

Recommended Practice for Flowline Connectors and Jumpers

API RECOMMENDED PRACTICE 17R
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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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Recommended Practice for Flowline Connectors and Jumpers

1 Scope

This recommended practice (RP) addresses specific requirements and recommendations for subsea flowline connectors and jumpers within the frameworks set forth by recognized and accepted industry specifications and standards. As such, it does not supersede or eliminate any requirement imposed by any other industry specification.

This RP covers subsea flowline connectors and jumpers used for pressure containment in both subsea production of oil and gas, and subsea injection services. Equipment within the scope of this document is listed below.

— Equipment used to make the following subsea connections are included:

- pipeline end terminations to manifolds,
- pipeline end terminations to trees,
- pipeline end terminations to riser bases,
- manifolds to trees,
- pipeline inline sleds to other subsea structures.

— The following connection components and systems are included:

- jumper assemblies,
- monobore connectors systems,
- multibore connectors systems,
- pressure and flooding caps,
- connector actuation tools.

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

- subsea structures,
- hydraulic, electrical, and fiber optic flying leads,
- umbilicals,
- pig launcher/receiver equipment,
- specialized ROV and other tooling.

Equipment for use in high-pressure high-temperature (HPHT) environments is beyond the scope of this document (see API 17TR8 for guidance on subsea HPHT applications).

2 Normative References

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

API Recommended Practice 2A-WSD, *Planning, Designing and Constructing Fixed Offshore Platforms—Working Stress Design*

API Recommended Practice 2X, *Ultrasonic and Magnetic Examination of Offshore Structural Fabrication and Guidelines for Qualification of Technicians*

API Specification 6A, *Specification for Wellhead and Christmas Tree Equipment 20th Edition, 2011*

API Standard 6X, *Design Calculations for Pressure-containing Equipment 1st Edition, 2014*

API Specification 17A, *Design and Operation of Subsea Production Systems—General Requirements and Recommendations, 4th Edition, 2006*

API Recommended Practice 17B, *Recommended Practice for Flexible Pipe*

API Specification 17D, *Design and Operation of Subsea Production Systems—Subsea Wellhead and Tree Equipment, 2nd Edition, 2012*

API Recommended Practice 17H, *Remotely Operated Tools and Interfaces on Subsea Production Systems*

API Specification 17J, *Specification for Unbonded Flexible Pipe*

API Specification 17K, *Specification for Bonded Flexible Pipe*

ASME Boiler and Pressure Vessel Code¹, Section VIII Division 2: *Alternative Rules for Construction of Pressure Vessels*

ASME Boiler and Pressure Vessel Code, Section VIII Division 3: *Alternative Rules for Construction of High Pressure Vessels*

ASME B31.3, *Process Piping*

ASME B31.4, *Pipeline Transportation Systems for Liquids and Slurries*

ASME B31.8, *Gas Transmission and Distribution Piping Systems*

AWS D1.1/D1.1M², *Structural Welding Code—Steel*

DNV³, *Rules for the Classification of Mobile Units, Part 3, Chapter 1, Section 10*

ISO 15590-1⁴, *Induction bends, fittings and flanges for pipeline transportation systems—Part 1: Induction bends*

¹ ASME International, 2 Park Avenue, New York, New York 10016-5990, www.asme.org.

² American Welding Society, 8669 NW 36 Street, #130, Miami, Florida 33166-6672, www.aws.org.

³ Det Norske Veritas, Veritasveien 1, 1322, Hovik, Oslo, Norway, www.dnv.com.

⁴ International Organization for Standardization, 1, ch. de la Voie-Creuse, Case postale 56, CH-1211, Geneva 20, Switzerland, www.iso.org.