Rigid Centralizers

The purpose of this document is to provide the industry with methods for testing rigid and solid centralizers. Pages: 16

1st Edition | May 2008 | Product Number: G10TR50 | Price: \$59.00

## PRODUCTION EQUIPMENT

### Spec 7B-11C ♦

#### Specification for Internal-Combustion Reciprocating Engines for Oil-Field Service

Covers internal combustion reciprocating engines for oil-field service, including methods of testing and rating for application to specific oilfield duties. The methods of test stipulated herein are intended to afford the purchaser a uniform basis for comparing similar equipment with respect to capacity, energy requirements, and recommended speed range. This document covers methods for determining maximum brake horsepower and fuel consumption rates of internal-combustion bare engines and power units; provides for the manufacturer's maximum horsepower rating of such equipment for specific service applications; and gives methods for testing and rating of radiator-type cooling units. Pages: 13

9th Edition | November 1994 | Effective Date: May 1, 1995

Reaffirmed: April 2008 | Product Number: G03409 | Price: \$81.00

## RP 7C-11F

### Recommended Practice for Installation, Maintenance, and Operation of Internal-Combustion Engines

This RP for the installation, maintenance, and operation of internal-combustion engines covers three objectives: To present information of a general nature pertaining to their installation and to emphasize installation recommendations for specific types of service, observation of which is often overlooked; To present maintenance check-off lists for daily, weekly, and monthly maintenance of such engines; and, To present trouble-shooting recommendations with which the causes of most common engine troubles can be determined. This publication does not purport to be a detailed instruction manual; and, in cases where additional information is required on a particular piece of equipment, the manufacturer should be consulted. The information presented under installation and maintenance has been classified as: Applicable generally to all types of internal-combustion engines in all types of service; and Particularly applicable to engines in drilling or semiportable plant service. Particularly applicable to engines in oil-well pumping, oil-pump, or similar service where the engines may or may not be under daily observation. Both multiple-cylinder and single- or two-cylinder engines are considered in the latter category. Pages: 17

5th Edition | November 1994 | Reaffirmed: April 2008

Product Number: G03505 | Price: \$80.00

## RP 11AR

### Recommended Practice for Care and Use of Subsurface Pumps

Provides information on the proper selection, operation and maintenance of subsurface pumps so the best economical life can be obtained. Pages: 50

4th Edition | June 2000 | Reaffirmed: April 2008

Product Number: G11AR4 | Price: \$121.00

## Spec 11AX ♦

### Specification for Subsurface Sucker Rod Pumps and Fittings

Covers rod pumps and tubing pumps in commonly used bore sizes. Sufficient dimensional requirements are provided to assure interchangeability and standardization of all component parts; however, details of design are not specified. Standard materials are specified. Pages: 94

12th Edition | June 2006 | Effective Date: October 1, 2006

Product Number: G11AX12 | Price: \$130.00

## Spec 11B ♦ ■

### Specification for Sucker Rods, Polished Rods and Liners, Couplings, Sinker Bars, Polished Rod Clamps, Stuffing Boxes, and Pumping Tees

Provides the requirements and guidelines for the design of steel sucker rods and pony rods, polished rods, polished rod liners, couplings and sub-couplings, fiber reinforced plastic (FRP) sucker rods, sinker bars, polished rod clamps, stuffing boxes, and pumping tees as defined herein for use in the sucker rod lift method for the petroleum and natural gas industry. Annex A through Annex H provide the requirements for specific products. Annex I includes the requirements for thread gauges, Annex J illustrates the components of a sucker rod lift system, and Annex K shows examples of sucker rod discontinuities.

This specification does not cover sucker rod guides, sucker rod rotators, shear tools, on-off tools, stabilizer bars, sealing elements used in stuffing boxes, or interface connections for stuffing boxes and pumping tees. Also, installation, operation and maintenance of these products are not included in this specification. Pages: 91

27th Edition | May 2010 | Effective Date: November 2010

Product Number: G11B27 | Price: \$150.00

## Spec 11B \*

### Specification for Sucker Rods, Polished Rods and Liners, Couplings, Sinker Bars, Polished Rod Clamps, Stuffing Boxes, and Pumping Tees—Chinese

Chinese Translation of Spec 11B.

27th Edition | May 2010 | Product Number: G11B27C | Price: \$158.00

## RP 11BR

### Recommended Practice for the Care and Handling of Sucker Rods

Covers the care and handling of steel sucker rods, including guidelines on selection, allowable stress, proper joint makeup, corrosion control and used rod inspection. Pages: 28

9th Edition | August 2008 | Product Number: G11BR09 | Price: \$101.00

## Spec 11E ♦

### Specification for Pumping Units

Covers designs and ratings of beam-type pumping units for use in the petroleum and natural gas industry. Included are all components between the carrier bar and the speed reducer input shaft. This includes the beam pump structure, pumping unit gear reducer and pumping unit chain reducer. Only loads imposed on the structure and/or gear reducer by the polished rod load are considered in this specification. Also included are the requirements for the design and rating of enclosed speed reducers wherein the involute gear tooth designs include helical and herringbone gearing. The specification does not cover chemical properties of materials, installation and maintenance of the equipment, beam type counterbalance units, prime movers and power transmission devices outside the gear reducer, or control systems. Pages: 86

18th Edition | November 2008 | Effective Date: May 1, 2009

Product Number: G11E018 | Price: \$160.00

## Spec 11E \*

### Specification for Pumping Units—Chinese

Chinese translation of Specification 11E.

18th Edition | November 2008 | Product Number: G11E018C | Price: \$168.00

## Std 11D2/ISO 15136-1:2009 ■

### Progressing Cavity Pump Systems for Artificial Lift—Pumps Petroleum and natural gas industries—Progressing cavity pump systems for artificial lift—Part 1: Pumps

Provides requirements for the design, design verification and validation, manufacturing and data control, performance ratings, functional evaluation, repair, handling and storage of progressing cavity pumps for use in the petroleum and natural gas industry. This document is applicable to those products meeting the definition of progressing cavity pumps (PCP) included therein.

Connections to the drive string and tubulars are not covered by the document. Additionally, equipment not covered by the requirements of this document includes bottom-drive systems except for the PCP components, drive-string components and auxiliary equipment such as tag bars, gas separators and torque anchors.

This edition of Std 11D2 is the identical national adoption of ISO 15136-1, *Petroleum and natural gas industries—Progressing cavity pump systems for artificial lift—Part 1: Pumps*. Pages: 108

1st Edition | October 2010 | Product Number: GG11D21 | Price: \$150.00

## Std 11D3/ISO 15136-2:2006

### Progressing Cavity Pump Systems for Artificial Lift—Surface-drive Systems

#### Petroleum and natural gas industries—Progressive cavity pumps systems for artificial lift—Part 2: Surface drive systems

Provides requirements for the design, design verification and validation, manufacturing and data control, performance ratings and repair of progressing cavity pump surface-drive systems for use in the petroleum and natural gas industry. This standard is applicable to those products meeting the definition of surface-drive systems. Additionally, informative annexes provide information on brake system selection, installation, and operation; and sucker rod selection and use. Equipment not covered by this standard, unless integral by design, includes bottom drive systems, sucker rods, polished rod clamps, stuffing boxes, electrical controls, instrumentation, external power transmission devices, auxiliary equipment, such as belts, sheaves and equipment guards.

This edition of API Std 11D3 is the identical national adoption of ISO 15136, *Petroleum and natural gas industries—Progressive cavity pumps systems for artificial lift—Part 2: Surface drive systems*. Pages: 99

1st Edition | June 2008 | Product Number: G11D301 | Price: \$102.00

## RP 11ER ■

### Recommended Practice for Guarding of Pumping Units

Provides a reference or guide for the design, manufacture, and installation of guards for oil well pumping units. It is based on practices which experience has shown to be functionally safe and practical. This RP is intended to provide safeguards for all persons who are required to work around or on oil well pumping units. Pages: 17

3rd Edition | November 2009 | Product Number: G11ER03 | Price: \$77.00

## RP 11G

### Recommended Practice for Installation and Lubrication of Pumping Units

Covers installation of beam-type pumping units and lubrication of pumping-unit reducers. Pages: 8

4th Edition | November 1994 | Reaffirmed: October 2008

Product Number: G11G04 | Price: \$80.00

\* These translated versions are provided for the convenience of our customers and are not officially endorsed by API. The translated versions shall neither replace nor supersede the English-language versions, which remain the official Standards. API shall not be responsible for any discrepancies or interpretations of these translations. Translations may not include any Addenda or Errata to the document. Please check the English-language versions for any updates to the documents.

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Phone Orders: 303-397-7956 (Local and International)

## TR 11L

### Design Calculations for Sucker Rod Pumping Systems (Conventional Units)

Covers recommendations for design calculations for conventional unit sucker rod pumping systems based on test data submitted to API by Sucker Rod Pumping Research, Inc. The topics include vibration characteristics of sucker-rod strings, physical characteristics of sucker rods and dimensional analysis of sucker-rod pumping systems. The calculations apply to the broad category of average, normal pumping wells fitting the assumed conditions defined therein. Unusual or out-of-the-ordinary conditions will cause deviations from calculated performance. Pages: 24

5th Edition | June 2008 | Product Number: G11L05 | Price: \$102.00

## Bull 11L2

### Catalog of Analog Computer Dynamometer Cards

This bulletin contains over 1100 polished rod dynamometer cards taken with the electronic analog simulator and arranged in convenient form for comparison with field tests. Pages: 77

1st Edition | December 1969 | Reaffirmed: September 1, 1999  
Product Number: G05700 | Price: \$118.00

## Bull 11L3

### Sucker Rod Pumping System Design Book (includes errata, dated November 1973, and Supplement, dated February 1977)

Contains print-out tables of computer calculated values for selecting sucker rod systems. Values are included for depths of 200 feet to 12,000 feet in increments of 500 feet; and production rates of 100 barrels per day to over 1,500 barrels per day in varying increments. Various rod string pump stroke, pump size and pumping speed combinations that will do the job within the limiting parameters are listed. Pages: 574

1st Edition | May 1970 | Product Number: G05800 | Price: \$128.00

## TR 11L6

### Technical Report on Electric Motor Prime Mover for Beam Pumping Unit Service

Covers polyphase, squirrel-cage, induction motors for use as the prime mover for beam pumping units (size range of 200 hp and below). Motors to be operated from solid-state or other types of variable frequency/variable voltage power supplies for adjustable speed applications will require individual consideration to provide satisfactory performance and are beyond the scope of this document. Motors conforming to this document are suitable for operation in accordance with their full load rating under ambient temperature at a maximum altitude of 1000 m (3300 ft.) above sea level with outdoor severe duty application, including blowing dust or snow, corrosive atmospheres, high humidity, and cyclic loading. Pages: 13

2nd Edition | May 2008 | Product Number: G11L602 | Price: \$83.00

## RP 11S

### Recommended Practice for the Operation, Maintenance and Troubleshooting of Electric Submersible Pump Installations

Covers all of the major components that comprise a standard electric submersible pumping system, their operation, maintenance, and troubleshooting. It is specifically prepared for installations in oil and water producing wells where the equipment is installed on tubing. It is not prepared for equipment selection or application. Pages: 18

3rd Edition | November 1994 | Reaffirmed: April 2008  
Product Number: G11S03 | Price: \$80.00

## RP 11S1

### Recommended Practice for Electrical Submersible Pump Teardown Report

Covers a recommended electrical submersible pump teardown report form. It also includes equipment schematic drawings which may provide assistance in identifying equipment components. These schematics are for generic equipment components, and there may be differences between manufacturers on the exact description or configuration of the assemblies. Pages: 36

3rd Edition | September 1997 | Effective Date: December 15, 1997  
Reaffirmed: April 2008 | Product Number: G11S13 | Price: \$118.00

## RP 11S2

### Electric Submersible Pump Testing

Provides guidelines and procedures covering electric submersible pump performance testing intended to establish product consistency. These practices are generally considered appropriate for the majority of pump applications. This document covers the acceptance testing of electric submersible pumps (sold as new) by manufacturers, vendors, or users to the prescribed minimum specifications. Pages: 12

2nd Edition | August 1997 | Effective Date: October 1, 1997  
Reaffirmed: April 2008 | Product Number: G11S22 | Price: \$80.00

## RP 11S2 \*

### Electric Submersible Pump Testing—Russian

The Russian translation of Recommended Practice 11S2.

2nd Edition | August 1997 | Product Number: G11S22 | Price: \$84.00

## RP 11S3

### Electric Submersible Pump Installations

Addresses the installation and replacement of all major components comprising an electrical submersible pumping system. Specifically, it addresses equipment installation on tubing in oil and gas production operations. Pages: 11

2nd Edition | March 1999 | Reaffirmed: April 2008

Product Number: G11S32 | Price: \$86.00

## RP 11S3 \*

### Electric Submersible Pump Installations—Russian

The Russian translation of Recommended Practice 11S3.

2nd Edition | March 1999 | Product Number: G11S32 | Price: \$90.00

## RP 11S4

### Recommended Practice for Sizing and Selection of Electric Submersible Pump Installations

This document discusses in some detail each component of the ESP system (pump, motor, intake, seal or protector, cable, switchboard, etc.) as far as what must be considered for the best selection at a desired rate and well conditions. Examples are given to illustrate the basic design procedure and illustrate how PVT correlations, multiphase flow correlations, and inflow performance relationships are used. Summary designs and computer examples using the detailed design principles are presented which show how design considerations fit together, and how tools such as computer programs allow faster solutions resulting in easier trial and error calculations for optimization of designs and study of existing installations. Topics such as PVT correlations, multiphase flow correlations, and inflow performance relationships are discussed in the appendices. Pages: 31

3rd Edition | June 2001 | Reaffirmed: April 2008

Product Number: G11S43 | Price: \$76.00

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## RP 11S5

### Recommended Practice for the Application of Electric Submersible Cable Systems

Covers the application (size and configuration) of electrical submersible cable systems by manufacturers, vendors, or users. The document addresses the various uses of different cable insulation systems, including jackets, braids, armor and related coverings, as well as auxiliary cable components for cable conductors. The document also addresses splicing and terminating cables including splicing, lengthening and repairs.

2nd Edition | April 2008 | Product Number: G11S52 | Price: \$105.00

## RP 11S6

### Recommended Practice for Testing of Electric Submersible Pump Cable Systems

Covers field testing of electric submersible pump cable systems. This document is organized into three major topic categories. The first category provides general definitions and an overview of terms, safety considerations, and cable system preparation guidelines. The second category identifies various situations under which testing is performed. The third category identifies test methods and procedures.

