API 6A - 21st Edition
Specification for Wellhead and Tree Equipment

Publication Date: November 2018
Effective Date: November 2019

For Reference Only
API 6A - 21
d Edition
Specification for Wellhead and Christmas Tree Equipment
Publication Date: November 2018
Effective Date: November 2019
Committee Member Reaction
History of 21st Edition of 6A Ballots

Ballot 3064 – Comment Ballot
• Closed – 7/30/2015 – Comment only
  • 894 Comments addressed

Ballot 4084 – Technical Ballot
• Closed – 4/6/2017 - Passed
  • 1198 Comments addressed

Ballot 4291 – Technical Ballot
• Closed – 11/22/2017 - Passed
  • 527 Comments addressed

Ballot 4464 – Final Ballot (Reorganized Specification)
• Closed – 6/11/2018 – Passed
  • 1023 Comments received – 26 Technical, 116 General, 907 editorial
API 6A 21st Edition Timeline

First TG Meeting
7/31/2013

5 ballots (including recirculation ballot), review of interpretations, many meetings and lots of good debate & discussion

Released
11/2018
First Meeting
A sample of things that didn’t change but were discussed

• Definition of a manufacturer – onsite, offsite, outsource
• Full trim designation marking / Elimination of Class ZZ
• Elimination of PSL 1
• Increasing impact property requirements
• Reference “X” dimension for hub of 6B flanges
• Making Annex F normative
• Complete removal of Segmented flanges
• Removal of Weld-Neck flanges
• Removal of “pressure-containing” / “pressure controlling” language
• Requiring higher 20E BSL’s as normative base level
• PR3 Annex
• Fully Developed HPHT Philosophy/Document for 6A Equipment

- 6AV1 3rd Ed
- 6AR 2nd Ed
- 6X 2nd Ed
- 6A 21st Ed.

- 6AV1 3rd Ed
- 6X 2nd Ed
- 6A 21st Ed.
- 20 A,E,F
- 6AR 2nd Ed
- TR6RT Tools

- ISO15614-1,7
- ISO15609
- 6AV1 3rd Ed
- 6X 2nd Ed
- TR6RT Tools
- 6AR 2nd Ed
- 20 A,E,F
- 20 B,C,D,H
- 6A 21st Ed.

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- ISO15614-1,7
- ISO15609
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- 20 B,C,D,H
- 20 A,E,F

6A
21st Ed.

6AV1
3rd Ed

17TR8

6X
2nd Ed

6ACRA

ISO15614-1,7

ISO15609

TR6RT Tools

6AR
2nd Ed

20 B,C,D,H

20 A,E,F
Format Changes – Overall Reorganization Discussion

- **Main Goal was to Improve Document Readability and Usability**
  - Section re-organization
  - Annex Changes
    - Deleted (not critical, out-of-scope, info moved to another document, info moved into main body)
    - Modified (position change, info moved to other Annex)
    - New -
      - Created home for products which could be considered for removal in later editions
      - Created depository for SI tables in Annex to match USC Annex modified from 20th Edition
  - Grouping by Activity versus PSL
  - Uniformity of layout in product specification section
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Overview of New Format - 21\textsuperscript{st} Edition of 6A

Sections:
- Better organized to more closely reflect specific activity
- General re-arrangement, 6A-20\textsuperscript{th} – 11 sections to 6A-21\textsuperscript{st} – 15 sections
- Added:
  - Section 5 – Design (Formerly part of Section 4)
  - Section 8 - Bolting (Formerly part of Section 10)
  - Section 9 – Pressure Boundary Penetrations (Formerly Part of Section 10)
  - Section 11 – FAT (Formerly Part of Section 7)
  - Section 15 – Records (Formally Part of Section 7)
- Deleted
  - Repair and Remanufacture Section (20\textsuperscript{th} Edition Section 11) – No longer in scope of 6A. To be addressed in 6AR.
6A – 20th Edition
1. Scope
2. Normative References
3. Terms, definitions and abbreviated terms
4. Design & Performance
5. Materials
6. Welding
7. Quality control
8. Equipment marking
9. Storing and Shipping
10. Equipment-specific requirements
11. Repair & remanufacture

