

Sucker Rods and Rod-related Products

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Contents

| | Page |
|---|------|
| 1 Scope..... | 1 |
| 2 Normative References..... | 1 |
| 3 Terms and Definitions..... | 2 |
| 4 Variables, Acronyms, and Gauge List..... | 8 |
| 4.1 Variables..... | 8 |
| 4.2 Acronyms..... | 10 |
| 4.3 Gauge List..... | 11 |
| 5 Functional Requirements..... | 14 |
| 6 Technical Requirements..... | 15 |
| 6.1 General Requirements..... | 15 |
| 6.2 Design Requirements..... | 15 |
| 7 Manufacturer Requirements..... | 16 |
| 7.1 General..... | 16 |
| 7.2 Quality Control..... | 16 |
| 7.3 Product Identification..... | 20 |
| 7.4 Documentation..... | 21 |
| 7.5 Special Processes Requiring Validation..... | 21 |
| Annex A (informative) Use of API Monogram by Licensees..... | 22 |
| Annex B (normative) Thread Form Requirements..... | 23 |
| Annex C (normative) Steel Sucker Rods and Pony Rods..... | 37 |
| Annex D (normative) Fiber Reinforced Plastic (FRP) Sucker Rods and Pony Rods..... | 50 |
| Annex E (normative) Sinker Bars..... | 61 |
| Annex F (normative) Polished Rods..... | 71 |
| Annex G (normative) Couplings and Sub-couplings..... | 85 |
| Annex H (normative) Thread Gauge Specification for Sucker Rod and Polished Rod Connections..... | 98 |
| Annex I (normative) Pumping Tees..... | 117 |
| Annex J (normative) Stuffing Boxes..... | 123 |
| Annex K (normative) Polished Rod Clamps..... | 130 |
| Annex L (normative) Calibration of Measuring Equipment..... | 136 |
| Annex M (normative) Standard Method of Mechanical Properties Testing of Products Made from Bar Stock and Tubing..... | 144 |
| Annex N (informative) Polished Rod Liners..... | 156 |
| Annex O (normative) Reference Master Gauges..... | 161 |
| Annex P (informative) Representative Examples of Discontinuities..... | 163 |
| Annex Q (informative) Sucker Rod Pumping System Illustration..... | 174 |

Figures

| | | |
|-------------|---|-----|
| B.1 | Thread Form Illustration | 25 |
| B.2 | Sucker Rod Pin with Sucker Rod Pin Thread (TSRP) Illustration | 25 |
| B.3 | Sucker Rod Coupling with Sucker Rod Box Thread (TSRB) Illustration | 27 |
| B.4 | Polished Rod Pin with Polished Rod Pin Thread (TPRP) Illustration | 28 |
| B.5 | Polished Rod Coupling or Sub-coupling with Polished Rod Box Thread (TPRB) Illustration | 30 |
| C.1 | Steel Sucker Rod and Pony Rod Illustration | 37 |
| D.1 | End Fitting and FRP Rod Body Diameter Illustration | 50 |
| D.2 | Assembled FRP Sucker Rod and Pony Rod Illustration | 51 |
| E.1 | Sinker Bar Illustration | 61 |
| F.1 | NU Polished Rod Illustration | 72 |
| F.2 | EU Polished Rod Illustration | 73 |
| G.1 | Sucker Rod Coupling, Polished Rod Coupling, and Sub-Coupling Illustration | 86 |
| G.2 | Hardness Determination of Base Metal | 90 |
| G.3 | Vickers Micro-hardness Determination of Spray Metal Coating | 92 |
| H.1 | P7 Go Pin-thread Truncated Setting Plug Gauge and P8 Go Pin-thread Ring Gauge Illustration (for Gauging Sucker Rod Pin Connections) | 100 |
| H.2 | P5 No-go Pin-thread Truncated Setting Plug Gauge and P6 No-go Pin-thread Ring Gauge Illustration (for Gauging Sucker Rod and Polished Rod Pin Connections) | 102 |
| H.3 | B2 Go Box-thread Plug Gauge Illustration (for Gauging Sucker Rod, Polished Rod, and Sub-coupling Box Connections) | 104 |
| H.4 | B3 Box-cone Ring Gauge and B4 Box-cone Plug Gauge Illustration (for Gauging Polished Rod and Sub-coupling Box Connections) | 106 |
| H.5 | B6 No-go Box-thread Plug Gauge Illustration (for Gauging Sucker Rod, Polished Rod, and Sub-Coupling Box Connections) | 108 |
| H.6 | P1 Go Pin-thread Truncated Setting Plug Gauge and P2 Go Pin-thread Ring Gauge Illustration (for Gauging Polished Rod Pin Connections) | 110 |
| H.7 | P3 Pin-cone Plug Gauge and P4 Pin-cone Ring Gauge Illustration (for Gauging Polished Rod Pin Connections) | 112 |
| I.1 | Pumping Tee Illustrations | 117 |
| J.1 | Stuffing Box Illustration | 123 |
| K.1 | Polished Rod Clamps | 130 |
| M.1 | Full Body Test Specimen | 147 |
| M.2 | Full Body Test Specimen with Gauge Marks | 148 |
| M.3 | Type A Machined Test Specimen | 148 |
| M.4 | Type B Machined Test Specimen | 149 |
| M.5 | Type C Machined Test Specimen | 150 |
| M.6 | Type D Machined Test Specimen | 151 |
| M.7 | Measuring Elongation | 154 |
| N.1 | Polished Rod Liner | 156 |
| P.1 | Spray Metal Porosity | 163 |
| P.2 | Spray Metal Pullback | 163 |
| P.3 | Forging Defect in the Face of the Pin Shoulder | 164 |
| P.4 | Black Face Threads | 164 |
| P.5 | Fold in the Stress Relief | 164 |
| P.6 | Overfill in the Upset Taper | 165 |
| P.7 | Scab in the Stress Relief That Has Popped Out | 165 |
| P.8 | Sliver in the Upset Taper That Has Popped Out | 165 |
| P.9 | Underfill in the Upset Bead | 166 |
| P.10 | Underfill in the Pin Shoulder | 166 |
| P.11 | Underfill in the Stress Relief | 166 |
| P.12 | Underfill in the Pin Nose | 166 |
| P.13 | Underfill in the Pin Nose | 167 |
| P.14 | Underfill in the Pin Shoulder and Wrench Square | 167 |
| P.15 | Underfill in the Upset Taper | 167 |
| P.16 | Incomplete Face | 167 |