1st Edition | December 1995 | Reaffirmed: April 2008

Product Number: G11S61 | Price: \$86.00

## RP 11S7

### Recommended Practice on Application and Testing of Electric Submersible Pump Seal Chamber Section

Applies to the seal chamber section used in support of an electric submersible motor. The recommended practice contains tutorial, testing, and failure evaluation information on the seal chamber section used in support of an electric submersible motor. The document provides a general understanding of construction and functioning of seal chamber sections, identification of well conditions, system requirements, and characteristics that influence component section and application. Pages: 28

1st Edition | July 1993 | Reaffirmed: April 2008

Product Number: G05947 | Price: \$86.00

## RP 11S8

### Recommended Practice on Electric Submersible Pump System Vibrations

Provides guidelines to establish consistency in control and analysis of ESP system vibrations. These recommended practices are those generally considered appropriate for the acceptance testing of ESP systems and subsystems for the majority of ESP applications. This recommended practice covers the vibration limits, testing, and analysis of electric submersible pump systems and subsystems. Pages: 15

1st Edition | May 1993 | Reaffirmed: April 2008

Product Number: G05948 | Price: \$73.00

## LEASE PRODUCTION VESSELS

### Spec 12B ♦

#### Specification for Bolted Tanks for Storage of Production Liquids

Covers material, design, fabrication, and testing requirements for vertical, cylindrical, aboveground, closed and open top, bolted steel storage tanks with internal pressures approximately atmospheric at various sizes and capacities ranging from 100 to 10000 barrels. Tanks covered by this specification have been designed using established engineering calculations to determine minimum metal thickness and bolting specifications for each size tank filled with water. This specification is designed to provide the oil production industry with tanks of adequate safety and reasonable economy for use in the storage of crude petroleum and other liquids commonly handled and stored by the production segment of the industry. Pages: 33

15th Edition | October 2008 | Effective Date: March 31, 2009

Product Number: G12B15 | Price: \$94.00

You may access Spec 12B in a read-only platform at: [publications.api.org](http://publications.api.org)

### Spec 12D ♦

#### Specification for Field Welded Tanks for Storage of Production Liquids

Covers material, design, fabrication, and testing requirements for vertical, cylindrical, aboveground, closed top, welded steel storage tanks with internal pressures approximately atmospheric at various sizes and capacities ranging from 500 to 10000 barrels. Tanks covered by this specification have been designed using established engineering calculations to determine minimum metal thickness and bolting specifications for each size tank filled with water. This specification is designed to provide the oil production industry with tanks of adequate safety and reasonable economy for use in the storage of crude petroleum and other liquids commonly handled and stored by the production segment of the industry. Pages: 27

11th Edition | October 2008 | Effective Date: March 31, 2009

Product Number: G12D11 | Price: \$94.00

You may access Spec 12D in a read-only platform at: [publications.api.org](http://publications.api.org)

### Spec 12F ♦

#### Specification for Shop Welded Tanks for Storage of Production Liquids

Covers material, design, fabrication, and testing requirements for shop-fabricated vertical, cylindrical, aboveground, closed top, welded steel storage tanks with internal pressures approximately atmospheric at various sizes and capacities ranging from 90 to 750 barrels. Tanks covered by this specification have been designed using established engineering calculations to determine minimum metal thickness and bolting specifications for each size tank filled with water. This specification is designed to provide the oil production industry with tanks of adequate safety and reasonable economy for use in the storage of crude petroleum and other liquids commonly handled and stored by the production segment of the industry. Pages: 25

12th Edition | October 2008 | Effective Date: March 31, 2009

Product Number: G12F12 | Price: \$94.00

You may access Spec 12F in a read-only platform at: [publications.api.org](http://publications.api.org)

### Spec 12J ♦

#### Specification for Oil and Gas Separators

Covers minimum requirements for the design, fabrication, and plant testing of oil and gas separators and oil-gas-water separators that are used in the production of oil and gas, and are located at some point on the producing flow line between the wellhead and pipeline. Separators covered by this specification may be vertical, spherical, or single or double barrel horizontal. Unless otherwise agreed upon between the purchaser and the manufacturer, the jurisdiction of this specification terminates with the pressure vessel as defined in Section VII, Division 1 of the ASME *Boiler and Pressure Vessel Code*. Pressure vessels covered by this specification are normally classified as natural resource vessels. Separators outside the scope of this specification include centrifugal separators, filter separators and desanding separators. Pages: 25

8th Edition | October 2008 | Effective Date: March 31, 2009

Product Number: G12J08 | Price: \$94.00

### Spec 12K ♦

#### Specification for Indirect Type Oilfield Heaters

Covers minimum requirements for the design, fabrication, and shop testing of oilfield indirect type fired heaters that are used in the production of oil, gas and associated fluid. The heaters are located at some point on the producing flowline between the wellhead and pipeline. Heater components covered by this specification include the pressurized coils, the shell, heater bath, firetube and the firing system. For purposes of this specification, the termination of a heater coil is at the first bevel when coils are furnished beveled for welding, or the face of the first fitting when fittings are furnished as the inlet or outlet connection to the coil. All fittings and valves between the inlet and outlet of the coil are to be considered within the coil limit.

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Heaters outside the scope of this specification include steam and other vapor generators, reboilers, indirect heaters employing heat media other than water solutions, all types of direct fired heaters, shell-and-tube bundles or electrical heating elements, and coils operating at temperatures less than -20 °F. Pages: 35

8th Edition | October 2008 | Effective Date: March 31, 2009  
Product Number: G12K08 | Price: \$111.00

## Spec 12L ♦

### Specification for Vertical and Horizontal Emulsion Treaters

Covers minimum requirements for material, design, fabrication, and testing of vertical and horizontal emulsion treaters. Emulsion treating is normally conducted on crude oil immediately after it is separated from its associated gas in a vessel referred to as a treater or sometimes as a heater treater. High gas-oil ratio wells or those produced by gas lift may require the installation of an oil and gas separator upstream of the treater to remove most of the associated gas before the emulsion enters the treater. Where the water to oil ratio is high, freewater knockouts may be required upstream of the treater. The jurisdiction of this specification terminates with each pressure vessel as applicable: the emulsion treater with firetube(s) and, if used, the heat exchanger(s) and water siphon. Pressure vessels covered by this specification are classified as natural resource vessels. An emulsion treater is a pressure vessel used in the oil producing industry for separating oil-water emulsions and gas, and for breaking or resolving emulsified well streams into water and saleable clean oil components. Emulsion treaters are usually equipped with one or more removable firetubes or heat exchange elements through which heat is applied to the water and/or emulsion to aid the emulsion breaking process. Pages: 39

5th Edition | October 2008 | Effective Date: March 31, 2009  
Product Number: G12L05 | Price: \$94.00

## RP 12N

### Operations, Maintenance and Testing of Firebox Flame Arrestors

Covers practices that should be considered in the installation, maintenance, and testing of firebox flame arrestors installed on the air intake of oilfield production equipment. Pages: 6

2nd Edition | November 1994 | Reaffirmed: April 2008  
Product Number: G12N02 | Price: \$80.00

## Spec 12P ♦

### Specification for Fiberglass Reinforced Plastic Tanks

Covers material, design, fabrication, and testing requirements for fiberglass reinforced plastic (FRP) tanks. Only shop-fabricated, vertical, cylindrical tanks are covered. Tanks covered by this specification are intended for above ground and atmospheric pressure service at various sizes and capacities ranging from 90 to 1500 barrels. Unsupported cone bottom tanks are outside the scope of this specification. Standard designs are based on a maximum working pressure equal to the hydrostatic head of the stored fluid plus 6 in. of water column (0.217 psig) and 2 in. of water column vacuum. Design criteria are dependent on method of construction. Filament winding, chop-spray and combinations of these methods (commonly referred to as chop-hoop) are covered. Tanks constructed using hand lay-up (contact molding) are to be designed to the same standard as chop-spray construction. Pages: 27

3rd Edition | October 2008 | Effective Date: March 31, 2009  
Product Number: G12P03 | Price: \$94.00

## RP 12R1

### Recommended Practice for Setting, Maintenance, Inspection, Operation, and Repair of Tanks in Production Service

Should be considered as a guide on new tank installations and maintenance of existing tanks. It contains recommendations for good practices in (a) the collection of well or lease production, (b) gauging, (c) delivery to pipeline carriers for transportation, and (d) other production storage and treatment operations. This recommended practice is intended primarily for application to tanks fabricated to API Specs 12F, 12D, 12E, and 12P when employed in on-land production service; but its basic principles are applicable to

atmospheric tanks of other dimensions and specifications when they are employed in similar oil and gas production, treating, and processing services. It is not applicable to refineries, petrochemical plants, marketing bulk stations, or pipeline storage facilities operated by carriers. Pages: 49

5th Edition | August 1997 | Reaffirmed: April 2008  
Product Number: G12R15 | Price: \$128.00

## DRILLING FLUID MATERIALS

## Spec 13A/ISO 13500:2009 ♦

### Specification for Drilling Fluid Materials

#### Petroleum and natural gas industries—Drilling Fluids—Specifications and testing

Covers physical properties and test procedures for materials manufactured for use in oil- and gas-well drilling fluids. The materials covered are barite, haematite, bentonite, nontreated bentonite, OCMA-grade bentonite, attapulgite, sepiolite, technical-grade low-viscosity carboxymethylcellulose (CMC LVT), technical-grade high-viscosity carboxymethylcellulose (CMC-HVT), starch, low-viscosity polyanionic cellulose (PAC-LV), high-viscosity polyanionic cellulose (PAC-HV), drilling-grade Xanthan gum, and barite 4,1. This Standard is intended for the use of manufacturers of named products.

This edition of API Spec 13A is the identical national adoption of ISO 13500, *Petroleum and natural gas industries—Drilling Fluids—Specifications and testing*, and includes the addition of an API Monogram Annex. Pages: 109

18th Edition | February 2010 | Effective Date: August 1, 2010  
Product Number: GX13A018 | Price: \$175.00

## RP 13B-1/ISO 10414-1:2008

### Recommended Practice for Field Testing Water-Based Drilling Fluids Petroleum and natural gas industries—Field testing of drilling fluids—Part 1: Water-based fluids

Provides standard procedures for determining the following characteristics of water based drilling fluids:

- drilling fluid density (mud weight);
- viscosity and gel strength;
- filtration;
- water, oil and solids contents;
- sand content;
- methylene blue capacity;
- pH;
- alkalinity and lime content;
- chloride content;
- total hardness as calcium.

Annexes A through K provide additional test methods.

This edition of API 13B-1 is the identical national adoption of ISO 10414-1:2008, *Petroleum and natural gas industries—Field testing of drilling fluids—Part 1: Water-based fluids*. Pages: 91

4th Edition | March 2009 | Product Number: GX13B14 | Price: \$160.00

## RP 13B-2

### Recommended Practice for Field Testing Oil-based Drilling Fluids

Provides standard procedures for determining the following characteristics of oil-based drilling fluids:

- drilling fluid density (mud weight);
- viscosity and gel strength;
- filtration;
- oil, water and solids contents;
- alkalinity, chloride content and calcium content;
- electrical stability;
- lime and calcium contents, calcium chloride and sodium chloride contents;
- low-gravity solids and weighting material contents. Pages: 100

4th Edition | February 2005 | Under Revision, 2-Year Extension: June 2010  
Product Number: G13B204 | Price: \$158.00

## RP 13C/ISO 13501 ■

### Recommended Practice on Drilling Fluid Processing Systems Evaluation

#### Drilling fluids processing equipment evaluation

Provides a standard procedure for assessing and modifying performance of solids control equipment systems commonly used in the field in petroleum and natural gas drilling fluids processing.

This procedure is not intended for the comparison of similar types of individual pieces of equipment.

This Standard specifies a different labelling requirement for shale shaker screens that will be permanently attached to the screen. It also covers the marking of shipping containers for shale shaker screens.

This Standard provides a standard procedure for quick assessment of a solids control screen sizing. The method can be used in the field or laboratory for identification of an unknown screen approximate size range

This edition of RP 13C is the modified national adoption of ISO 13501, *Drilling fluids processing equipment evaluation*. Pages: 52

4th Edition | December 2010 | Product Number: GX13C04 | Price: \$117.00

## RP 13D ■

### Rheology and Hydraulics of Oil-well Fluids

The objective of this Recommended Practice (RP) is to provide a basic understanding of and guidance about drilling fluid rheology and hydraulics, and their application to drilling operations.

For this RP, rheology is the study of flow characteristics of a drilling fluid and how these characteristics affect movement of the fluid. Specific measurements are made on a fluid to determine rheological parameters under a variety of conditions. From this information the circulating system can be designed or evaluated regarding how it will accomplish certain desired objectives.

6th Edition | May 2010 | Product Number: G13D06 | Price: \$130.00

## RP 13I/ISO 10416:2008 ■

### Recommended Practice for Laboratory Testing of Drilling Fluids Petroleum and natural gas industries—Drilling fluids—Laboratory testing

Provides procedures for the laboratory testing of both drilling fluid materials and drilling fluid physical, chemical and performance properties. It is applicable to both water-based and oil-based drilling fluids, as well as the base or "make-up" fluid. It is not applicable as a detailed manual on drilling fluid control procedures. Recommendations regarding agitation and testing temperature are presented because the agitation history and temperature have a profound effect on drilling fluid properties.

This edition of API RP 13I is the identical national adoption of ISO 10416:2008, *Petroleum and natural gas industries—Drilling fluids—Laboratory testing*. Pages: 108

8th Edition | March 2009 | Product Number: GX13I8 | Price: \$180.00

## RP 13J/ISO 13503-3:2005

### Testing of Heavy Brines

#### Petroleum and natural gas industries—Completion fluids and materials—Part 3: Testing of heavy brines

Covers heavy brines commonly used in petroleum and natural gas completion, workover and drill-in fluids. These brines can be purchased or rented from multiple sources, and are available worldwide. No single source or limited source of supply is included, either by inference or reference. Also provides methods for assessing the performance and physical characteristics of heavy brines for use in field operations. It includes procedures for evaluating the density or specific gravity, clarity or amount of particulate matter carried in the brine, crystallization point or the temperature (both ambient and under pressure) at which the brines make the transition between liquid and solid, pH, and iron contamination. It also contains a discussion of gas hydrate formation and mitigation, buffering capacity and a standardized reporting form.

This edition of API 13J is the identical national adoption of ISO 13503-3:2005, *Petroleum and natural gas industries—Completion fluids and materials—Part 3: Testing of heavy brines*. Pages: 43

4th Edition | May 2006 | Product Number: G13J04 | Price: \$120.00

## RP 13K ■

### Recommended Practice for Chemical Analysis of Barite

Barite is used to increase the density of oil well drilling fluids. It is a mined product that can contain significant quantities of minerals other than barium sulfate, which is its main component.

It is the objective of this publication to provide a comprehensive, detailed description of the chemical analytical procedures for quantitatively determining the mineral and chemical constituents of barite. These procedures are quite elaborate and will normally be carried out in a well-equipped laboratory. Pages: 51

3rd Edition | April 2011 | Product Number: G13K03 | Price: \$86.00

## RP 13L

### Recommended Practice for Training and Qualification of Drilling Fluid Technologists

A written summary of basic training and knowledge that an employee or contractor shall possess to be identified as a drilling fluids technologist. This RP seeks to formalize the specific knowledge base, professional skills, and application skills needed to ensure the competency and professionalism of individuals working in the drilling fluids industry. Drilling fluids technologists should use this RP as an outline to self-determine any gaps in learning and seek to improve their skills. A company contracting the service of a drilling fluids technologist should use this RP as a checklist of knowledge that a technologist should be able to demonstrate proficiency in applying Pages: 7

1st Edition | February 2003 | Product Number: G13L01 | Price: \$51.00

## RP 13M/ISO 13503-1:2003

### Recommended Practice for the Measurement of Viscous Properties of Completion Fluids

Petroleum and natural gas industries—Completion fluids and materials—Part 1: Measurement of viscous properties of completion fluids (RP 13M replaces API RP 39)

Provides consistent methodology for determining the viscosity of completion fluids used in the petroleum and natural gas industries. For certain cases, methods are also provided to determine the rheological properties of a fluid.