6A – 21st Edition
1. Scope
2. Normative References
3. Terms, Definitions, Abbreviated Terms, and Symbols
4. Application and Performance
5. Design
6. Materials
7. Welding
8. Bolting
9. Packing Mechanisms, Fittings, Boundary Penetrations, and Ports
10. Quality Control
11. Factory Acceptance Testing
12. Equipment Marking
13. Storing and Shipping
14. Equipment-specific Requirements
15. Records
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  • Uniformity of layout in product specification section

- A (informative) Purchasing guidelines
- B (informative) USC unit tables and data for this International Standard
- C (informative) Method of calculating stud bolt lengths for type 6B and 6BX flanges
- D (informative) Recommended flange bolt torque
- E (informative) Recommended weld preparation design dimensions
- F (informative) Design validation procedures
- G (informative) Design and rating of equipment for use at elevated temperatures
- H (normative) Design and manufacture of surface wellhead running, retrieving and testing tools, clean-out tools and wear bushings
- I (normative) Design validation procedures for SSV’s and USV’s
- J (normative) Repair and remanufacture requirements
- K (informative) Recommended specifications for top connectors for Christmas trees
- L (normative) Specifications for VR preps, VR plugs and handling tools
- M (informative) Qualification of heat-treating equipment
- N (informative) List of tables and list of figures
- O (normative) API Regional Annex
- P (informative) Use of the API Monogram by Licensees and Test Agency Licensing
Annex Changes – 20th Ed. - Deletions

- A (informative) Purchasing guidelines
- B (informative) USC unit tables and data for this International Standard
- C (informative) Method of calculating stud bolt lengths for type 6B and 6BX flanges
- D (informative) Recommended flange bolt torque
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- N (informative) List of tables and list of figures
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Annex Changes – 20th Ed. Modified

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- C (informative) Method of calculating stud bolt lengths for type 6B and 6BX flanges
- D (informative) Recommended flange bolt torque
- E (informative) Recommended weld preparation design dimensions
- F (informative) Design validation procedures
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- N (informative) List of tables and list of figures
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Annex Changes – 20th Ed. Unchanged(??)

- A (informative) Purchasing guidelines
- B (informative) USC unit tables and data for this International Standard
- C (informative) Method of calculating stud bolt lengths for type 6B and 6BXflanges
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Sections – Annexes

6A – 21st Edition

• Annex A (informative) API Monogram Program Use of the API Monogram by Licensees
• Annex B (informative) Purchasing Guidelines
• Annex C (informative) Conversion Procedures—Units of Measure
• Annex D (normative) Dimensional Tables—SI Units
• Annex E (normative) Dimensional Tables—USC Units
• Annex F (informative) Design Validation Procedures for PR2 (PR2F Level)
• Annex G (informative) Design and Rating of Equipment for Use at Elevated Temperatures
• Annex H (informative) Recommended Assembly of Closure Bolting
• Annex I (informative) Recommended Bolt Lengths
• Annex J (normative) Weld-neck Flanges
• Annex K (informative) Top Connectors
• Annex L (informative) Segmented Flanges
• Annex M (normative) Heat-treat Equipment Survey
Sections – Annexes - New

6A – 21st Edition

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- Annex L (informative) Segmented Flanges
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Sections – Annexes - Renamed

6A – 21st Edition

- Annex A (informative) API Monogram Program Use of the API Monogram by Licensees
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- Annex C (informative) Conversion Procedures—Units of Measure
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- Annex L (informative) Segmented Flanges
- Annex M (normative) Heat-treat Equipment Survey
New 6A Annex Layout

- 20th Edition Figures and Tables were placed in series requiring scrolling up or down or flipping pages

- 21st Edition has figures in parallel (in two page book view – figure is on left and associated table on right)

- Applies to Annex D, E, K and L
New 6A Annex Layout Example

Table D.7—Type 6BX Large-Bore Flanges for 13.8, 20.7 and 34.5 MPa
Dimensions in Millimeters Unless Noted Otherwise

