Sucker Rods and Rod-related Products

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Introduction

This specification has been developed by users, purchasers, suppliers, and manufacturers and is intended for use in the petroleum and natural gas industry worldwide. This specification is intended to give requirements and information to all parties in the design, manufacture, and selection of thread form requirements, sucker rods, sinker bars, polished rods, couplings and sub-couplings, thread gauges, pumping tees, stuffing boxes, polished rod clamps, calibration of measuring equipment, standard methods of mechanical properties testing, and polished rod liners. Furthermore, this specification addresses the minimum requirements with which the manufacturer shall comply to claim conformity.

Attention is brought to users of this specification that requirements above those outlined in this specification can be required for individual applications. This specification is not intended to inhibit a manufacturer from offering or the user or purchaser from accepting alternative equipment or other engineering solutions. This can be particularly applicable where there is innovative or developing technology. Where an alternative is offered, it is the responsibility of the manufacturer to identify any variations from this specification.

In this specification, U.S. customary (USC) units shall be the controlling units. International System (SI) units are included as reference only.

Sucker Rods and Rod-related Products

1 Scope

This specification provides the requirements and guidelines for the design of thread form requirements, steel sucker rods and pony rods, fiber reinforced plastic (FRP) sucker rods and pony rods, sinker bars, polished rods, couplings and sub-couplings, thread gauges, pumping tees, stuffing boxes, polished rod clamps, calibration of measuring equipment, standard methods of mechanical properties testing, and polished rod liners as defined herein for use in the sucker rod lift method for the petroleum and natural gas industry.

Normative Annexes B through K specify equipment requirements, normative Annexes L through M provide for the calibration of measuring equipment and mechanical properties testing requirements, and informative Annexes N through P provide illustrations for polished rod liners, representative examples of discontinuities, and a sucker rod pumping system.

The specification does not cover sucker rod guides, sucker rod rotators, shear tools, on-off tools, stabilizer bars, sealing elements used in stuffing boxes, or interface connections for stuffing boxes and pumping tees. Also, installation, operation and maintenance of these products are not included in this specification. However, API 11BR has information on operation and maintenance of these products.

Sucker rod pins manufactured to the maximum allowance for D_{SR} and R_{SR} prior to the 28th Edition can interfere with couplings manufactured to the minimum allowance for D_{F2} in prior editions. The 28th Edition resolves the interference between sucker rod pins and couplings. However, the potential for interference remains between couplings manufactured to the 28th Edition and sucker rod pins manufactured to prior editions or sucker rod pins manufactured to the 28th Edition and couplings manufactured to prior editions.

2 Normative References

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any addenda) applies.

API Specification 5B, *Threading, Gauging, and Inspection of Casing, Tubing, and Line Pipe Threads*

API Recommended Practice 5B1, *Gauging and Inspection of Casing, Tubing, and Line Pipe Threads*

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

ASME B89.1.5 [1], *Measurement of Plain External Diameters for Use as Master Discs or Cylindrical Plug Gages*

ASME B89.1.9, *Gage Blocks*

ASME B89.1.17, *Measurement of Thread Measuring Wires*

ASNT SNT-TC-1A [2], *Personnel Qualification and Certification in Nondestructive Testing*

[1] ASME International, Two Park Avenue, New York, NY 10016-5990, www.asme.org.
[2] American Society for Nondestructive Testing, PO Box 28518, 1711 Arlingate Lane, Columbus, OH 43228, www.asnt.org.