This edition of API RP 13M is the identical national adoption of ISO 13503-1, *Petroleum and natural gas industries—Completion fluids and materials—Part 1: Measurement of viscous properties of completion fluids*. Pages: 21

1st Edition | July 2004 | Product Number: GX13M01 | Price: \$95.00

## RP 13M-4/ISO 13503-4:2006

### Recommended Practice for Measuring Stimulation and Gravel-pack Fluid Leakoff Under Static Conditions

Petroleum and natural gas industries—Completion fluids and materials—Part 4: Procedures for measuring stimulation and gravel-pack fluid leakoff under static conditions

Provides for consistent methodology to measure fluid loss of stimulation and gravel-pack fluid under static conditions. However, the procedure in this Recommended Practice excludes fluids that react with porous media.

This edition of API RP 13M-4 is the identical national adoption of ISO 13503-4, *Petroleum and natural gas industries—Completion fluids and materials—Part 4: Procedures for measuring stimulation and gravel-pack fluid leakoff under static conditions*. Pages: 14

1st Edition | December 2006 | Product Number: GG13M41 | Price: \$55.00

## OFFSHORE SAFETY AND ANTI-POLLUTION

### **Spec 14A/ISO 10432:2004 ♦** **Specification for Subsurface Safety Valve Equipment**

Petroleum and natural gas industries—Downhole equipment—  
Subsurface safety valve equipment

Provides the minimum acceptable requirements for subsurface safety valves (SSSVs). It covers subsurface safety valves including all components that establish tolerances and/or clearances which may affect performance or interchangeability of the SSSVs. It includes the interface connections to the flow control or other equipment, but does not cover the connections to the well conduit.

This edition of API Spec 14A is the identical national adoption of ISO 10432, *Petroleum and natural gas industries—Downhole equipment—Subsurface safety valve equipment*. This specification contains the API Monogram Annex as part of the U.S. national adoption. Pages: 79

11th Edition | October 2005 | Effective Date: May 1, 2006

Product Number: GX14A11 | Price: \$166.00

You may access Spec 14A in a read-only platform at: [publications.api.org](http://publications.api.org)

### **RP 14B/ISO 10417:2004**

#### **Design, Installation, Repair and Operation of Subsurface Safety Valve Systems**

Petroleum and natural gas industries—Subsurface safety valve systems—Design, installation, operation and redress

Establishes requirements and provides guidelines for configuration, installation, test, operation and documentation of subsurface safety valve (SSSV) systems. In addition, this Standard establishes requirements and provides guidelines for selection, handling, redress and documentation of SSSV downhole production equipment.

This edition of API RP 14B is the identical national adoption of ISO 10417, *Petroleum and natural gas industries—Subsurface safety valve systems—Design, installation, operation and redress*. Pages: 31

5th Edition | October 2005 | Product Number: GX14B05 | Price: \$111.00

You may access RP 14B in a read-only platform at: [publications.api.org](http://publications.api.org)

### **RP 14B/ISO 10417:2004 \***

#### **Design, Installation, Repair and Operation of Subsurface Safety Valve Systems—Russian**

Russian translation of Recommended Practice 14B.

5th Edition | October 2005 | Product Number: GX14B05 | Price: \$117.00

### **RP 14C**

#### **Analysis, Design, Installation and Testing of Basic Surface Safety Systems on Offshore Production Platforms**

Presents a standardized method to design, install, and test surface safety systems on offshore production platforms. Uses recognized systems analysis methods to develop requirements for a safety system, and includes procedures to document the safety system and verify conformance. Pages: 110

7th Edition | March 2001 | Reaffirmed: March 2007

Product Number: G14C07 | Price: \$195.00

You may access RP 14C in a read-only platform at: [publications.api.org](http://publications.api.org)

### **RP 14E**

#### **Recommended Practice for Design and Installation of Offshore Production Platform Piping Systems** (ANSI/API RP 14E-1992)

Recommends minimum requirements and guidelines for the design and installation of new piping systems on offshore production platforms. Includes general recommendations on design and application of pipe, valves, and fittings for typical processes; general information on installation, quality control, and items related to piping systems such as insulation; and specific recommendations for the design of particular piping systems. Pages: 61

5th Edition | October 1991 | Reaffirmed: March 2007

Product Number: G07185 | Price: \$144.00

You may access RP 14E in a read-only platform at: [publications.api.org](http://publications.api.org)

### **RP 14F**

#### **Design and Installation of Electrical Systems for Fixed and Floating Offshore Petroleum Facilities for Unclassified and Class I, Division 1, and Division 2 Locations**

Recommends minimum requirements and guidelines for the design, installation, and maintenance of electrical systems on fixed and floating petroleum facilities located offshore. For facilities classified as Zone 0, Zone 1 or Zone 2, reference API 14FZ, *Design and Installation of Electrical Systems for Fixed and Floating Offshore Petroleum Facilities for Unclassified and Class I, Zone 0, Zone 1 or Zone 2*. These facilities include drilling, producing and pipeline transportation facilities associated with oil and gas exploration and production. This RP is not applicable to Mobile Offshore Drilling Units (MODUs) without production facilities. This document is intended to bring together in one place a brief description of basic desirable electrical practices for offshore electrical systems. The recommended practices contained herein recognize that special electrical considerations exist for offshore petroleum facilities. Pages: 150

5th Edition | July 2008 | Product Number: G14F05 | Price: \$115.00

You may access RP 14F in a read-only platform at: [publications.api.org](http://publications.api.org)

### **RP 14FZ**

#### **Design and Installation of Electrical Systems for Fixed and Floating Offshore Petroleum Facilities for Unclassified and Class I, Zone 0, Zone 1, and Zone 2 Locations**

Recommends minimum requirements and guidelines for the design and installation of electrical systems on fixed and floating petroleum facilities located offshore when hazardous locations are classified as Zone 0, Zone 1, or Zone 2. These facilities include drilling, producing and pipeline transportation facilities associated with oil and gas exploration and production. RP 14FZ describes basic desirable electrical practices for offshore electrical systems. This document recognizes that special electrical considerations exist for offshore petroleum facilities. These special considerations include the inherent electrical shock possibility presented by the marine environment and steel decks; space limitations that require equipment be installed in or near classified locations; the corrosive marine environment; motion and buoyancy concerns associated with floating facilities. RP 14FZ applies to both permanent and temporary electrical installations, and the guidelines provide a high level of electrical safety when used in conjunction with well-defined area classifications. This document emphasizes safe practices for classified locations on offshore petroleum facilities but does not include guidelines for classification of areas. Pages: 117

1st Edition | September 2001 | Reaffirmed: March 1, 2007

Product Number: G14FZ1 | Price: \$179.00

You may access RP 14FZ in a read-only platform at: [publications.api.org](http://publications.api.org)

\* These translated versions are provided for the convenience of our customers and are not officially endorsed by API. The translated versions shall neither replace nor supersede the English-language versions, which remain the official Standards. API shall not be responsible for any discrepancies or interpretations of these translations. Translations may not include any Addenda or Errata to the document. Please check the English-language versions for any updates to the documents.

## RP 14G

### Recommended Practice for Fire Prevention and Control on OpenType Offshore Production Platforms

Presents recommendations for minimizing the likelihood of an accidental fire, and for designing, inspecting, and maintaining fire control systems. It emphasizes the need to train personnel in fire fighting, to conduct routine drills, and to establish methods and procedures for safe evacuation. The fire control systems discussed are intended to provide an early response to incipient fires and prevent their growth. Applicable to fixed open-type offshore production platforms that are generally installed in moderate climates and that have sufficient natural ventilation to minimize the accumulation of vapors. Enclosed areas, such as quarters, buildings, and equipment enclosures, normally installed on this type platform, are addressed. Pages: 38

4th Edition | March 2007 | Product Number: G14G04 | Price: \$120.00

You may access RP 14G in a read-only platform at: [publications.api.org](http://publications.api.org)

## RP 14J

### Recommended Practice for Design and Hazards Analysis for Offshore Production Facilities

Provides useful procedures and guidelines for planning, designing, and arranging offshore production facilities; and performing a hazards analysis on open-type offshore production facilities. Discusses several procedures that can be used to perform a hazards analysis, and presents minimum requirements for process safety information and hazards analysis that can be used for satisfying API RP 75, *Development of a Safety and Environmental Management Program for Outer Continental Shelf (OCS) Operations and Facilities*. Pages: 75

2nd Edition | April 2001 | Reaffirmed: March 2007

Product Number: G14J02 | Price: \$113.00

You may access RP 14J in a read-only platform at: [publications.api.org](http://publications.api.org)

## Spec 14L/ISO 16070:2005 ◆

### Specification for Lock Mandrels and Landing Nipples

#### Petroleum and natural gas industries—Downhole equipment—Lock mandrels and landing nipples

Provides the requirements for lock mandrels and landing nipples within the production/injection conduit for the installation of flow control or other equipment used in the petroleum and natural gas industries. It includes the interface connections to the flow control or other equipment, but does not cover the connections to the well conduit.

This edition of API Specification 14L is an identical adoption of ISO 16070, *Petroleum and natural gas industries—Downhole equipment—Lock mandrels and landing nipples*. This specification contains the API Monogram Annex as part of the U.S. national adoption. Pages: 25

2nd Edition | July 2007 | Product Number: GG14L02 | Price: \$115.00

## Bull 91

### Planning and Conducting Surface Preparation and Coating Operations for Oil and Natural Gas Drilling and Production Facilities in a Marine Environment

Worldwide, marine exploration, production, development and decommissioning operations are conducted from a variety of structures. These installations must be inspected periodically and maintained in order to assure structural integrity and minimize pollution risks. Maintenance of an offshore structure, regardless of its classification, necessarily includes blasting and coating activities. The purpose of this publication is to establish practices and procedures that should be followed to minimize the discharge of spent blast abrasive, and paint overspray to the surrounding waters during these activities. Pages: 16

1st Edition | June 2007 | Product Number: G09101 | Price: \$59.00

## FIBERGLASS AND PLASTIC PIPE

## RP 15CLT

### Recommended Practice for Composite Lined Steel Tubular Goods

Provides guidelines for the design, manufacturing, qualification and application of composite lined carbon steel downhole tubing in the handling and transport of multiphase fluids, hydrocarbon gasses, hydrocarbon liquids and water. The principles outlined in this RP also apply to line pipe applications. Composite lined tubing typically consists of a fiber reinforced polymer liner within the steel host, providing protection of that steel host from corrosive attack. Both API and premium connections can be employed, typically using corrosive barrier rings to maintain corrosion resistance between ends of adjacent liners. This document contains recommendations on material selection, product qualification, and definition of safety and design factors. Quality control tests, minimum performance requirements are included. The RP applies to composite lined carbon steel for systems up to 10 in. (250 mm) diameter, operating at pressures up to 10,000 psi (69 MPa) and maximum temperatures of 300 °F (150 °C). The principles described in this document can easily be extended to apply to products being developed by manufacturers for application outside this range. Pages: 13

Pages: 13

1st Edition | September 2007 | Product Number: G15CLT1 | Price: \$80.00

## Spec 15HR ◆

### High Pressure Fiberglass Line Pipe

(includes Addendum, dated November 2004)

Formulated to provide for the availability of safe, dimensionally and functionally interchangeable high pressure fiberglass line pipe with a Spec 15HR Standard Pressure Rating from 500 psi to 5000 psi, inclusive, in 250 psi increments. This specification is limited to mechanical connections. Pages: 25

3rd Edition | August 2001 | Product Number: G15HR3 | Price: \$94.00

## Spec 15LE ◆

### Polyethylene (PE) Line Pipe

The purpose of this specification is to provide standards for polyethylene (PE) line pipe suitable for use in conveying oil, gas and non-potable water in underground, above ground and reliner applications for the oil and gas producing industries. The technical content of this document provides requirements and guidelines for performance, design, materials inspection, dimensions and tolerances, marking, handling, storing and shipping. Pages: 38

4th Edition | January 2008 | Effective Date: July 1, 2008

Product Number: G15LE4 | Price: \$98.00

## Spec 15LR ◆

### Low Pressure Fiberglass Line Pipe

Covers filament wound (FW) and centrifugally cast (CC) fiberglass line pipe and fittings for pipe in diameters up to and including 24 in. in diameter and up to and including 1000 psig cyclic operating pressures. In addition, at the manufacturer's option, the pipe may also be rated for static operating pressures up to 1000 psig. It is recommended that the pipe and fittings be purchased by cyclic pressure rating. The standard pressure ratings range from 150 psig to 300 psig in 50 psig increments, and from 300 psig to 1000 psig in 100 psig increments, based on either cyclic pressure or static pressure. Pages: 25

7th Edition | August 2001 | Effective Date: February 1, 2002

Reaffirmed: May 2008 | Product Number: G15LR7 | Price: \$94.00

# Exploration and Production

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## RP 15S

### Qualification of Spoolable Reinforced Plastic Line Pipe

Provides guidelines for the design, manufacture, qualification and application of spoolable reinforced plastic line pipe in oilfield flowline applications, including transport of multiphase fluids, hydrocarbon gases, hydrocarbon liquids and water. Such products typically consist of a continuous plastic liner reinforced with either glass reinforced epoxy-Spoolable Composite Pipe (SCP), or aramid fibers-Reinforced Thermoplastic Pipe (RTP). They are continuous flowline systems capable of being reeled for storage, transport and installation. For offshore use, additional requirements may apply. Pages: 26

1st Edition | March 2006 | Product Number: G15S01 | Price: \$94.00

## RP 15TL4

### Care and Use of Fiberglass Tubulars

Provides information on the transporting, handling, installing, and reconditioning of fiberglass tubulars in oilfield usage. Appendices are also included to cover adhesive bonding, repair procedures, and inspection practices. Pages: 20

2nd Edition | March 1999 | Reaffirmed: May 2008  
Product Number: G15TL4 | Price: \$94.00

## DRILLING WELL CONTROL SYSTEMS

### Spec 16A/ISO 13533:2001 ◆

#### Specification for Drill-through Equipment

Petroleum and natural gas industries—Drilling and production equipment—Drill through equipment (includes Supplement/Errata, dated November 2004)

Provides requirements for performance, design, materials, testing and inspection, welding, marking, handling, storing and shipping of drill-through equipment used for drilling for oil and gas. It also defines service conditions in terms of pressure, temperature and wellbore fluids for which the equipment will be designed.

This specification is applicable to and establishes requirements for the following specific equipment:

- ram blowout preventers;
- ram blocks, packers and top seals;
- annular blowout preventers;
- annular packing units;
- hydraulic connectors;
- drilling spools;
- adapters;
- loose connections;
- clamps.

This International Standard does not apply to field use or field testing of drill-through equipment.

This edition of API RP 16A is a modified adoption of ISO 13533, *Petroleum and natural gas industries—Drilling and production equipment—Drill through equipment*. Pages: 109

3rd Edition | June 2004 | Effective Date: December 1, 2004  
Under Revision | Product Number: GX16A03 | Price: \$160.00

### Spec 16A/ISO 13533:2001 \*

#### Specification for Drill-through Equipment—Chinese

Chinese translation of Spec 16A.

