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, 200 Massachusetts Avenue, NW, Suite 1100, Washington, DC 20001, standards@api.org.

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Introduction

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

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This is the Third 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, *Specification for Subsea Wellhead and Christmas Tree Equipment*

— Specification 17E, *Specification for Subsea Umbilicals*

— Standard 17F, *Specification for Subsea Production Control Systems*

— Recommended Practice 17G, *Recommended Practice for Completion/Workover Riser Systems*

— Recommended Practice 17H, *Remotely Operated Tools and 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 for Subsea Production System Reliability and Technical Risk Management*

— Recommended Practice 17O, *Recommended Practice for 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 for Subsea Equipment Qualification—Standardized Process for Documentation*

— Recommended Practice 17R, *Recommended Practice for Flowline Connectors and Jumpers*

— Recommended Practice 17S, *Recommended Practice for 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 Subsea Safety*

— Recommended Practice 17W, *Recommended Practice for Subsea Capping Stacks*

— Recommended Practice 17X, Recommended Practice for Subsea Pump Module Systems

— Recommended Practice 17Y, *Recommended Practice for Design, Testing, and Qualification of Subsea Chemical Injection Delivery Systems*

— Recommended Practice 17Z, *Recommended Practice for Medium Voltage Equipment Used on Subsea Production Systems*

— Technical Report 17TR1, *Evaluation Standard for Internal Pressure Sheath Polymers for High Temperature Flexible Pipes*

— Technical Report 17TR2, *The Aging 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*

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.

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 including transportation pipelines:

- 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),
- flowline end terminations (FLET),
- inline tee, (ILT)
- T- and Y-connection,

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;