

Recommended Practice for Subsea Structures and Manifolds

API RECOMMENDED PRACTICE 17P
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Suggested revisions are invited and should be submitted to the Standards Department, API, 1220 L Street, NW, Washington, DC 20005, standards@api.org.

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Introduction

The first edition of API 17P was published on January 30, 2013. The first edition of API RP 17P was a U.S. National Adoption of ISO 13628-15. The first edition of ISO 13628-15 was published in the third quarter of 2011 and was created by a joint API/ISO task group. This second edition of API 17P has been completely rewritten as recommended practice (RP). While the scope is similar to the first edition of API RP 17P, the material section has been rewritten and Sections 8 through 12 have been added.

The intent of this RP is to provide guidance for the specification, design, construction, transportation, installation, maintenance, and operation of subsea structures and manifolds.

This standard is under the jurisdiction of API Subcommittee 17 on Subsea Production Systems. Nothing contained in any API publication is to be construed as granting any right, by implication or otherwise, for the manufacture, sale, or use of any method, apparatus, or product covered by letters patent. Neither should anything contained in the publication be construed as insuring anyone against liability for infringement of letters patent.

This is the Second Edition.

API Subcommittee 17 documents consist of the following:

- Recommended Practice 17A, *Design and Operation of Subsea Production Systems—General Requirements and Recommendations*
- Recommended Practice 17B, *Recommended Practice for Flexible Pipe*
- Specification 17D, *Design and Operation of Subsea Production Systems—Subsea Wellhead and Tree Equipment*
- Specification 17E, *Specification for Subsea Umbilicals*
- Standard 17F, *Standard for Subsea Production Control Systems*
- Recommended Practice 17G, *Recommended Practice for Completion/Workover Risers*
- Recommended Practice 17H, *Recommended Practice for Remotely Operated Vehicle (ROV) Interfaces on Subsea Production Systems*
- Specification 17J, *Specification for Unbonded Flexible Pipe*
- Specification 17K, *Specification for Bonded Flexible Pipe*
- Specification 17L1, *Specification for Flexible Pipe Ancillary Equipment*
- Recommended Practice 17L2, *Recommended Practice for Flexible Pipe Ancillary Equipment*
- Recommended Practice 17N, *Recommended Practice on Subsea Production System Reliability, Technical Risk, and Integrity Management*
- Standard 17O, *Standard for Subsea High Integrity Pressure Protection Systems (HIPPS)*
- Recommended Practice 17P, *Design and Operation of Subsea Production Systems—Subsea Structures and Manifolds*

- Recommended Practice 17Q, *Recommended Practice on Subsea Equipment Qualification*
- Recommended Practice 17R, *Recommended Practice for Flowline Connectors and Jumpers*
- Recommended Practice 17S, *Recommended Practice for the Design, Testing, and Operation of Subsea Multiphase Flow Meters*
- Recommended Practice 17U, *Recommended Practice for Wet and Dry Thermal Insulation of Subsea Flowlines and Equipment*
- Recommended Practice 17V, *Recommended Practice for Analysis, Design, Installation, and Testing of Safety Systems for Subsea Applications*
- Recommended Practice 17W, *Recommended Practice for Subsea Capping Stacks*
- Technical Report 17TR1, *Evaluation Standard for Internal Pressure Sheath Polymers for High Temperature Flexible Pipes*
- Technical Report 17TR2, *The Ageing of PA-11 in Flexible Pipes*
- Technical Report 17TR3, *An Evaluation of the Risks and Benefits of Penetrations in Subsea Wellheads Below the BOP Stack*
- Technical Report 17TR4, *Subsea Equipment Pressure Ratings*
- Technical Report 17TR5, *Avoidance of Blockages in Subsea Production Control and Chemical Injection Systems*
- Technical Report 17TR6, *Attributes of Production Chemicals in Subsea Production Systems*
- Technical Report 17TR7, *Verification and Validation of Subsea Connectors*
- Technical Report 17TR8, *High-pressure High-temperature Design Guidelines*
- Technical Report 17TR9, *Umbilical Termination Assembly (UTA) Selection and Sizing Recommendations*
- Technical Report 17TR10, *Subsea Umbilical Termination (SUT) Design Recommendations*
- Technical Report 17TR11, *Pressure Effects on Subsea Hardware During Flowline Pressure Testing in Deep Water*
- Technical Report 17TR12, *Consideration of External Pressure in the Design and Pressure Rating of Subsea Equipment*
- Technical Report 17TR13, *General Overview of Subsea Production Systems*
- Technical Report 17TR15, *API 17H Hydraulic Interfaces for Hot Stabs*

It is important that users of this part of API 17 be aware that further or differing requirements can be needed for individual applications. This part of API 17 is not intended to inhibit a vendor from offering, or the purchaser from accepting, alternative equipment engineering solutions for the individual application. This can be particularly applicable if there is innovative or developing technology. If an alternative is offered, it is the responsibility of the vendor to identify any variations from this part of API 17 and provide details.

Recommended Practice for Subsea Structures and Manifolds

1 Scope

This document addresses recommendations for subsea structures and manifolds, within the frameworks set forth by recognized and accepted industry specifications and standards.

Equipment within the scope of this document is listed below (see Figure 1):

a) the following structural components and piping systems of subsea production systems:

- production and injection manifolds,
- modular and integrated single satellite and multi-well templates,
- subsea processing and subsea boosting stations,
- flow control modules,
- flowline riser bases and export riser bases,
- pipeline end manifolds (PLEM),
- pipeline end terminations (PLET),
- T- and Y-connections,
- subsea isolation valves (SSIV);

b) the following structural components of subsea production system:

- subsea controls and distribution structures,
- other subsea structures;

c) protection structures associated with the above components;

d) foundations and mounting bases to support above structures;

The following components and their applications are outside the scope of this document:

- pipeline and manifold valves;
- flowline and tie-in connectors;
- choke valves;
- flow control valves;
- multi-phase flow meters;
- pressure vessels;
- production control systems.

NOTE General information regarding these topics can be found in additional publications, such as API 17A, API 17E, and API 2C.