<table>
<thead>
<tr>
<th>Nominal Size</th>
<th>Maximum Bore</th>
<th>OD of Flange</th>
<th>Raised Face Depth</th>
<th>Raised Face Dia.</th>
<th>Total Thickness</th>
<th>Large Hub Dia.</th>
<th>Small Hub Dia.</th>
<th>Length of Hub</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>[in.]</td>
<td>[mm]</td>
<td>[mm]</td>
<td>[mm]</td>
<td>[mm]</td>
<td>[mm]</td>
<td>[mm]</td>
<td>[mm]</td>
</tr>
<tr>
<td></td>
<td>max.</td>
<td>OD</td>
<td>as noted</td>
<td>max.</td>
<td>±1.5</td>
<td>±3.0 / -0.0</td>
<td>±0.0 / -3.0</td>
<td>min.</td>
</tr>
<tr>
<td>13.8 MPa</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26 1/2</td>
<td>680.2</td>
<td>1041.2</td>
<td>6.4</td>
<td>105</td>
<td>126.3</td>
<td>835.9</td>
<td>743.0</td>
<td>165.7</td>
</tr>
<tr>
<td>30</td>
<td>762.8</td>
<td>1122.1</td>
<td>6.4</td>
<td>908</td>
<td>134.2</td>
<td>931.9</td>
<td>833.1</td>
<td>196.9</td>
</tr>
<tr>
<td>16 1/2</td>
<td>426.2</td>
<td>672.3</td>
<td>6.4</td>
<td>535</td>
<td>112.3</td>
<td>481.1</td>
<td>432.9</td>
<td>114.3</td>
</tr>
<tr>
<td>18 1/2</td>
<td>477.0</td>
<td>699</td>
<td>6.4</td>
<td>627</td>
<td>165.9</td>
<td>674.7</td>
<td>598.4</td>
<td>152.4</td>
</tr>
<tr>
<td>21 1/2</td>
<td>540.5</td>
<td>991.3</td>
<td>6.4</td>
<td>702</td>
<td>180.9</td>
<td>759.0</td>
<td>675.9</td>
<td>165.1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Nominal Size</th>
<th>Radius of Hub</th>
<th>Bolt Circle</th>
<th>Number of Bolts</th>
<th>Bolt Size and TPI</th>
<th>Bolt Hole Diameter</th>
<th>Countersbore Depth</th>
<th>Hub Height</th>
<th>Ring Groove</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>[in.</td>
<td>[mm]</td>
<td>[in.</td>
<td>[mm]</td>
<td>[mm]</td>
<td>[mm]</td>
<td>[mm]</td>
<td>[mm]</td>
</tr>
<tr>
<td></td>
<td>test connection</td>
<td>[ref]</td>
<td></td>
<td>as noted</td>
<td>±2.5 / -0.3</td>
<td>max.</td>
<td>min.</td>
<td></td>
</tr>
<tr>
<td>13.8 MPa</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26 1/2</td>
<td>16</td>
<td>952.5</td>
<td>20</td>
<td>1 1/8 -8</td>
<td>48</td>
<td>21.4</td>
<td>9.7</td>
<td>8X 167</td>
</tr>
<tr>
<td>30</td>
<td>16</td>
<td>1039.9</td>
<td>32</td>
<td>1 1/8 -8</td>
<td>45</td>
<td>23.0</td>
<td>17.5</td>
<td>8X 203</td>
</tr>
<tr>
<td>16 1/2</td>
<td>16</td>
<td>803.1</td>
<td>20</td>
<td>2-8</td>
<td>54</td>
<td>21.4</td>
<td>NA</td>
<td>8X 165</td>
</tr>
<tr>
<td>18 1/2</td>
<td>16</td>
<td>856.0</td>
<td>24</td>
<td>2-6</td>
<td>54</td>
<td>19.1</td>
<td>22.4</td>
<td>8X 165</td>
</tr>
<tr>
<td>21 1/2</td>
<td>18</td>
<td>886.0</td>
<td>24</td>
<td>2-6</td>
<td>54</td>
<td>19.1</td>
<td>22.4</td>
<td>8X 165</td>
</tr>
</tbody>
</table>

Footnotes:
- Ring groove shall be concentric with bore B within 0.25 mm diametrical runout. See Table D.11 for ring groove dimensions.
- Test connection shall be 1/2 in. NPT or per 9.3 (Figure 6).
- Countersbore if for blind and test flanges is optional.
- Break sharp corner 0.8 mm max.
Format Changes – Overall Reorganization Discussion

• **Main Goal was to Improve Document Readability and Usability**
  • Section re-organization
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  • Uniformity of layout in product specification section
Grouping by PSL

Formerly – Requirements were grouped by PSL ("The treasure hunt")
Example for Casing and Tubing Hanger Mandrels – Dimensional Inspection

7.4.10.4.3 Dimensional Inspection (PSL4) (pg101 - 20th Edition)
Dimensional Inspection requirements for PSL 4 shall be identical to the requirements for PSL 3.

