Specification for Unbonded Flexible Pipe

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Addendum 1

Page 2, Section 2, the following shall be added:

ASTM D1141, *Standard Practice of the Preparation of Substitute Ocean Water*

Page 53, Section 6.2.4.6, change:

The tensile armors shall be subject to testing to confirm that the potential hydrogen evolution resulting from cathodic charging does not result in hydrogen embrittlement. The testing shall be conducted on degreased wire samples immersed in deaerated seawater (minimum 3 % NaCl) with the maximum negative cathodic potential applied. The wire shall be stressed to at least the maximum utilization level expected in service. The cathodic charging shall be applied for a minimum duration of 150 h. Post-test examination shall be conducted to confirm that no blistering or cracking of the wire sample has occurred.

to:

The tensile armor wires shall be tested to confirm that the potential hydrogen evolution resulting from cathodic charging does not result in hydrogen embrittlement. The testing shall be conducted on degreased wire samples immersed in aerated synthetic seawater that conforms to ASTM D1141, with a maximum negative cathodic potential applied per the manufacturer's specification.

NOTE The default value of the maximum negative potential is –1100 mV measured against the Ag/AgCl reference electrode.

The wire shall be stressed to its maximum utilization level expected in service. The cathodic charging shall be applied for a minimum duration of 150 h. Post-test examination shall be conducted, and the acceptance criterion shall be that no blistering or cracking of the wire sample has occurred.

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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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1 Scope

API 17J 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 17B for guidelines on the use of flexible pipes.

API 17J applies to unbonded flexible pipe assemblies, consisting of segments of flexible pipe body with end fittings attached to both ends. API 17J does not cover flexible pipes of bonded structure. API 17J does not apply to flexible pipe ancillary components. Guidelines on flexible pipe ancillary components are given in API 17L1, API 17L2, and other API documents.

API 17J does not apply to flexible pipes that include nonmetallic tensile and pressure armor wires.

The applications addressed by API 17J are sweet and sour service production, including export and injection applications. Production products include oil, gas, water, and injection chemicals. API 17J applies to both static and dynamic flexible pipes used as flowlines, risers, and jumpers. API 17J does not apply to flexible pipes for use in choke and kill line applications. Annex H of API 17B provides recommendations for the application of fiber reinforced polymer materials for pressure armor and tensile armor in unbonded flexible pipe.

NOTE 1 See API 16C for choke and kill line applications.

NOTE 2 API 17K provides guidelines for bonded flexible pipe.

If product is supplied bearing the API Monogram and manufactured at a facility licensed by API, the requirements of Annex A apply.

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 Specification 6A, *Specification for Wellhead and Christmas Tree Equipment*

API Specification 17D, *Specification for Subsea Wellhead and Christmas Tree Equipment*

API Recommended Practice 17L2, *Recommended Practice for Flexible Pipe Ancillary Equipment*

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

API Technical Report 17TR2, *The Ageing of PA-11 in Flexible Pipes*

ASME *Boiler and Pressure Vessel Code* [1], *Section IX: Welding and Brazing Qualifications*

ASTM A29 [2], *Standard Specification for Steel Bars, Carbon and Alloy, Hot-Wrought, General Requirements for*

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

[2] ASTM International, 100 Barr Harbor Drive, West Conshohocken, Pennsylvania 19428, www.astm.org.