3rd Edition | June 2004 | Product Number: GX16A03C | Price: \$168.00

## Spec 16C ◆

### Choke and Kill Systems

Provides for safe and functionally interchangeable surface and subsea choke and kill systems equipment utilized for drilling and gas wells. Other parts of the choke and kill system not specifically addressed in this document shall be in accordance with the applicable sections of this specification. Technical content of this document provides the minimum requirement for performance, design, materials, welding, testing, inspection, storing, and shipping. Pages: 61

1st Edition | January 1993 | Reaffirmed: July 2001  
Under Revision | Product Number: G07242 | Price: \$128.00

## Spec 16C \*

### Choke and Kill Systems—Chinese

Chinese translation of Spec 16C.

1st Edition | January 1993 | Product Number: G07242C | Price: \$135.00

## Spec 16D ◆

### Control Systems for Drilling Well Control Equipment and Control Systems for Diverter Equipment

Establishes design standards for systems used to control blowout preventers (BOPs) and associated valves that control well pressure during drilling operations. The design standards applicable to subsystems and components do not include material selection and manufacturing process details but may serve as an aid to the purchaser. Although diverters are not considered well control devices, their controls are often incorporated as part of the BOP control system and therefore are included in this specification. The requirements provided in this specification apply to the following control system categories:

- control systems for surface mounted BOP stacks;
- control systems for subsea BOP stacks (common elements);
- discrete hydraulic control systems for subsea BOP stacks;
- electro-hydraulic/multiplex control systems for subsea BOP stacks;
- control systems for diverter equipment;
- auxiliary equipment control systems and interfaces;
- emergency disconnect sequenced systems;
- backup systems;
- special deepwater/harsh environment features. Pages: 97

2nd Edition | July 2004 | Effective Date: January 1, 2005  
2-Year Extension: May 2010 | Product Number: G16D02 | Price: \$171.00  
You may access Spec 16D in a read-only platform at: [publications.api.org](http://publications.api.org)

## Spec 16F ◆

### Specification for Marine Drilling Riser Equipment

Establishes standards of performance and quality for the design, manufacture, and fabrication of marine drilling riser equipment used in conjunction with a subsea blowout preventer (BOP) stack. This specification covers the following major subsystems in the marine drilling riser system:

- riser tensioner equipment;
- flex/ball joints;
- choke, kill and auxiliary lines;
- drape hoses and jumper lines for flex/ball joints;
- telescopic joint (slip joint) and tensioner ring;
- riser joints;
- buoyancy equipment;
- riser running equipment;
- special riser system components;
- lower riser adapter. Pages: 43

1st Edition | August 2004 | Under Revision  
Product Number: G16F01 | Price: \$115.00

\* These translated versions are provided for the convenience of our customers and are not officially endorsed by API. The translated versions shall neither replace nor supersede the English-language versions, which remain the official Standards. API shall not be responsible for any discrepancies or interpretations of these translations. Translations may not include any Addenda or Errata to the document. Please check the English-language versions for any updates to the documents.

## Bull 16J

### Comparison of Marine Drilling Riser Analyses (Formerly API Bull 2J)

Provides a comparison of existing computer programs for design of marine drilling risers. Shows the degree of agreement among a representative group of riser analysis computer programs and presents data that can be used to help validate other programs.

1st Edition | August 1992 | Product Number: G07246 | Price: \$73.00

## RP 16Q

### Design, Selection, Operation and Maintenance of Marine Drilling Riser Systems (formerly API RP 2Q and RP 2K)

Includes guidelines for the design, selection, operation, and maintenance of marine riser systems for floating drilling operations. Organized as a reference for designers, for those who select system components, and for those who use and maintain this equipment. Pages: 48

1st Edition | November 1993 | Reaffirmed: August 2001  
Under Revision | Product Number: G07249 | Price: \$105.00

## Spec 16R ◆

### Marine Drilling Riser Couplings (replaces API RP 2R)

Covers the design, rating, manufacturing, and testing of marine drilling riser couplings. Coupling capacity ratings are established to enable the grouping of coupling models according to their maximum stresses developed under specific levels of loading, regardless of manufacturer or method of make-up. This specification relates directly to API 16Q, which covers the design, selection, and operation of the marine drilling riser system as a whole. Pages: 28

1st Edition | January 1997 | Effective Date: June 1, 1997  
Under Revision | Product Number: G16R01 | Price: \$94.00

## Spec 16RCD ◆

### Drill Through Equipment—Rotating Control Devices

Formulated to provide for the availability of safe and functionally interchangeable rotating control devices (RCDs) utilized in air drilling, drilling operations for oil and gas, and in geothermal drilling operations. Technical content provides requirements for design, performance, materials, tests and inspection, welding, marking, handling, storing, and shipping. This specification does not apply to field use or fieldtesting of RCDs. Critical components are those parts having requirements specified in this document. Pages: 71

1st Edition | February 2005 | 2-Year Extension: May 2010  
Product Number: G16RCD01 | Price: \$146.00

## RP 16ST

### Coiled Tubing Well Control Equipment Systems

Addresses coiled tubing well control equipment assembly and operation as it relates to well control practices. Industry practices for performing well control operations using fluids for hydrostatic pressure balance are not addressed in this recommended practice. This document covers well control equipment assembly and operation used in coiled tubing intervention and coiled tubing drilling applications performed through:

- christmas trees constructed to standards stipulated in API 6A and/or API 11W;
- a surface flow head or surface test tree constructed to standards stipulated in API 6A;
- drill pipe or workstrings with connections manufactured in accordance with API Spec 7 and/or API 5CT. Pages: 75

1st Edition | March 2009 | Product Number: G16ST01 | Price: \$140.00

## RP 53

### Blowout Prevention Equipment Systems for Drilling Operations

Provides information that can serve as a guide for installation and testing of blowout prevention equipment systems on land and marine drilling rigs (barge, platform, bottom-supported, and floating). Pages: 81

3rd Edition | March 1997 | Reaffirmed: September 2004  
2-Year Extension: May 2010 | Product Number: G53003 | Price: \$122.00  
You may access RP 53 in a read-only platform at: [publications.api.org](http://publications.api.org)

## RP 59

### Recommended Practice for Well Control Operations

Provides information that can serve as a voluntary industry guide for safe well control operations. This publication is designed to serve as a direct field aid in well control and as a technical source for teaching well control principles. This publication establishes recommended operations to retain pressure control of the well under pre-kick conditions and recommended practices to be utilized during a kick. It serves as a companion to API RP 53, *Recommended Practice for Blowout Prevention Equipment Systems for Drilling Wells* and API RP 64, *Recommended Practice for Diverter Systems Equipment and Operations*. Pages: 92

2nd Edition | May 2006 | Product Number: G59002 | Price: \$118.00

## RP 64

### Diverter Systems Equipment and Operations

Covers surface and subsea diverter systems and components, including design, controls, operating procedures, and maintenance for land, bottom-supported offshore, and floating offshore, and floating offshore installations. Pages: 61

2nd Edition | November 2001 | Reaffirmed: March 2007  
Product Number: G64002 | Price: \$103.00

## SUBSEA PRODUCTION SYSTEMS

### RP 17A/ISO 13628-1:2005

#### Design and Operation of Subsea Production Systems—General Requirements and Recommendations

##### Petroleum and natural gas industries—Design and operation of subsea production systems—Part 1: General requirements and recommendations (includes Addendum 1, dated December 2010)

Provides guidelines for the design, installation, operation, repair, and decommissioning of subsea production systems. The elements of subsea production systems included are wellheads (both subsea and mudline casing suspension systems) and trees; pipelines and end connections; controls, control lines and control fluids; templates and manifolds; and production riser (both rigid and flexible). Other sections cover operations, quality assurance, materials, and corrosion. This is intended as an umbrella document to govern other parts of the subsea document suite of standards dealing with more detailed requirements for the subsystems which typically form part of a subsea production system. However, in some areas (e.g. system design, structures, manifolds, lifting devices, and color and marking) more detailed requirements are included herein, as these subjects are not covered in a subsystem standard. The complete subsea production system comprises several subsystems necessary to produce hydrocarbons from one or more subsea wells and transfer them to a given processing facility located offshore (fixed, floating or subsea) or onshore, or to inject water/gas through subsea wells. Specialized equipment, such as split trees and trees and manifolds in atmospheric chambers, are not specifically discussed because of their limited use. However, the information presented is applicable to those types of equipment.

This edition of RP 17A is the identical national adoption of ISO 13628-1:2005, *Petroleum and natural gas industries—Design and operation of subsea production systems—Part 1: General requirements and recommendations*. Pages: 232

4th Edition | January 2006 | Product Number: GX17A04 | Price: \$176.00

## RP 17B/ISO 13628-11:2007

### Recommended Practice for Flexible Pipe

Petroleum and natural gas industries—Design and operation of subsea production systems—Part 11: Flexible pipe systems for subsea and marine riser applications

Provides guidelines for the design, analysis, manufacture, testing, installation and operation of flexible pipes and flexible pipe systems for onshore, subsea and marine applications. This RP supplements API Specs 17J and 17K, which specify minimum requirements for the design, material selection, manufacture, testing, marking and packaging of unbonded and bonded flexible pipe, respectively. This RP applies to flexible pipe assemblies, consisting of segments of flexible pipe body with end fittings attached to both ends. Both bonded and unbonded pipe types are covered. In addition, this RP applies to flexible pipe systems, including ancillary components. The applications covered by this RP are sweet- and sour-service production, including export and injection applications. This RP applies to both static and dynamic flexible pipe systems used as flowlines, risers and jumpers. This RP does cover, in general terms, the use of flexible pipes for offshore loading systems. This RP does not cover flexible pipes for use in choke and kill lines or umbilical and control lines.

This edition of RP 17B is the identical national adoption of ISO 13628-11:2007, *Petroleum and natural gas industries—Design and operation of subsea production systems—Part 11: Flexible pipe systems for subsea and marine riser applications*. Pages: 213

4th Edition | July 2008 | Product Number: GX17B04 | Price: \$201.00

## RP 17C/ISO 13628-3:2000

### Recommended Practice on TFL (Through Flowline) Systems

Petroleum and natural gas industries—Design and operation of subsea production systems—Part 3: Through flow line (TFL) systems

Presents recommendations for designing, fabricating, and operating TFL (through flowline) equipment. Procedures and guidelines presented are for hydraulic servicing of downhole equipment, subsea tree and tubing hanger, and pipelines and equipment within the pipelines. This document primarily addresses TFL systems for offshore, subsea applications but it may also be used in other applications such as highly-deviated wells or horizontally-drilled wells. Subsea separation, boosting, metering and downhole pumps are outside the scope of this document.

This edition of 17C is the identical national adoption of ISO 13628-3:2000, *Petroleum and natural gas industries—Design and operation of subsea production systems—Part 3: Through flow line (TFL) systems*. Pages: 67

2nd Edition | September 2002 | Reaffirmed: February 2010

Product Number: GX17C02 | Price: \$121.00

## Spec 17D ♦

### Subsea Wellhead and Christmas Tree Equipment

(includes Supplement 1, dated March 1, 1993 and Supplement 2, dated June 1996; Effective date: August 1, 1996)

Provides the specification for safe, dimensionally and functionally interchangeable subsea wellhead, mudline, and tree equipment. Technical content includes requirements for performance, design, materials, testing, inspection, welding, marking, handling, storing, and shipping. The technical content provides requirements for performance, design, materials, testing, inspection, welding, marking, handling, storing and shipping. Critical components are those parts having requirements specified in this document. Rework and repair of used equipment are beyond the scope of this specification. Pages: 116

1st Edition | October 1992 | Reaffirmed: November 2003 | Under Revision

2-Year Extension: May 2010 | Product Number: G07265 | Price: \$128.00

You may access Spec 17D in a read-only platform at: [publications.api.org](http://publications.api.org)

## Spec 17E ■ ♦

### Specification for Subsea Umbilicals

Specifies requirements and gives recommendations for the design, material selection, manufacture, design verification, testing, installation and operation of subsea control systems, chemical injection, gas lift, utility and service umbilicals and associated ancillary equipment for the petroleum and natural gas industries. This also applies to umbilicals containing electrical conductors, optical fibres, thermoplastic hoses and metallic tubes, either alone or in combination; and applies to umbilicals that are for static or dynamic service, and with routings of surface-surface, surface-subsea and subsea-subsea. Pages: 167

4th Edition | October 2010 | Effective Date: April 1, 2011

Product Number: GX17E04 | Price: \$188.00

## Spec 17F/ISO 13628-6:2006 ♦

### Specification for Subsea Production Control Systems

Petroleum and natural gas industries—Design and operation of subsea production systems—Part 6: Subsea production systems

Applicable to design, fabrication, testing, installation and operation of subsea production control systems. 17F covers surface control system equipment, subsea-installed control system equipment and control fluids. This equipment is utilized for control of subsea production of oil and gas and for subsea water and gas injection services. Where applicable, this specification may be used for equipment on multiple-well applications. This document establishes design standards for systems, subsystems, components and operating fluids in order to provide for the safe and functional control of subsea production equipment. It contains various types of information related to subsea production control systems that includes: informative data that provide an overview of the architecture and general functionality of control systems for the purpose of introduction and information; basic prescriptive data that shall be adhered to by all types of control system; selective prescriptive data that are control-system-type sensitive and shall be adhered to only when they are relevant; and optional data or requirements that need be adopted only when considered necessary either by the purchaser or the vendor. In view of the diverse nature of the data provided, control system purchasers and specifiers are advised to select from this document only the provisions needed for the application at hand. Rework and repair of used equipment are beyond the scope of this specification.

This edition of Spec 17F is the identical national adoption of ISO 13628-6:2006, *Petroleum and natural gas industries—Design and operation of subsea production systems—Part 6: Subsea production systems*. This specification contains the API Monogram Annex as part of the U.S. national adoption. Pages: 58

2nd Edition | December 2006 | Effective Date: June 15, 2007

Product Number: GX17F02 | Price: \$190.00

## RP 17G/ISO 13628-7:2005

### Recommended Practice for Completion/Workover Riser Systems

Petroleum and natural gas industries—Design and operation of subsea production systems—Part 7: Workover/Completion riser systems

Gives requirements and recommendations for the design, analysis, materials, fabrication, testing and operation of subsea completion/workover (C/WO) riser systems run from a floating vessel. Intended to serve as a common reference for designers, manufacturers and operators/users, thereby reducing the need for company specifications. This document is intended to serve as a common reference for designers, manufacturers and operators/users, thereby reducing the need for company specifications. This recommended practice is limited to risers, manufactured from low alloy carbon steels. Risers fabricated from special materials such as titanium, composite materials and flexible pipes are beyond the scope of this document. Specific equipment covered is listed as follows: riser joints; connectors; workover control systems; surface flow trees; surface tree tension frames; lower workover riser packages; lubricator valves; retainer valves; subsea test trees; shear subs; tubing hanger orientation systems; swivels; annulus circulation hoses; riser spiders; umbilical clamps; handling and test tools; and tree cap running tools. Associated equipment not covered

includes: tubing hangers; internal and external tree caps; tubing hanger running tools; surface coiled tubing units; surface wireline units; and surface tree kill and production jumpers.