| | | |
|-------------|--|-----|
| P.17 | Worn Rolling Die..... | 168 |
| P.18 | Step Face | 168 |
| P.19 | Step Face and Surface Roughness | 168 |
| P.20 | Tool Mark in the Stress Relief | 169 |
| P.21 | Dent in the Rod Body | 169 |
| P.22 | Marks from a Furnace Conveyor System..... | 169 |
| P.23 | Straightener Burn | 169 |
| P.24 | End Shear Crack in Raw Bar Stock | 170 |
| P.25 | End Shear Crack Exposed During Machining..... | 170 |
| P.26 | End Shear Crack Extended Through the Upset Taper | 170 |
| P.27 | Fold in the Rod Body..... | 170 |
| P.28 | Lap in the Rod Body..... | 170 |
| P.29 | Mill Scale Impressions in the Rod Body..... | 171 |
| P.30 | Overfill in the Rod Body..... | 171 |
| P.31 | Scale That Has Popped Out..... | 171 |
| P.32 | Atmospheric Corrosion Pitting in Raw Bar Stock..... | 172 |
| P.33 | Rolled-in-scale in the Bar Stock | 172 |
| P.34 | Seam in the Rod Body | 172 |
| P.35 | Surface Shearing from Foreign Matter in the Sizing Dies..... | 172 |
| P.36 | Surface Shearing from Foreign Matter in the Sizing Dies..... | 173 |
| Q.1 | Sucker Rod Pumping System Illustration..... | 174 |

Tables

| | | |
|------------|---|----|
| 1 | Single Sampling Plans for Normal Inspection, General Inspection Level I, AQL of 4 % | 18 |
| 2 | Single Sampling Plans for Normal Inspection, General Inspection Level II, AQL of 10 % | 19 |
| B.1 | Dimensions for Sucker Rod Pins with Sucker Rod Pin Threads (TSRP)..... | 26 |
| B.2 | Dimensions for Sucker Rod Couplings with Sucker Rod Box Threads (TSRB) | 27 |
| B.3 | Dimensions for Polished Rod Pins with Polished Rod Pin Threads (TPRP) | 29 |
| B.4 | Dimensions for Polished Rod Couplings or Sub-Couplings with Polished Rod Box Threads (TPRB) | 30 |
| B.5 | Dimensional Inspection | 32 |
| B.6 | Setup Validation | 35 |
| C.1 | Dimensions for Steel Sucker Rods and Pony Rods..... | 38 |
| C.2 | Customary Lengths for Steel Sucker Rods and Pony Rods | 39 |
| C.3 | Alternate Lengths for Steel Sucker Rods and Pony Rods | 39 |
| C.4 | Grade, Chemical Composition, Mechanical Property, and Color Code Requirements | 41 |
| C.5 | Dimensional Inspection | 42 |
| C.6 | Example of Product Identification Markings for Steel Sucker Rods and Pony Rods | 45 |
| D.1 | Dimensions for End Fittings and FRP Rod Body | 51 |
| D.2 | Customary Lengths for FRP Sucker Rods and Pony Rods | 52 |
| D.3 | Grade, Chemical Composition, Mechanical Property, and Color Code Requirements for End Fittings..... | 53 |
| D.4 | Dimensional Inspection | 54 |
| D.5 | Example of Product Identification Markings (Temperature Rating in Fahrenheit) | 56 |
| D.6 | Example of Product Identification Markings (Temperature Rating in Celsius)..... | 57 |
| E.1 | Dimensions for Sinker Bars..... | 62 |
| E.2 | Customary Lengths for Sinker Bars | 62 |
| E.3 | Grade, Chemical Composition, Mechanical Property, and Color Code Requirements | 63 |
| E.4 | Dimensional Inspection | 64 |
| E.5 | Example of Product Identification Markings for Sinker Bars with Sucker Rod Threads | 66 |
| E.6 | Example of Product Identification Markings for Sinker Bars with Polished Rod Threads..... | 67 |
| F.1 | Dimensions for NU Polished Rods | 72 |
| F.2 | Dimensions for EU Polished Rods | 73 |
| F.3 | Customary Lengths for Polished Rods..... | 74 |
| F.4 | Grade, Chemical Composition, Mechanical Property, and Color Code Requirements | 76 |
| F.5 | Spray Metal Coating Chemical Composition..... | 77 |
| F.6 | Dimensional Inspection | 78 |
| F.7 | Example of Product Identification Markings for Polished Rods | 81 |