7.4.10.3.3 Dimensional Inspection (PSL3) (pg99 – 20th Edition)
Dimensional inspection requirements for PSL 3 shall be identical to the requirements for PSL 1, with the addition that inspection shall be performed on all parts.

7.4.10.2.3 Dimensional Inspection (PSL2) (pg99 - 20th Edition)
Dimensional inspection requirements for PSL 2 shall be identical to the requirements for PSL 1.

7.4.10.1.2 Dimensional Inspection (PSL1) (pg96 - 20th Edition)
Dimensional inspection shall be performed on casing and tubing hanger mandrels manufactured in accordance with this International Standard. The manufacturer shall specify critical dimensions.

The following apply:
Grouping by PSL

Formerly – Requirements were grouped by PSL (“The treasure hunt”)

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Dimensional inspection shall be performed on casing and tubing hanger mandrels manufactured in accordance with this International Standard. The manufacturer shall specify critical dimensions.

The following apply: Requirements Span 6 pages
Grouping by Activity

Requirements grouped by activity for different PSL’s

Example for Casing and Tubing Hanger Mandrels – Dimensional Inspection

10.4.8.5 Dimensional Inspection

10.4.8.5.1 Application

Dimensional inspection shall be performed on casing and tubing hanger mandrels manufactured in accordance with this specification. The manufacturer shall specify critical dimensions.

The dimensional testing requirements of 10.4.8.5 shall apply to PSL 1, PSL 2, PSL 3, and PSL 4.

All suspension, lift, and back-pressure valve threads or retention profiles shall be gauged. Critical dimensions on all parts shall be verified.

Additionally, for PSL 3 and PSL 4, dimensional inspection shall be performed on all parts.

NOTE The additional requirement does not apply to PSL 1 and PSL 2.
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Uniformity of layout in product specification section

Product list in Section 4 references applicable section in 14 for that product

Example –

4.1 e) casing and tubing heads (housings and adapters) (see 14.14);

14.14 Casing and Tubing Heads
14.14.1 General
14.14.2 Design
14.14.3 Materials
14.14.4 Quality Control/Testing
14.14.5 Marking (Specific Marking Table Included in Section)
14.14.6 Storing and Shipping

All Product Information has Same Layout
### 14.14.5 Marking Table 55 – Wellhead Equipment

<table>
<thead>
<tr>
<th>Required Markings</th>
<th>Required Location(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>API 6A or 6A&lt;br&gt;Temperature class(es) or ratings&lt;br&gt;Material class&lt;br&gt;Product specification level (PSL)&lt;br&gt;Performance requirements (PR) (^a)&lt;br&gt;Date of manufacture&lt;br&gt;Manufacturer’s name or mark&lt;br&gt;Serial number (if applicable)</td>
<td>Nameplate and/or body</td>
</tr>
<tr>
<td>Nominal bore size (if applicable)&lt;br&gt;End and outlet connector size&lt;br&gt;Rated working pressure&lt;br&gt;Bottom preparation&lt;br&gt;Minimum vertical bore</td>
<td>Nameplate and/or body and outside diameter of connector</td>
</tr>
<tr>
<td>Thread size (threaded products only)</td>
<td>Nameplate, body, or near thread</td>
</tr>
<tr>
<td>Ring groove type and number</td>
<td>Near each connector or thread</td>
</tr>
<tr>
<td>Hardness test values (if applicable) ((see \text{12.8}))</td>
<td>Adjacent to test location</td>
</tr>
</tbody>
</table>

**FOOTNOTE**

\(^a\) Allowable markings are PR1, PR2, or PR2F, as applicable.

All casing-head spools and tubing-head spools used as crossover spools shall additionally be marked in accordance with Section 12 and Table 56.
Editorial Changes

- Provided clarification to existing requirements and consistency of language
  - Product nomenclature
  - Uniformity of Terms
  - References
  - Number designations
    - SI & USC call-outs and usage
Editorial Changes

• Provided clarification to existing requirements and consistency of language
  • Product nomenclature
  • Uniformity of Terms
  • References
  • Number designations
    • SI & USC call-outs and usage
Product Nomenclature