This edition of RP 17G is the identical national adoption of ISO 13628-7:2005, *Petroleum and natural gas industries—Design and operation of subsea production systems—Part 7: Workover/Completion riser systems*. Pages: 242

2nd Edition | July 2006 | Product Number: GX17G02 | Price: \$176.00

## RP 17H/ISO 13628-8:2002

### Recommended Practice for Remotely Operated Vehicles (ROV) Interfaces on Subsea Production Systems

**Petroleum and natural gas industries—Design and operation of subsea production systems—Part 8: Remotely Operated Vehicles (ROV) interfaces on subsea production systems**

Gives functional requirements and guidelines for ROV interfaces on subsea production systems for the petroleum and natural gas industries. It is applicable to both the selection and use of ROV interfaces on subsea production equipment, and provides guidance on design as well as the operational requirements for maximizing the potential of standard equipment and design principles. The auditable information for subsea systems it offers will allow interfacing and actuation by ROV-operated systems, while the issues it identifies are those that have to be considered when designing interfaces on subsea production systems. The framework and detailed specifications set out will enable the user to select the correct interface for a specific application.

This edition of RP 17H is the identical national adoption of ISO 13628-8:2002, *Production Systems Petroleum and natural gas industries—Design and operation of subsea production systems—Part 8: Remotely Operated Vehicles (ROV) interfaces on subsea production systems*. Pages: 69

1st Edition | July 2004 | Reaffirmed: January 2009

Product Number: GX17H04 | Price: \$123.00

You may access RP 17H in a read-only platform at: [publications.api.org](http://publications.api.org)

## Spec 17J/ISO 13628-2:2006 ◆

### Specification for Unbonded Flexible Pipe

**Petroleum and natural gas industries—Design and operation of subsea production systems—Part 2: Flexible pipe systems for subsea and marine applications**

Defines the technical requirements for safe, dimensionally and functionally interchangeable flexible pipes that are designed and manufactured to uniform standards and criteria. Minimum requirements are specified for the design, material selection, manufacture, testing, marking and packaging of flexible pipes, with reference to existing codes and standards where applicable. See API RP 17B for guidelines on the use of flexible pipes and ancillary components. This Spec applies to unbonded flexible pipe assemblies, consisting of segments of flexible pipe body with end fittings attached to both ends. This Spec does not cover flexible pipes of bonded structure. This Spec does not apply to flexible pipe ancillary components. Guidelines for bend stiffeners and bend restrictors are given in Annex B. This Spec does not apply to flexible pipes that include nonmetallic tensile armour wires. Pipes of such construction are considered as prototype products subject to qualification testing. The applications addressed by this document are sweet and sour service production, including export and injection applications. Production products include oil, gas, water and injection chemicals. This Spec applies to both static and dynamic flexible pipes used as flowlines, risers and jumpers. This Spec does not apply to flexible pipes for use in choke-and-kill line applications.

This edition of Spec 17J is the identical national adoption of ISO 13628-2:2006, *Petroleum and natural gas industries—Design and operation of subsea production systems—Part 2: Flexible pipe systems for subsea and marine applications*. This specification contains the API Monogram Annex as part of the U.S. national adoption. Pages: 73

3rd Edition | July 2008 | Effective Date: January 1, 2009

Product Number: GX17J03 | Price: \$124.00

You may access Spec 17J in a read-only platform at: [publications.api.org](http://publications.api.org)

## Spec 17K/ISO 13628-10:2005 ◆

### Specification for Bonded Flexible Pipe

**Petroleum and natural gas industries—Design and operation of subsea production systems—Part 10: Specification for bonded flexible pipe**

Defines the technical requirements for safe, dimensionally and functionally interchangeable bonded flexible pipes that are designed and manufactured to uniform standards and criteria. Minimum requirements are specified for the design, material selection, manufacture, testing, marking and packaging of bonded flexible pipes, with reference to existing codes and standards where applicable. This document applies to bonded flexible pipe assemblies, consisting of segments of flexible pipe body with end fittings attached to both ends. It does not cover flexible pipes of unbonded structure or to flexible pipe ancillary components. This document can be applied to flexible pipes that include non-metallic reinforcing layers, though no effort was made to address the specific and unique technological aspects of this product.

This edition of Spec 17K is the identical national adoption of ISO 13628-10:2005, *Petroleum and natural gas industries—Design and operation of subsea production systems—Part 10: Specification for bonded flexible pipe*. This specification contains the API Monogram Annex as part of the U.S. national adoption. Pages: 74

2nd Edition | November 2005 | Effective Date: May 1, 2006

Reaffirmed, May 2010 | Product Number: GX17K02 | Price: \$146.00

## RP 17M/ISO 13628-9:2000

### Recommended Practices on Remotely Operated Tool (ROT) Intervention Systems

**Petroleum and natural gas industries—Design and operation of subsea production systems—Part 9: Remotely operated tool (ROT) intervention system**

Provides functional requirements and recommendations for ROT intervention systems and interfacing equipment on subsea production systems for the petroleum and natural gas industries. This RP does not cover manned intervention and ROV-based intervention systems (e.g. for tie-in of sealines and module replacement). Vertical wellbore intervention, internal flowline inspection, tree running and tree running equipment are also excluded from this RP.

This edition of RP 17M is the identical national adoption of ISO 13628-9:2000, *Petroleum and natural gas industries—Design and operation of subsea production systems—Part 9: Remotely operated tool (ROT) intervention system*. Pages: 24

1st Edition | April 2004 | Reaffirmed: January 2009

Product Number: GG17M1 | Price: \$108.00

## RP 17N ■

### Recommended Practice for Subsea Production System Reliability and Technical Risk Management

Provides a structured approach which organizations can adopt to manage this uncertainty throughout the life of a project. This may range from the management of general project risk through to the identification and removal of potential failure modes in particular equipment.

This RP aims to provide operators, contractors and suppliers with guidance in the application of reliability techniques to subsea projects within their scope of work and supply only. It is applicable to: standard and non-standard equipment; and all phases of projects from feasibility studies to operation

This RP does not prescribe the use of any specific equipment or limit the use of any existing installed equipment or indeed recommend any action, beyond good engineering practice, where current reliability is judged to be acceptable. It is also not intended to replace individual company processes, procedures, document nomenclature or numbering; it is a guide. However this recommended practice may be used to enhance existing processes, if deemed appropriate.

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Most organizations will find much that is familiar and recognized as good practice. Some sections of the annex may only be of interest to the reliability specialist. The basic approach however, is simple and consistent and when applied correctly has the potential to greatly reduce the financial risk of designing, manufacturing, installing and operating subsea equipment. Pages: 99

1st Edition | March 2009 | Product Number: G17N01 | Price: \$172.00

## RP 170 ■

### Recommended Practice for High Integrity Pressure Protection Systems (HIPPS)

Addresses the requirements for the use of high integrity pressure protection systems (HIPPS) for subsea applications. API 14C, IEC 61508, and IEC 61511 specify the requirements for onshore, topsides and subsea safety instrumented systems (SIS) and are applicable to HIPPS, which are designed to autonomously isolate downstream facilities from overpressure situations. This document integrates these requirements to address the specific needs of subsea production. These requirements cover the HIPPS pressure sensors, logic solver, shutdown valves and ancillary devices including testing, communications and monitoring subsystems. Pages: 38

1st Edition | October 2009 | Product Number: G17001 | Price: \$105.00

## RP 17Q ■

### Recommended Practice for Subsea Equipment Qualification - Standardized Process for Documentation

Provides guidance on relevant qualification methods that may be applied to facilitate subsea project execution. Qualification of subsea equipment is based on a breakdown of individual subsea components and categorization of those individual components based on classes of equipment and component functionality. A comprehensive component-level breakdown can cater to wide flexibility for field-specific configurations. The qualification process presented in this recommended practice is governed by component-level evaluation and referencing using two separate forms of documentation: failure mode assessments (FMAs) and product qualification sheets (PQSs). Detailed documentation resources related to the proactive qualification methodology presented in this recommended practice are provided in the annexes. These resources include an index of components and individual PQS documents. Documents relating to manufacturing inspection and Factory Acceptance Testing are outside the scope of this document.

The templates in Annex B, FMA Template, and Annex C, PQS Templates, may be purchased separately in a Microsoft® Excel format for \$57.00—Single User, or \$299.00—Intranet Licensing. Pages: 65

1st Edition | June 2010 | Product Number: G17Q01 | Price: \$130.00

## TR 17TR1

### Evaluation Standard for Internal Pressure Sheath Polymers for High Temperature Flexible Pipes

Defines the methodology and test procedures necessary for the evaluation of polymeric materials suitable for use as the internal pressure sheath of an unbonded flexible pipes in high temperature applications. It describes the processes by which the critical material properties, both static and dynamic, can be measured and evaluated against relevant performance criteria. This document relates primarily to the properties necessary for an internal pressure sheath required for oil and gas production. These are most relevant to high temperature applications. Only thermoplastic materials are considered for the internal pressure sheath. Elastomeric materials, which are used in bonded flexible pipes, are not considered in this document. Pages: 47

1st Edition | March 2003 | Product Number: G17TR11 | Price: \$128.00

## TR 17TR2

### The Aging of PA-11 Inflexible Pipes

Provides comprehensive guidance on materials and pipe issues regarding the use and operation of PA-11 in flexible pipe applications, and concentrates on the use of PA-11 in the internal sheath of flexible pipes. The collective goal of this document is to prevent failure of the internal pressure sheath, as a result of ageing and associated loss of mechanical properties, by determining and disseminating the necessary scientific and practical information. Pages: 31

1st Edition | June 2003 | Product Number: G17TR21 | Price: \$98.00

## TR 17TR3

### An Evaluation of the Risks and Benefits of Penetrations in Subsea Wellheads below the BOP Stack

Provides an evaluation of the risks and benefits of allowing penetrations in subsea wellheads below the blowout preventer (BOP) stack so annuli other than the production tubing (commonly referred to as the "A" annulus) could be monitored. Current industry standards (API Spec 17D and ISO 13628-4) for the design of subsea wellheads prohibit penetrations below the (BOP) stack. In contrast, US regulations (30 CFR 250.517) require that all annuli be monitored for sustained casing pressure and that every occurrence of sustained casing pressure be reported immediately. The study concludes that the risks outweigh the benefits since the risk of maintaining the pressure barrier using a wellhead with penetrations is approximately 2.5 times that of a system without penetrations. The scope of this study is limited to completed subsea wells in the Gulf of Mexico (GOM). The risks were evaluated using fault tree analysis for three systems:

- wellhead system without penetrations,
- wellhead system with one penetration and
- wellhead system with two penetrations. Pages: 123

1st Edition | November 2004 | Product Number: G17TR31 | Price: \$128.00

## COMPLETION EQUIPMENT

### Spec 11D1/ISO 14310:2008 ◆

#### Packers and Bridge Plugs

#### Petroleum and natural gas industries—Downhole equipment—Packers and bridge plugs

Provides requirements and guidelines for packers and bridge plugs as defined herein for use in the petroleum and natural gas industry. This specification provides requirements for the functional specification and technical specification, including design, design verification and validation, materials, documentation and data control, repair, shipment, and storage. In addition, products covered by this specification apply only to applications within a conduit. Installation and maintenance of these products are outside the scope of this specification.

This edition of API Spec 11D1 is the identical adoption of ISO 14310:2008, *Petroleum and natural gas industries—Downhole equipment—Packers and bridge plugs* with the addition of an API Monogram Annex. Pages: 30

2nd Edition | July 2009 | Effective Date: January 1, 2010

Product Number: GG11D12 | Price: \$95.00

### Spec 11V1 ◆

#### Specification for Gas Lift Equipment

Covers the design, manufacture, and testing of gas lift valves, reverse flow (check) valves, orifice valves, dummy valves and the WRVM's used as a receiver for these valves or other devices used to enhance oil well production or treat oil or gas wells. This specification was formulated to provide consistently manufactured equipment to a predictable level of quality. Technical content includes requirements for materials, tests and inspecting, welding, marking, storing, and shipping. This specification is intended as a quality-based specification and does not assure dimensional interchangeability between manufacturers. Pages: 37

2nd Edition | February 1995 | Reaffirmed: March 2008

Product Number: G11V12 | Price: \$111.00

## RP 11V10

### Recommended Practices for Design and Operation of Intermittent and Chamber Gas-Lift Wells and Systems

Presents guidelines and recommended practices for the design and operation of intermittent, chamber, and plunger gas-lift systems. The document is formatted with Section 1 presenting a summary of the primary guidelines and recommended practices for these methods of artificial lift for use by practicing engineers and field operators. Sections 2 to 7 are designed to provide more detailed information, including theoretical background for many of the guidelines and recommended practices. These sections are available for anyone, but are specifically intended for those who wish to gain a comprehensive understanding of the theory and practice of intermittent gas-lift. This document also contains three annexes. Annex A contains mathematical derivations and models of some of the most pertinent intermittent gas-lift calculations. Annex B contains a comprehensive example of an intermittent gas-lift design. Annex C describes how to use the Field Units Calculator and SI Units Calculator. These are two spreadsheets that are part of this RP. Pages: 165

1st Edition | June 2008 | Product Number: G11V1001 | Price: \$173.00

## RP 11V2

### Gas Lift Valve Performance Testing

Covers the test procedures for flow performance testing of wireline-retrievable and tubing-retrievable IPO (injection pressure operated), and PPO (production pressure operated) gas lift valves. Pages: 45

2nd Edition | March 2001 | Reaffirmed: March 2008

Product Number: G11V22 | Price: \$100.00

## RP 11V5

### Operation, Maintenance, Surveillance and Troubleshooting of Gas-Lift Installations

Assists gas-lift system operators, analysts, technicians, engineers, and others in understanding how to effectively plan, operate, maintain, troubleshoot and provide surveillance for gas-lift systems and gas-lift wells. These recommended practices discuss continuous gas-lift with injection in the casing/tubing annulus and production up the tubing. Annular flow gas-lift (injection down the tubing and production up the annulus), dual gas-lift (two tubing strings in the same casing), and intermittent gas-lift are mentioned; however, most of the discussion focuses on conventional continuous gas-lift. Pages: 123

3rd Edition | June 2008 | Product Number: G11V53 | Price: \$150.00

## RP 11V6

### Design of Continuous Flow Gas Lift Installations Using Injection Pressure Operated Valves

Intended to set guidelines for continuous flow gas lift installation designs using injection pressure operated valves. The assumption is made that the designer is familiar with and has available data on the various factors that affect a design.

2nd Edition | July 1999 | Reaffirmed: March 2008

Product Number: G11V62 | Price: \$144.00

## RP 11V7

### Recommended Practice for Repair, Testing and Setting Gas Lift Valves

Applies to repair, testing, and setting gas lift valves and reverse flow (check) valves. It presents guidelines related to the repair and reuse of valves; these practices are intended to serve both repair shops and operators. The commonly used gas pressure-operated bellows valve is also covered. Other valves, including bellows charged valves in production pressure (fluid) service should be repaired according to these guidelines. Pages: 22

2nd Edition | June 1999 | Reaffirmed: March 2008

Product Number: G11V72 | Price: \$105.00

## RP 11V8

### Recommended Practice for Gas Lift System Design and Performance Prediction

The primary purpose of this RP is to emphasize gas lift as a system and to discuss methods used to predict its performance. Information must be gathered and models validated prior to a system design, which must precede wellbore gas lift mandrel and valve design. The subsurface and surface components of the system must be designed together to enhance the strengths of each and to minimize the constraints. Pages: 79

1st Edition | September 2003 | Reaffirmed: March 2008

Product Number: G11V81 | Price: \$115.00

## RP 19B ♦

### Evaluation of Well Perforators (formerly RP 43)

Describes standard procedures for evaluating the performance of perforating equipment so that representations of this performance may be made to the industry under a standard practice. Also contains tests to gauge performance under the following conditions:

- ambient temperature and pressure,
- simulated wellbore (stressed Berea Sandstone),
- elevated temperature.

