Specification for the Fabrication of Structural Steel Pipe

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FOREWORD

This specification is under the jurisdiction of the API Committee on Standardization of Offshore Structures.

The purpose of this specification is to provide standards for the fabrication of structural steel pipe formed from plate steel and suitable for use in construction of welded offshore structures.

This specification shall become effective on the date printed on the cover but may be used voluntarily from the date of distribution.

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Suggestions for Ordering API 2B Pipe

In placing orders for steel pipe to be fabricated in accordance with API Specification 2B, the purchaser should specify the following on the purchase order:

- Specification — API 2B
- Quantity — As required
- Size — Nominal length, wall thickness, and outside diameter
- ASTM (or other industry standard) designation for steel plate — Specification/Grade/ Supplementary requirements
- Delivery date and shipping instructions — As required

The purchaser should state whether any of the following optional requirements are to apply:

- Mill test certificate for steel plate
- End finish (specify, if not standard 30 degree bevel)
- SRl, plate direction of rolling
  Longitudinal—“S-lL”
  Transverse—“S-lT”
- SR2, notch toughness (specify test temperatures and minimum energy requirements)
- SR3, 100% radiographic examination (joint can quality assurance)
- SR4, matching weld toughness for designated plate material

Nothing in this specification should be interpreted as indicating a preference by the committee for any optional requirement. In the selection of requirements, the purchaser must be guided by the purchaser’s experience and by the service for which the pipe is intended.

Specification for the Fabrication of Structural Steel Pipe

1 Scope

1.1 This specification covers the fabrication of structural steel pipe formed from plate steel with longitudinal and circumferential butt-welded seams, typically in sizes 14 in. outside diameter (OD) and larger (40 in. and larger for LWDS) with wall thickness $^3/_8$ in. and greater (up to a nominal 40 ft in length) 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.

1.2 Manufacturers desiring to apply the API Monogram to the products covered by this specification shall demonstrate to the satisfaction of the American Petroleum Institute a program of education, training, experience, and/or examination assuring the manufacturer's personnel are competent in welding, inspection, nondestructive examination, and testing required or referenced by this specification.

2 References

The following specifications and standards become a part of and shall be considered concurrently with this specification:

ASTM[1]

A 6–99	*General Requirements for Rolled Steel Plates, Shapes, Sheet Piling, and Bars for Structural Use*
A 20-99	*General Requirements for Delivery of Steel Plates for Pressure Vessels*
A 370-97	*Mechanical Testing of Steel Products*
E 23-98	*Notched Bar Impact Testing of Metallic Materials*

AWS[2]

D1.1-2000	*Structural Welding Code—Steel*

3 Definitions

For the purpose of this standard, the following definitions apply:

3.1 can: A section of structural steel pipe with no girth seam.

3.2 fabricator: The person, firm, company, or corporation executing the contract or agreement with the purchaser to fabricate the structural steel pipe under this specification.

3.3 girth weld: A circumferential butt-welded seam lying in a plane perpendicular to the longitudinal axis of the pipe, used to join tubular sections into lengths of straight pipe.

3.4 longitudinal seam: A butt-welded seam which parallels the axis of the pipe.

3.5 longitudinally welded double seam (LWDS) pipe: A can with two longitudinal seams, one of which may be made in the flat plate condition.

3.6 manufacturer: The firm, company, or corporation-furnishing plate steel used in the fabrication of the structural steel pipe.

3.7 mill pipe: A structural steel pipe consisting of multiple cans joined by girth welds.

3.8 pile: A cylindrical tubular member fabricated from one or more lengths of structural steel pipe, usually driven through a leg or sleeve of an offshore platform, that carries vertical loads and resists lateral forces.

3.9 pipe weld: A longitudinal seam made after the plate has been formed into pipe.

3.10 plate weld: A longitudinal seam made between flat plates which are subsequently formed into pipe.

3.11 purchaser: The person, firm, company, or corporation entering into a contract or agreement for the purchase of structural steel pipe fabricated under this specification.

3.12 single seam welded pipe: A can with one longitudinal seam, produced by a continuous welding process.

3.13 structural steel pipe: A cylindrical tubular member formed from steel plate, having a uniform material and wall thickness, with longitudinal and/or circumferential butt welded seams, comprising of the following types: can, single seam welded pipe, longitudinally welded double seam (LWDS) and mill pipe.

4 Material

4.1 Pipe furnished to this specification shall be fabricated from plate steel as specified by the purchaser.

4.2 The purchaser shall specify the grade and quality of plate steel to be used. When the plate steel is furnished by the fabricator, a mill test certificate must be available and shall be furnished to the purchaser upon request. All plate shall bear

[1]ASTM, 100 Barr Harbor Drive, West Conshohocken, Pennsylvania 19428.
[2]American Welding Society, 550 N.W. Le Jeune Road, Miami, Florida 33126.