| | | |
|-------------|--|-----|
| F.8 | Example of Product Identification Markings for Polished Rods with Spray Metal Coating | 82 |
| G.1 | Dimensions for Full-size Couplings | 87 |
| G.2 | Dimensions for Full-size Sub-couplings | 87 |
| G.3 | Dimensions for Slim-hole Couplings | 88 |
| G.4 | Dimensions for Slim-hole Sub-couplings | 88 |
| G.5 | Grade, Chemical Composition, Mechanical Properties, and Product Markings | 91 |
| G.6 | Spray Metal Coating Chemical Composition..... | 91 |
| G.7 | Dimensional Inspection of Sucker Rod Couplings, Polished Rod Couplings, and Sub-couplings | 93 |
| G.8 | Example of Product Identification Markings for Sucker Rod Couplings..... | 95 |
| G.9 | Example of Product Identification Markings for Polished Rod Couplings | 95 |
| G.10 | Example of Product Identification Markings for Sub-couplings..... | 96 |
| H.1 | Dimensions for P7 Go Pin-thread Truncated Setting Plug Gauge and P8 Go Pin-thread Ring Gauge (for Gauging Sucker Rod Pin Connections)..... | 101 |
| H.2 | Dimensions for P5 No-go Pin-thread Truncated Setting Plug Gauge and P6 No-go Pin-thread Ring Gauge (for Gauging Sucker Rod and Polished Rod Pin Connections)..... | 103 |
| H.3 | Dimensions for B2 Go Box-thread Plug Gauge (for Gauging Sucker Rod, Polished Rod, and Sub-coupling Box Connections)..... | 105 |
| H.4 | Dimensions for B3 Box-cone Ring Gauge and B4 Box-cone Plug Gauge (for Gauging Polished Rod and Sub-coupling Box Connections)..... | 107 |
| H.5 | Dimensions for B6 No-go Box-thread Plug Gauge (for Gauging Sucker Rod, Polished Rod, and Sub-coupling Box Connections)..... | 109 |
| H.6 | Dimensions for P1 Go Pin-thread Truncated Setting Plug Gauge and P2 Go Pin-thread Ring Gauge (for Gauging Polished Rod Pin Connections) | 111 |
| H.7 | Dimensions for P3 Pin-cone Plug Gauge and P4 Pin-cone Ring Gauge (for Gauging Polished Rod Pin Connections) | 113 |
| H.8 | Tolerances for Gauges..... | 114 |
| H.9 | Allowable Axial Variation of Shoulder Face | 114 |
| H.10 | Example of Gauge Marking..... | 115 |
| I.1 | Grade, Chemical Composition, and Mechanical Properties | 118 |
| I.2 | Example of Product Identification Marking..... | 120 |
| J.1 | Grade, Chemical Composition and Mechanical Properties | 124 |
| J.2 | Example of Stuffing Box Body Product Identification Marking | 127 |
| J.3 | Example of Stuffing Box Assembly Product Identification Marking..... | 127 |
| K.1 | Test Rods | 131 |
| K.2 | Grade, Chemical Composition and Mechanical Properties | 133 |
| K.3 | Example of Product Identification Marking..... | 134 |
| M.1 | Type of Test Specimens by Product | 147 |
| M.2 | Type A Machined Test Specimen Dimension | 149 |
| M.3 | Type B Machined Test Specimen Dimensions | 150 |
| M.4 | Type C Machined Test Specimen Dimensions | 151 |
| M.5 | Type D Machined Test Specimen Dimensions | 152 |
| M.6 | Crosshead Speed..... | 153 |
| N.1 | Polished Rod Liner Sizes | 156 |
| N.2 | Example of Product Identification Marking..... | 159 |

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.