This edition also introduces a procedure to quantify the amount of debris that comes out of the perforating gun during detonation. Pages: 42

2nd Edition | September 2006 | Product Number: G019B2 | Price: \$118.00

## RP 19C/ISO 13503-2:2006

### Recommended Practice for Measurement of Properties of Proppants Used in Hydraulic Fracturing and Gravel-packing Operations Petroleum and natural gas industries—Completion fluids and materials—Part 2: Measurement of properties of proppants used in hydraulic fracturing and gravel-packing operations

Provides standard testing procedures for evaluating proppants used in hydraulic fracturing and gravel packing operations. The objective of this recommended practice is to provide a consistent methodology for testing performed on hydraulic fracturing and/or gravel packing proppants. These procedures have been developed to improve the quality of proppants delivered to the well site. They are for use in evaluating certain physical properties used in hydraulic fracturing and gravel packing operations. These tests should enable users to compare the physical characteristics of various proppants tested under the described conditions and to select materials useful for hydraulic fracturing and gravel packing operations.

This edition of RP 19C is the identical national adoption of ISO 13503-2:2006, *Petroleum and natural gas industries—Completion fluids and materials—Part 2: Measurement of properties of proppants used in hydraulic fracturing and gravel-packing operations* and replaces RP 56 and RP 58. Pages: 30

1st Edition | May 2008 | Product Number: GX19C01 | Price: \$109.00

## RP 19D/ISO 13503-5:2006

### Recommended Practice for Measuring the Long-term Conductivity of Proppants

#### Petroleum and natural gas industries—Completion fluids and materials—Part 5: Procedures for measuring the long-term conductivity of proppants

Provides standard testing procedures for evaluating proppants used in hydraulic fracturing and gravel-packing operations. The proppants mentioned in this publication refer to sand, ceramic media, resin coated proppants, gravel packing media, and other materials used for hydraulic fracturing and gravel-packing operations. The objective of RP 19D is to provide consistent methodology for testing performed on hydraulic-fracturing and/or gravel-packing proppants. It is not intended for use in obtaining absolute values of proppant pack conductivities under downhole reservoir conditions. The tests and test apparatus herein have been developed to establish standard procedures and conditions for use in evaluating the long-term conductivity of

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various hydraulic fracture proppant materials under laboratory conditions. This procedure enables users to compare the conductivity characteristics under the specifically described test conditions. The test results can aid users in comparing proppant materials for use in hydraulic fracturing operations.

This is the identical national adoption of ISO 13503-5:2006, *Petroleum and natural gas industries—Completion fluids and materials—Part 5: Procedures for measuring the long-term conductivity of proppants* and replaces RP 61. Pages: 24

1st Edition | March 2008 | Product Number: GX19D01 | Price: \$103.00

## Spec 19G1 ■

### Side-pocket Mandrels

Provides requirements for side-pocket mandrels used in the petroleum and natural gas industry. API 19G1 includes specifying, selecting, designing, manufacturing, quality control, testing, and preparation for shipping of side-pocket mandrels.

This specification does not address nor include requirements for end connections between the side-pocket mandrels and the well conduit. The installation and retrieval of side-pocket mandrels is outside the scope of this part of ISO 17078. Additionally, this International Standard does not include specifications for center-set mandrels, or mandrels that employ or support tubing-retrievable flow control devices.

This specification does not include gas-lift or any other flow-control valves or devices, latches, and/or associated wire line equipment that may or may not be covered in other ISO specifications.

The side-pocket mandrels to which this specification refers are independent devices that can accept installation of flow control or other devices down-hole.

1st Edition | May 2010 | Product Number: G19G11 | Price: \$100.00

## Spec 19G2/ISO 10708-2 ■◆

### Flow-control Devices for Side-pocket Mandrels

*Petroleum and natural gas industries—Drilling and production equipment, Part 2—Flow-control devices for side-pocket mandrels*

Provides requirements for subsurface flow-control devices used in side-pocket mandrels (hereafter called flow-control devices) intended for use in the worldwide petroleum and natural gas industry. This includes requirements for specifying, selecting, designing, manufacturing, quality-control, testing and preparation for shipping of flow-control devices. Additionally, it includes information regarding performance testing and calibration procedures.

The installation and retrieval of flow-control devices is outside the scope of Spec 19G2. Additionally, Spec 19G2 is not applicable to flow-control devices used in centre-set mandrels or with tubing-retrievable applications.

Spec 19G2 does not include requirements for side-pocket mandrels, running, pulling, and kick-over tools, and latches that might or might not be covered in other API/ISO specifications. Reconditioning of used flow-control devices is outside of the scope of Spec 19G2.

This edition of API Specification of API 19G2 is a modified national adoption of ISO 17078-2:2007 (Modified), *Petroleum and natural gas industries—Drilling and production equipment, Part 2—Flow-control devices for side-pocket mandrels*. Pages: 132

1st Edition | June 2010 | Product Number: GX19G21 | Price: \$150.00

## RP 19G9

### Design, Operation, and Troubleshooting of Dual Gas-lift Wells

This document provides recommended practices for the design, operation, optimization, and troubleshooting of dual gas-lift wells. RP 19G9 also contains suggestions on practices that should be avoided to minimize problems, inefficiencies, and poor economics that may be associated with ineffective dual gas-lift operations. Pages: 108

1st Edition | February 2010 | Product Number: G19G901 | Price: \$138.00

## Spec 20C ◆

### Closed Die Forgings for Use in the Petroleum and Natural Gas Industry

Specifies requirements and gives recommendations for the design, qualification, and production of closed-die forgings for use in API service components in the petroleum and natural gas industries when referenced by an applicable equipment standard or otherwise specified as a requirement for compliance. API 20C is applicable to equipment used in the oil and natural gas industries where service conditions warrant the use of closed-die forgings. Examples include pressure containing or load-bearing components. This standard establishes requirements for four forging specification levels (FSL). These FSL designations define different levels of forged product technical, quality and qualification requirements. Pages: 18

1st Edition | October 2009 | Effective Date: March 31, 2010

Product Number: G20C01 | Price: \$71.00

## RP 31A

### Standard Form for Hardcopy Presentation of Downhole Well Log Data

Provides an improved standard format for hardcopy presentation of downhole well log data. Standardizing the log form and data presentation allows the user to more easily combine a broad range of log data in order to interpret well status and performance. Pages: 18

1st Edition | August 1997 | Reaffirmed: September 1, 2004

2-Year Extension: May 2010 | Product Number: G31A01 | Price: \$94.00

## RP 41

### Standard Procedure for Presenting Performance Data on Hydraulic Fracturing Equipment

Provides a standard procedure for measuring, reporting, and certifying the hydraulic horsepower rating of pumping units used in well cementing and fracturing services. It is applicable to any type of pumping unit regardless of components such as engines, transmissions, and fracturing pumps. Pages: 8

2nd Edition | February 1995 | Reaffirmed: September 2010

Product Number: G41002 | Price: \$73.00

## DRILLING AND PRODUCTION OPERATIONS: RECOMMENDED OPERATING PRACTICES

## RP 45

### Analysis of Oilfield Waters

Provides analysis methods for the determination of dissolved and dispersed components in oilfield waters (produced water, injected water, aqueous workover fluids, and stimulation fluids). Also includes the applications of oilfield water analyses; the proper collection, preservation, and labeling of field samples; a description of the various analytical methods available, including information regarding interferences, precision, accuracy, and detection limits; as well as the appropriate reporting formats for analytical results. Pages: 60

3rd Edition | August 1998 | Reaffirmed: September 2004

2-Year Extension: May 2010 | Product Number: G45003 | Price: \$137.00

## RP 50

### Natural Gas Processing Plant Practices for Protection of the Environment

Assists gas plant operators in understanding their environmental responsibilities. It is intended to be used primarily by environmental, engineering, and operations personnel; and by management involved in building, maintaining, modifying, and operating gas processing plants. Operations within the scope of this standard include natural gas processing and associated gas compression facilities. This publication begins with initial plant planning, permitting, and construction and ends with plant closure and site restoration procedures. General guidelines are provided to be used at gas plant locations to develop site-specific environmental programs. Pages: 23

2nd Edition | December 1995 | Reaffirmed: March 2007

Product Number: G50002 | Price: \$105.00

## RP 51

### Onshore Oil and Gas Production Practices for Protection of the Environment

Provides environmentally sound practices to promote protection of the environment in domestic onshore oil and gas production operations. Production facilities, including produced water handling facilities, are covered. Coverage begins with design and construction of access roads and well locations and carries through to abandonment and site restoration activities. Pages: 17

3rd Edition | March 2001 | Reaffirmed: March 2007  
Product Number: G51003 | Price: \$73.00

## RP 51R

### Environmental Protection for Onshore Oil and Gas Production Operations and Leases

Provides environmentally sound practices, including reclamation guidelines, for domestic onshore oil and gas production operations. It is intended to be applicable to contractors as well as operators. Facilities within the scope of this document include all production facilities, including produced water handling facilities. Offshore and arctic areas are beyond the scope of this document. Operational coverage begins with the design and construction of access roads and well locations, and includes reclamation, abandonment, and restoration operations. Gas compression for transmission purposes or production operations, such as gas lift, pressure maintenance, or enhanced oil recovery (EOR) is included. Annex A provides guidance for a company to consider as a "good neighbor." Pages: 35

1st Edition | July 2009 | Product Number: G51R01 | Price: \$50.00

## RP 52

### Land Drilling Practices for Protection of the Environment

Provides guidelines to promote the protection of the environment in land drilling operations. Pages: 40

2nd Edition | July 1995 | Reaffirmed: September 2010  
Product Number: G52002 | Price: \$111.00

## RP 65

### Cementing Shallow Water Flow Zones in Deep Water Wells

This document is the compilation of technology and practices used by many operators drilling wells in deep water. It is meant to highlight key parameters for increasing the chance of successfully drilling and cementing casings where there is a risk of shallow water flow and to discuss options that are available. Pages: 44

1st Edition | September 2002 | Under Revision  
Product Number: G56001 | Price: \$117.00

You may access RP 65 in a read-only platform at: [publications.api.org](http://publications.api.org)

## RP 65—Part 2 ■

### Isolating Potential Flow Zones During Well Construction

Contains best practices for zone isolation in wells to prevent annular pressure and/or flow through or past pressure-containment barriers that are installed and verified during well construction. Barriers that seal wellbore and formation pressures or flows may include temporary pressure-containment barriers like hydrostatic head pressure during cement curing and permanent ones such as mechanical seals, shoe formations, and cement. Other well construction (well design, drilling, leak-off tests, etc.) practices that may affect barrier sealing performance will be mentioned along with methods to help ensure positive effects or to minimize any negative ones.

The objectives of this guideline are two-fold. The first is to help prevent and/or control flows just prior to, during, and after primary cementing operations to install or "set" casing and liner pipe strings in wells. Some of these flows have caused well control incidents that are very serious problems. They threaten the safety of personnel, the environment, and the drilling rigs themselves. The second objective is to help prevent sustained casing pressure (SCP), also a serious industry problem.

A detailed background and technology review are in Annex A. Historical data, perspectives, studies, statistics, lessons learned, etc. are included. All this information has been written to help explain how some practices work, have become proven or invalidated, or had performance limitations placed upon their application. Pages: 96

1st Edition | May 2010 | Product Number: G65201 | Price: \$115.00  
You may access RP 65-2 in a read-only platform at: [publications.api.org](http://publications.api.org)

## RP 68

### Well Servicing and Workover Operations Involving Hydrogen Sulfide

Addresses personnel training, personnel protective equipment, contingency planning and emergency procedures. Also included are classification of locations, materials and equipment, operations, rig practices, special operations, offshore operations, characteristics of hydrogen sulfide and sulfur dioxide, and evaluation and selection of hydrogen sulfide monitoring equipment.

1st Edition | January 1998 | Reaffirmed: September 2010  
Product Number: G68001 | Price: \$73.00

## RP 80

### Guidelines for the Definition of Onshore Gas Gathering Lines

Developed by an industry coalition that included representatives from over 20 petroleum industry associations, provides a functional description of onshore gas gathering pipelines for the sole purpose of providing users with a practical guide for determining the application of the definition of gas gathering in the federal Gas Pipeline Safety Standards, 49 CFR Part 192, and state programs implementing these standards. Pages: 53

1st Edition | April 2000 | Reaffirmed: March 2007  
Product Number: G80001 | Price: \$121.00

You may access RP 80 in a read-only platform at: [publications.api.org](http://publications.api.org)

## RP 90

### Annular Casing Pressure Management for Offshore Wells

Intended to serve as a guide for managing annular casing pressure in offshore wells. This guide is meant to be used for offshore wells that exhibit annular casing pressure, including thermal casing pressure, sustained casing pressure (SCP) and operator-imposed pressure. Covers monitoring, diagnostic testing, the establishment of a maximum allowable wellhead operating pressure (MAWOP) and documentation of annular casing pressure for the various types of wells that occur offshore. Included also is a discussion of risk assessment methodologies that can be used for the evaluation of individual well situations where the annular casing pressure is not within the MAWOP guidelines. Provides guidelines in which a broad range of casing annuli that exhibit annular pressure can be managed in a routine fashion while maintaining an acceptable level of risk. Pages: 84

1st Edition | August 2006 | Product Number: G09001 | Price: \$176.00  
You may access RP 90 in a read-only platform at: [publications.api.org](http://publications.api.org)

## RP 92U

### Underbalanced Drilling Operations

The purpose of these recommended practices is to provide information that can serve as a guide for planning, installation, operation and testing of underbalanced drilling equipment systems on land and offshore drilling rigs [barge, platform, bottom-supported, and floating with surface blowout preventers (BOP) installed] thereby ensuring consideration of personnel safety, public safety, integrity of the underbalanced drilling (UBD) equipment, and preservation of the environment for onshore and offshore UBD operations (including tripping of drill string). Pages: 72

1st Edition | November 2008 | Product Number: G92U01 | Price: \$101.00

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## DRILLING AND PRODUCTION OPERATIONS: TRAINING

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Serves as a primer for oil and gas operations. It covers the origins and accumulation of oil and gas, the well, well treatment and wellhead, artificial lift, well testing, separation, treatment and storage, gauging and metering, production, offshore production and structures, corrosion, enhanced recovery, production personnel, tools and equipment, pipe, valves and fittings, reports and records, state and federal regulations, environmental, health and safety concerns, economic considerations, and future trends. Pages: 120

5th Edition | June 1996 | Reaffirmed: March 2007  
Product Number: GVT015 | Price: \$152.00

### Subsurface Salt Water Injection and Disposal (Book 3 in the Vocational Training Series)

A handbook for the planning, installation, operation, and maintenance of subsurface disposal systems. Design criteria and formulas are given for gathering systems, treating plants, and injection facilities. Alternative equipment and methods are discussed and illustrated. Economic considerations are presented. Pages: 47

3rd Edition | January 1995 | Reaffirmed: March 2007  
Product Number: GVT033 | Price: \$94.00

### Wireline Operations and Procedures (Book 5 in the Vocational Training Series)

A handbook outlining to operators of oil and gas wells what applications are possible with wireline tools and equipment. Also a guide for field personnel. Surface equipment, service tools (standard and special), and subsurface equipment (both permanent and removable) are described and illustrated. Their various applications are included. Also presented is a general discussion of special problems which wireline operations and procedures may serve to eliminate, minimize, or control, and methods by which this may be accomplished. Pages: 60

3rd Edition | January 1994 | Reaffirmed: March 2007  
Product Number: GVT053 | Price: \$118.00

### Gas Lift (Book 6 in the Vocational Training Series)

Familiarizes field personnel with basic gas lift principles; operating procedures for adjusting, regulating, operating, and troubleshooting gas-lift equipment; and well conditions. Covers conventional practices and concepts. Illustrated with drawings of typical gas-lift installations and related equipment, as well as actual charts illustrating operation of and problems encountered in gas-lifted wells. Pages: 143

3rd Edition | January 1994 | Reaffirmed: March 2007  
Product Number: GVT063 | Price: \$152.00

### RP T-1

#### Orientation Programs for Personnel Going Offshore for the First Time

Serves as a guide to developing orientation standards and programs applicable to all employees and visitors going offshore. Orientation programs ensure that all new personnel know what is expected of them during their first trip offshore, as well as what they may expect to encounter during this trip. Employers have the option to institute broader procedures commensurate with their own policies and standards. Pages: 4

4th Edition | October 1995 | Reaffirmed: March 2007  
Product Number: GT1004 | Price: \$57.00

You may access RP T-1 in a read-only platform at: [publications.api.org](http://publications.api.org)

### RP T-2 ♦

#### Qualification Programs for Offshore Production Personnel Who Work with Safety Devices

Provides guidelines for the qualification of personnel engaged in installing, inspecting, testing, and routinely maintaining surface and subsurface devices that are used to insure safety and to prevent pollution during the production of oil and gas on offshore platforms. The guidelines provide expected candidate performance levels, instructional content and recommendations for testing. The guidelines are divided into instructional and testing phases. Pages: 3

2nd Edition | December 2001 | Reaffirmed: March 2007  
Product Number: GT7002 | Price: \$57.00

You may access RP T-2 in a read-only platform at: [publications.api.org](http://publications.api.org)

### RP T-4

#### Training of Offshore Personnel in Nonoperating Emergencies

Represents an industry guide for the training of workers who work offshore. It presents recommendations for training these personnel in handling nonoperating emergencies, such as fires, transportation emergencies, platform abandonment procedures, use of survival crafts, and water survival guidelines. Pages: 3

2nd Edition | November 1995 | Reaffirmed: September 2010  
Product Number: GT4002 | Price: \$57.00

You may access RP T-4 in a read-only platform at: [publications.api.org](http://publications.api.org)

### RP T-6

#### Recommended Practice for Training and Qualification of Personnel in Well Control Equipment and Techniques for Wireline Operations on Offshore Locations

Provides criteria for the qualification of wireline personnel in well control equipment operations and techniques. Although it does include recommendations for training wireline personnel on general rig well control equipment and theory, it should be noted that the main focus for training should be those operations using a lubricator as the primary well control mechanism. Wireline personnel classifications to which this RP is applicable are the Helper/Assistant and Operator/Supervisor. Pages: 2

1st Edition | October 2002 | Reaffirmed: March 2007  
Product Number: GT0601 | Price: \$57.00

You may access RP T-6 in a read-only platform at: [publications.api.org](http://publications.api.org)

### RP T-7

#### Training of Personnel in Rescue of Person in Water

Applies to personnel who work offshore. It represents an industry guide for training personnel in techniques for rescuing persons from the water and using survival devices. It broadly identifies rescue devices, describes their operations, and presents recommendations for training personnel. Training recommendations are designed to develop personnel rescue proficiency while minimizing an individual's exposure to injury or loss of life. Pages: 8

2nd Edition | October 1995 | Reaffirmed: March 2007  
Product Number: GT7002 | Price: \$55.00

You may access RP T-7 in a read-only platform at: [publications.api.org](http://publications.api.org)

## SPECIAL PUBLICATIONS

### Community Matters: Community Outreach Guidance Manual for Exploration and Production Facilities

Provides a model community outreach program to help oil and natural gas industry E&P facilities improve their ties to their local communities. Community Matters offers a step-by-step guide for implementing a community outreach program and provides information on how to tailor outreach efforts to meet the needs of the facility and local community. Pages: 111

1st Edition | November 2000 | Product Number: G13660 | Price: \$80.00

## VOLUNTARY OPERATING AGREEMENTS AND BULLETINS

### Bull D16 ■

#### Suggested Procedure for Development of a Spill Prevention Control and Countermeasure Plan

The purpose of this document is to assist the petroleum industry in understanding the SPCC regulation in light of the latest rule (40 CFR Part 112) and to offer guidance for developing SPCC Plans wherever they are needed. Included is a template for developing SPCC plans (i.e. onshore excluding production; onshore oil production, oil drilling or workover; or offshore oil drilling, production or workover) in accordance with the regulation and guidance, instruction and clarification for completing each section of the template. The purpose of this rulemaking was to establish procedures, methods, and equipment to prevent and contain discharges of oil from non-transportation-related onshore and offshore facilities; thus preventing pollution of navigable waters of the United States. The development of this Bulletin was commissioned by API and performed by Response Management Associates, Inc. (RMA). The purchase of D16 includes; Bulletin D16, the Plan Template, and a CD-ROM with the Microsoft® Word version of the Plan Template.

4th Edition | April 2011 | Product Number: GD1604  
Price: \$250.00 | Template only: Price: \$92.00

## HEALTH, ENVIRONMENT, AND SAFETY: EXPLORATION AND PRODUCTION SAFETY STANDARDS

### API HF1

#### Hydraulic Fracturing Operations—Well Construction and Integrity Guidelines

Provides guidance and highlight industry recommended practices for well construction and integrity for wells that will be hydraulically fractured. The guidance provided here will help to ensure that shallow groundwater aquifers and the environment will be protected, while also enabling economically viable development of oil and natural gas resources. This document is intended to apply equally to wells in either vertical, directional, or horizontal configurations.

Maintaining well integrity is a key design principle and design feature of all oil and gas production wells. Maintaining well integrity is essential for the two following reasons.

- 1) To isolate the internal conduit of the well from the surface and subsurface environment. This is critical in protecting the environment, including the groundwater, and in enabling well drilling and production.
- 2) To isolate and contain the well's produced fluid to a production conduit within the well.

Although there is some variability in the details of well construction because of varying geologic, environmental, and operational settings, the basic practices in constructing a reliable well are similar. These practices are the result of operators gaining knowledge based on years of experience and technology development and improvement. These experiences and practices are communicated and shared via academic training, professional and trade associations, extensive literature and documents and, very importantly, industry standards and recommended practices. Pages: 24

1st Edition | October 2009 | Product Number: GHF101 | Price: \$40.00  
You may access API HF1 in a read-only platform at: [publications.api.org](http://publications.api.org)

### API HF2 ■

#### Water Management Associated with Hydraulic Fracturing

Identifies and describe many of the current industry best practices used to minimize environmental and societal impacts associated with the acquisition, use, management, treatment, and disposal of water and other fluids associated with the process of hydraulic fracturing. While this document focuses primarily on issues associated with hydraulic fracturing pursued in deep shale gas development, it also describes the important distinctions related to hydraulic fracturing in other applications.

Moreover, this guidance document focuses on areas associated with the water used for purposes of hydraulic fracturing, and does not address other water management issues and considerations associated with oil and gas exploration, drilling, and production. These topics will be addressed in future API documents.

1st Edition | June 2010 | Product Number: GHF201 | Price: \$40.00  
You may access API HF2 in a read-only platform at: [publications.api.org](http://publications.api.org)

### API HF3 ■

#### Practices for Mitigating Surface Impacts Associated with Hydraulic Fracturing

The purpose of this guidance document is to identify and describe practices currently used in the oil and natural gas industry to minimize surface environmental impacts—potential impacts on surface water, soils, wildlife, other surface ecosystems and nearby communities—associated with hydraulic fracturing operations. While this document focuses primarily on issues associated with operations in deep shale gas developments, it also describes the important distinctions related to hydraulic fracturing in other applications. Pages: 18

1st Edition | January 2011 | Product Number: GHF301 | Price: 40.00  
You may access API HF3 in a read-only platform at: [publications.api.org](http://publications.api.org)

### RP 49

#### Recommended Practice for Drilling and Well Service Operations Involving Hydrogen Sulfide

Recommendations set forth in this publication apply to oil and gas well drilling and servicing operations involving hydrogen sulfide. These operations include well drilling, completion, servicing, workover, downhole maintenance, and plug and abandonment procedures conducted with hydrogen sulfide present in the fluids being handled. Coverage of this publication is applicable to operations confined to the original wellbore or original total depth and applies to the selection of materials for installation or use in the well and in the well drilling or servicing operation(s). The presence of hydrogen sulfide in these operations also presents the possibility of exposure to sulfur dioxide from the combustion of hydrogen sulfide. Pages: 29

2nd Edition | May 2001 | Reaffirmed: March 2007  
Product Number: G04902 | Price: \$85.00

You may access RP 49 in a read-only platform at: [publications.api.org](http://publications.api.org)

### RP 51R

#### Environmental Protection for Onshore Oil and Gas Production Operations and Leases

Provides environmentally sound practices, including reclamation guidelines, for domestic onshore oil and gas production operations. It is intended to be applicable to contractors as well as operators. Facilities within the scope of this document include all production facilities, including produced water handling facilities. Offshore and arctic areas are beyond the scope of this document. Operational coverage begins with the design and construction of access roads and well locations, and includes reclamation, abandonment, and restoration operations. Gas compression for transmission purposes or production operations, such as gas lift, pressure maintenance, or enhanced oil recovery (EOR) is included. Annex A provides guidance for a company to consider as a “good neighbor.” Pages: 35

1st Edition | July 2009 | Product Number: G51R01 | Price: \$50.00  
You may access RP 51R in a read-only platform at: [publications.api.org](http://publications.api.org)

# Exploration and Production

Phone Orders: 1-800-854-7179 (Toll-free: U.S. and Canada)

Phone Orders: 303-397-7956 (Local and International)

## RP 54

### Recommended Practice for Occupational Safety for Oil and Gas Well Drilling and Servicing Operations

Includes procedures for promotion and maintenance of safe working conditions for employees engaged in rotary drilling operations and well servicing operations, including special services. Applies to rotary drilling rigs, well servicing rigs, and special services as they relate to operations on locations. Pages: 35

3rd Edition | August 1999 | Reaffirmed: March 2007

Product Number: G54003 | Price: \$121.00

You may access RP 54 in a read-only platform at: [publications.api.org](http://publications.api.org)

## RP 55

### Conducting Oil and Gas Producing and Gas Processing Plant Operations Involving Hydrogen Sulfide

Covers recommendations for protection of employees and the public, as well as conducting oil and gas producing and gas processing plant operations where hydrogen sulfide is present in the fluids being produced. Pages: 40

2nd Edition | February 1995 | Reaffirmed: March 2007

Product Number: G55002 | Price: \$111.00

You may access RP 55 in a read-only platform at: [publications.api.org](http://publications.api.org)

## RP 65—Part 2 ■

### Isolating Potential Flow Zones During Well Construction

Contains best practices for zone isolation in wells to prevent annular pressure and/or flow through or past pressure-containment barriers that are installed and verified during well construction. Barriers that seal wellbore and formation pressures or flows may include temporary pressure-containment barriers like hydrostatic head pressure during cement curing and permanent ones such as mechanical seals, shoe formations, and cement. Other well construction (well design, drilling, leak-off tests, etc.) practices that may affect barrier sealing performance will be mentioned along with methods to help ensure positive effects or to minimize any negative ones.

The objectives of this guideline are two-fold. The first is to help prevent and/or control flows just prior to, during, and after primary cementing operations to install or “set” casing and liner pipe strings in wells. Some of these flows have caused well control incidents that are very serious problems. They threaten the safety of personnel, the environment, and the drilling rigs themselves. The second objective is to help prevent sustained casing pressure (SCP), also a serious industry problem.

A detailed background and technology review are in Annex A. Historical data, perspectives, studies, statistics, lessons learned, etc. are included. All this information has been written to help explain how some practices work, have become proven or invalidated, or had performance limitations placed upon their application. Pages: 96

1st Edition | May 2010 | Product Number: G65201 | Price: \$115.00

You may access RP 65-2 in a read-only platform at: [publications.api.org](http://publications.api.org)

## RP 67

### Recommended Practice for Oilfield Explosives Safety

Applicable to explosives used in oil and gas well operations, more specifically, explosives used inside the wellbore. Guidance is provided for explosives transportation, on-site explosives loading and unloading operations, electrical wireline operations, tubing conveyed operations, self-contained activating tools, setting tools, sidewall sample taker tools, select fire perforating guns, and bullet perforating guns. Recommendations are presented regarding surface equipment and downhole equipment. Recommended training and minimum qualifications are presented for personnel who participate in handling and using explosives at the well site. Pages: 18

2nd Edition | May 2007 | Product Number: G09309 | Price: \$82.00

You may access RP 67 in a read-only platform at: [publications.api.org](http://publications.api.org)

## RP 74

### Recommended Practice for Occupational Safety for Onshore Oil and Gas Production Operation

Recommends practices and procedures for promoting and maintaining safe working conditions for personnel engaged in onshore oil and gas production operations, including special services. Pages: 23

1st Edition | October 2001 | Reaffirmed: March 2007

Product Number: G74001 | Price: \$59.00

You may access RP 74 in a read-only platform at: [publications.api.org](http://publications.api.org)

## RP 75

### Development of a Safety and Environmental Management Program for Offshore Operations and Facilities

Provides guidance for use in preparing safety and environmental management programs (SEMP) for oil, gas, and sulphur operations and facilities located on the outer continental shelf (OCS). These guidelines are applicable to well drilling, servicing, and production; and pipeline facilities and operations that have the potential for creating a safety or environmental hazard at OCS platform sites. Eleven major program elements are included for application to these facilities and operations. Identification and management of safety and environmental hazards are addressed in design, construction, startup, operation, inspection, and maintenance of new, existing, and modified facilities. Pages: 41

3rd Edition | May 2004 | Reaffirmed: May 2008

Product Number: G07503 | Price: \$86.00

You may access RP 75 in a read-only platform at: [publications.api.org](http://publications.api.org)

## RP 75L

### Guidance Document for the Development of a Safety and Environmental Management System for Onshore Oil and Natural Gas Production Operation and Associated Activities

Provides general information and guidance for the development of a safety and environmental management system (SEMS) for onshore oil and natural gas operations, including drilling, production, and well servicing activities. Although there is an extensive amount of information that has been developed on the topic of safety and environmental management systems, this document focuses on this industry sector to help foster continuous improvement in our industry's safety and environmental performance. It is recognized that many onshore oil and natural gas companies have effective SEMS in place; however, the intent of this document is to provide an additional tool that can assist these and especially other operators in taking the next step toward implementing a complete system at a pace that complements their business plan. For those who already have a mature SEMS in place, this document can be used for continuous improvement of the system. Pages: 12

1st Edition | October 2007 | Product Number: G75L01 | Price: \$33.00

You may access RP 75L in a read-only platform at: [publications.api.org](http://publications.api.org)

## RP 76

### Contractor Safety Management for Oil and Gas Drilling and Production Operations

Intended to assist operators, contractors, and subcontractors (third parties) in the implementation of a contractor safety program and improve the overall safety performance while preserving the independent contractor relationship. It is intended for the Upstream segment of the petroleum industry; however, since the Operator requirements and the contracted work are diverse, this publication may not be applicable to all operations at each company or to all contract work performed in those operations. Many oil and gas exploration and production companies contract for equipment and personnel services for a wide range of activities, including drilling production, well servicing, equipment repair, maintenance, and construction. Certain activities of Contractors have the potential to take place either Contractor

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and/or Operator personnel and/or equipment at risk. It is important that operations are carried out in a safe manner. Operators and contractors need to provide safe work places and to protect the safety of their work places and to protect the safety of their workforces and the general public. When they work together to improve safety, both benefit. Pages: 60

2nd Edition | October 2007 | Product Number: G07602 | Price: \$55.00  
You may access RP 76 in a read-only platform at: [publications.api.org](http://publications.api.org)

## HEALTH, ENVIRONMENT AND SAFETY: GENERAL

### Achieving Common Sense Environmental Regulation: Oil and Gas Exploration & Production

Discusses proposals to achieve a balanced approach to environmental regulation of the oil and gas exploration and production industry that protects the environment as well or better than the current system, and does the job more efficiently. Pages: 36

May 1996 | Product Number: G13715 | Price: Free\*

### Exploration and Production: Protecting the Environment

Discusses work the E&P industry does to protect the environment while exploring for and producing oil and natural gas. Describes a number of innovative and socially responsible actions taken by exploration and production companies to minimize impacts to air, water, land and wildlife. This document is only available in a PDF format. Pages: 24

September 1997 | Product Number: G13650 | Price: Free\*

### Publ 4702

#### Technologies to Reduce Oil and Grease Content of Well Treatment, Well Completion, and Workover Fluids for Overboard Disposal

Technologies to Reduce Oil and Grease Content of Well Treatment, Well Completion, and Workover Fluids for Overboard Disposal Pages: 54

September 2002 | Product Number: I47020 | Price: \$118.00

### Bull E1

#### Generic Hazardous Chemical Category List and Inventory for the Oil and Gas Exploration and Production Industry (Superfund Amendments and Reauthorization Act of 1986, Emergency Planning and Community Right-to-Know Act) (Includes Errata dated September 1991)

Under Sections 311 and 312 of the Superfund Amendments and Reauthorization Act of 1986, owners and operators of oil and gas exploration and production facilities must provide to state and local emergency response agencies information on hazardous chemicals they produce or use. This bulletin provides a simplified means of compliance with these regulations. Pages: 86

2nd Edition | December 1990 | Reaffirmed: June 2000  
Product Number: G11000 | Price: \$137.00

### Bull E3

#### Well Abandonment and Inactive Well Practices for U.S. Exploration and Production Operations, Environmental Guidance Document

Addresses the environmental concerns related to well abandonment and inactive well practices. The primary environmental concerns are protection of freshwater aquifers from fluid migration; and isolation of hydrocarbon production and water injection intervals. Additional issues in the document include protection of surface soils and surface waters, future and use, and permanent documentation of plugged and abandoned wellbore locations and conditions. Pages: 52

1st Edition | January 1993 | Reaffirmed: June 2000  
Product Number: G11007 | Price: \$137.00

### Bull E4

#### Environmental Guidance Document: Release Reporting for the Oil and Gas Exploration and Production Industry as Required by the Clean Water Act, the Comprehensive Environmental Response, Compensation and Liability Act, and the Emergency Planning and Community Right-to-Know Act

Developed to provide the oil and gas production industry guidance on reporting releases of hazardous substances and petroleum to water as required by the Clean Water Act (CWA) and reporting releases of hazardous substances into the environment as required by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the Emergency Planning and Community Right-to-Know Act (EPCRA). Also covers the reporting of what most in the industry consider "emergency" releases, which are unplanned and typically are not covered under a permit issued by a government agency. Pages: 106

2nd Edition | May 2003 | Product Number: GE4002 | Price: \$164.00

## HEALTH, ENVIRONMENT AND SAFETY: NATURALLY OCCURRING RADIOACTIVE MATERIALS

### Publ 7100

#### A NORM Disposal Cost Study

Details the reported quantities of NORM that have accumulated over the years and the annual rate of NORM production for 1993 from U.S. oil and gas condensate production. The document also determines the 1992 cost of available NORM disposal options and the annual costs of complying with existing and proposed NORM regulations. Pages: 59

1st Edition | November 1996 | Product Number: G71001 | Price: \$111.00

### Publ 7101

#### A National Survey on Naturally Occurring Radioactive Material (NORM) in Petroleum Producing and Gas Processing Facilities

Defines the general occurrence of NORM in the United States based on statistical analysis of gamma measurements taken external to certain petroleum producing and gas processing equipment. Pages: 265

October 2007 | Product Number: G71011 | Price: \$111.00

### Publ 7102

#### Methods for Measuring Naturally Occurring Radioactive Materials (NORM) in Petroleum Production Equipment

The use and capabilities of common field-survey equipment are characterized for measuring NORM in sludges and scales accumulated in oil and gas production equipment. A correlation between radium concentrations in accumulated scales and sludges and measured external radiation is presented. Pages: 85

October 1997 | Product Number: G71021 | Price: \$111.00

### Publ 7103

#### Management and Disposal Alternatives for Naturally Occurring Radioactive Material (NORM) Wastes in Oil Production and Gas Plant Equipment

Presents radiological analyses of disposal alternatives that will protect against elevated radiation exposures and facilitate cost-effective precautions that are proportionate to any hazards posed by the NORM. Four waste forms and 12 waste disposal alternatives were analyzed. Pages: 65

October 1997 | Product Number: G71031 | Price: \$111.00

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## Publ 7104

### Proceedings of the 1995 API and GRI Naturally Occurring Radioactive Material (NORM) Conference

A compilation of 17 papers presented at the 1995 API/GRI NORM Conference. Subjects include Measurement and Survey; Regulatory Issues and Activities; Management and Disposal; and Scale Prediction and Control. Pages: 225

October 1997 | Product Number: G71041 | Price: \$111.00

## Publ 7105

### Probabilistic Estimates of Dose and Indoor Radon Concentrations Attributable to Remediated Oilfield Naturally Occurring Radioactive Material (NORM)

Evaluates the concentration limit of 30 pCi/g Ra-226 in pipe scale and sludge left near the surface of remediated oilfield sites and returned to unrestricted public use. Includes an extensive bibliography of NORM research. Pages: 97

October 1997 | Product Number: G71051 | Price: \$111.00

## Bull E2

### Management of Naturally Occurring Radioactive Materials (NORM) in Oil and Gas Production

Naturally occurring radioactive materials (NORM) are present in oil and gas operations at some locations and can deposit in well tubulars, surface piping, vessels, pumps, and other producing and processing equipment. The purpose of this document is to inform oil and gas operators of the possible presence of NORM and to provide relevant information on protecting workers, the public, and the environment. The objective of this document is to provide general information to users so that they have an understanding of the fundamental radiation issues associated with the management of NORM. Issues where the advice of a professional health physicist, industrial hygienist, or other technical expert may be useful are identified and guidance provided. Readers are advised to contact their state regulatory office and work very closely with that office on all NORM issues. Pages: 50

2nd Edition | March 2006 | Product Number: GE2002 | Price: \$118.00

## HEALTH, ENVIRONMENT AND SAFETY: WASTE

### Guidelines for Commercial Exploration and Production Waste Management

Provides guidelines for the design and operations of commercial E&P waste management facilities to allow operators to identify areas where their facility could have impacts on the surrounding community and environment, and gives options for preventing/reducing those impacts. The guidelines are not meant to supersede any applicable local, state or federal requirements.

March 2001 | Product Number: G00004

For a Free copy of this document, please visit

<http://www.api.org/aboutoilgas/sectors/explore/guidelines.cfm>

### Protecting Livestock Answers to Frequently Asked Questions about Livestock Exposure to Crude Oil in Oilfield Operations

Describes ways livestock might be significantly exposed to petroleum hydrocarbons via a conceptual site model, and outlines how to make a screening level determination of whether or not livestock are at risk from the exposure.

Product Number: IOPL06 | For a free copy, please visit

<http://www.api.org/aboutoilgas/sectors/explore/livestock.cfm>

## Publ 4527

### Evaluation of Limiting Constituents Suggested for Land Disposal of Exploration and Production Wastes

Describes a study to develop salinity and petroleum hydrocarbon threshold guidance values that typically should not be exceeded for one-time land application of exploration and production wastes. Definition, technical justification, and guidance for application of threshold values are provided. Measurable parameters that serve as indices for proper environmental management of salinity and petroleum hydrocarbons include: electrical conductivity (EC), sodium adsorption ratio (SAR) and exchangeable sodium percentage (ESP) for salinity, and oil and grease (OG) for petroleum hydrocarbons. Pages: 66

August 1993 | Product Number: I45270 | Price: \$59.00

## Publ 4600

### Metals Criteria for Land Management of Exploration and Production Wastes: Technical Support Document of API Recommended Guidance Values

Provides scientifically defensible guidelines for land management of E&P wastes containing metals. It provides the technical support for recommended maximum concentrations of 12 metals. The guidance values for arsenic, cadmium, chromium, copper, lead, mercury, molybdenum, nickel, selenium, and zinc were adopted directly from sewage sludge regulations promulgated by EPA in 1993. A risk-based approach was used to develop guidance values for barium and boron. The report also provides practical information on sample collection, analyses, and calculation of waste application rates. Pages: 56

January 1995 | Product Number: I46000 | Price: \$57.00

## Publ 4663

### Remediation of Salt-Affected Soils at Oil and Gas Production Facilities

Water separated from oil and gas during production contains dissolved solids, including salt. If improperly handled, produced water with sufficient salt concentrations can damage plants and soils. Therefore, this manual was designed to assist the oil and gas environmental professional and field personnel to (1) assess sites with salt-affected soils, (2) evaluate remedial alternatives, and (3) conduct remedial activities, if necessary. It provides forms for organizing assessment information and conducting sample collection and analysis. Remediation options are divided into three primary groupings: natural remediation, in situ chemical amendment remediation, and mechanical remediation. A decision tree and worksheets are provided to aid in the selection of a remedial option(s). Technical approaches for applying each group of remedial options are discussed. A number of appendices provide supplementary information on various aspects of salt-affected soil remediation.

October 1997 | Product Number: I46630 | Price: \$106.00

## Publ 4709

### Risk-Based Methodologies for Evaluating Petroleum Hydrocarbon Impacts at Oil and Natural Gas E&P Sites

The process of calculating human health risk-based screening levels for total petroleum hydrocarbons (TPH) is described in an easy-to-understand question and answer format. (Risk-based screening levels [RBSLs] are chemical-specific concentrations in environmental media that are considered protective of human health.) Risk assessment concepts developed by the EPA, and research groups such as the Petroleum Environmental Research Forum (PERF) and the Total Petroleum Hydrocarbon Criteria Working Group (TPH-CWG), are used to calculate RBSLs for TPH in crude oil and condensates obtained from around the world. These methodologies were also applied to polyaromatic hydrocarbons (PAHs), metals, and benzene in TPH. Additional resources contained in this manual include a description of the physical and chemical characteristics of crude oil, condensate, and E&P wastes (contrasted with refined products), a summary of the federal regulatory status of E&P wastes, and a listing of key equations used for calculating RBSLs.

February 2001 | Product Number: I47090 | Price: \$80.00

## Publ 4733

### Risk-Based Screening Levels for the Protection of Livestock Exposed to Petroleum Hydrocarbons

The purpose of this study was to develop toxicity values and screening guidelines for evaluating risks to livestock from exposure to petroleum hydrocarbons. This report addresses how to determine whether livestock should be included in a risk evaluation, and estimate risks of petroleum hydrocarbon exposures to livestock. Pages: 40

July 2004 | Product Number: I48330 | Price: \$89.00

## Publ 4734

### Modeling Study of Produced Water Release Scenarios

Provides a scientific basis for operators, regulators and landowners to determine if assessment or remediation of produced water releases will provide a meaningful environmental benefit. Pages: 124

January 2005 | Product Number: I47340 | Price: \$119.00

## Publ 4758

### Strategies for Addressing Salt Impacts of Produced Water Releases to Plants, Soil, and Groundwater

The exploration and production (E&P) industry uses great care during the handling and disposal of the produced water that is generated as part of oil and gas production. However, unintentional releases can occur. Depending on the chemical composition of the produced water and the nature of the local environment, salts associated with such releases can impair soils, vegetation, and water resources. This guide provides a collection of simple rules of thumb, decision charts, models, and summary information from more detailed guidance manuals to help you address the following assessments and response issues:

- Will a produced water release cause an unacceptable impact on soils, plants, and/or groundwater
- In the event of such an impact, what response actions are appropriate and effective Pages: 28

September 2006 | Product Number: I47580 | Price: \$67.00

## API E5

### Environmental Guidance Document: Waste Management in Exploration and Production Operations

Includes recommendations for the environmentally sound management of solid waste resulting from the exploration and production of oil and gas. Guidance is provided for the management of drilling fluids, produced waters, and other wastes associated with the operation of gas plants, field facilities, drilling, and workover. Pages: 84

2nd Edition | February 1997 | Product Number: GE5002 | Price: \$121.00

## HEALTH, ENVIRONMENT AND SAFETY: WATER

### DR 351

#### Proceedings: Workshop to Identify Promising Technologies for the Treatment of Produced Water Toxicity

These proceedings present the discussions, conclusions and recommendations of an API workshop held in October 1994 to identify technologies which could potentially be used for the treatment of produced water toxicity offshore. Background information on the candidate technologies; information on produced water toxicity limitations, characteristics and composition; results of Toxicity Identification Evaluations; and a discussion of the engineering restrictions imposed by offshore platforms are included. Pages: 122

June 1996 | Product Number: I00351 | Price: \$70.00

## SECURITY

### RP 70

#### Security for Offshore oil and Natural Gas Operations

Intended to assist the offshore oil and natural gas drilling and producing operators and contractors in assessing security needs during the performance of oil and natural gas operations. It includes information on security awareness, conducting security vulnerability assessments when warranted, and developing security plans for offshore facilities. Pages: 16

1st Edition | March 2003 | Reaffirmed: September 2010

Product Number: G07001 | Price: \$55.00

### RP 70I

#### Security for Worldwide Offshore Oil and Natural Gas Operations

Intended to assist the offshore oil and natural gas drilling and producing operators and contractors in assessing security needs during the performance of oil and natural gas operations worldwide. Pages: 14

1st Edition | April 2004 | 2-Year Extension: May 2010

Product Number: G70I03 | Price: \$59.00

### API Standard for Third Party Network Connectivity

Provides guidance for implementing secure third-party connections between the information technology systems and network of two companies that have a business relations and a common objective.

The standard will provide suggestions for companies to establish third-party network connections while protecting their individual systems and data from unauthorized access or manipulation. Pages: 36

1st Edition | October 2007 | Product Number: TSTP01 | Price: \$87.00

### Security Guidance for the Petroleum Industry

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