• Moved product listed to section 4.1 and cleaned up terminology
• Deleted products that were not well understood (fluid sampling devices)
• Moved products out of monogram program by taking them off the LIF and/or moving them to an informative Annex
• Used consistent terminology – connectors versus connections; “fittings” grouped with “pressure boundary penetrations”
• Added product specific section reference to each product in list
• Clarified that 3G is not PSL but is PSL 3 + Gas Testing (marking to “3G” is allowed)
• Provided Table in Annex B to clearly identify applicable PSLs, identify products with no PSL & identify products with no “3G”
• “Room Temperature” – removed and replaced with "Temperature between 4 °C and 50 °C (between 40 °F and 120°F)"
• “Certificate of Conformance” replaces “Certificate of Compliance”
# Licensing Information Form for API Spec 6A: Wellhead and Tree Equipment

**Submitted By:**

<table>
<thead>
<tr>
<th>Company:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty:</td>
<td></td>
</tr>
<tr>
<td>Address:</td>
<td></td>
</tr>
</tbody>
</table>

**API Monogram Licensing**

**API Monogram Program**

1220 L Street NW

Washington, DC 20005-4070

USA

## Products

<table>
<thead>
<tr>
<th>Wellhead/Suspension Equipment:</th>
<th>Select Highest PSL to be Manufactured</th>
</tr>
</thead>
<tbody>
<tr>
<td>Casing and Tubing Heads/Spools a</td>
<td>1 [ ] 2 [ ] 3 [ ] 4 [ ]</td>
</tr>
<tr>
<td>Slip-Type Hangers b</td>
<td>1 [ ] 2 [ ] 3 [ ] 4 [ ]</td>
</tr>
<tr>
<td>Mandrel-Type Hangers b</td>
<td>1 [ ] 2 [ ] 3 [ ] 4 [ ]</td>
</tr>
<tr>
<td>Connectors, Plugs/Fittings, Gaskets:</td>
<td>Select Highest PSL to be Manufactured</td>
</tr>
<tr>
<td>Crossover Connectors a</td>
<td>1 [ ] 2 [ ] 3 [ ] 4 [ ]</td>
</tr>
<tr>
<td>Top Connectors a</td>
<td>1 [ ] 2 [ ] 3 [ ] 4 [ ]</td>
</tr>
<tr>
<td>Tees and Crosses a</td>
<td>1 [ ] 2 [ ] 3 [ ] 4 [ ]</td>
</tr>
<tr>
<td>Adapter Spools and Spacer Spools a</td>
<td>1 [ ] 2 [ ] 3 [ ] 4 [ ]</td>
</tr>
<tr>
<td>Blind and Test Flanges b</td>
<td>1 [ ] 2 [ ] 3 [ ] 4 [ ]</td>
</tr>
<tr>
<td>Threaded Connectors b</td>
<td>1 [ ] 2 [ ] 3 [ ] 4 [ ]</td>
</tr>
<tr>
<td>Bullplugs a, c</td>
<td></td>
</tr>
<tr>
<td>Valve-Removal Plugs b, c</td>
<td></td>
</tr>
<tr>
<td>Back-Pressure Valves b, c</td>
<td></td>
</tr>
<tr>
<td>Ring Gaskets b, c</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Flow-Control Equipment:</th>
<th>Select Highest PSL to be Manufactured</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gate, Ball, Plug Valves a</td>
<td>1 [ ] 2 [ ] 3 [ ] 4 [ ]</td>
</tr>
<tr>
<td>Check Valves a</td>
<td>1 [ ] 2 [ ] 3 [ ] 4 [ ]</td>
</tr>
<tr>
<td>Surface Safety Valves a,b</td>
<td>2 [ ] 3 [ ] 4 [ ]</td>
</tr>
<tr>
<td>Underwater Safety Valves a,b</td>
<td>2 [ ] 3 [ ] 4 [ ]</td>
</tr>
<tr>
<td>Boarding Shutdown Valves a,b</td>
<td>3 [ ] 4 [ ]</td>
</tr>
<tr>
<td>Chokes a</td>
<td>1 [ ] 2 [ ] 3 [ ] 4 [ ]</td>
</tr>
<tr>
<td>Pneumatic and Hydraulic Actuators c</td>
<td></td>
</tr>
<tr>
<td>Electric Actuators c</td>
<td></td>
</tr>
</tbody>
</table>

### NOTES

- Products eligible for gas testing. PSL 3 products satisfying gas test requirements may be marked “3G”
- Products not eligible for gas testing.
- Product Specification Levels (PSL) not shown for these products.
- Product Specification Levels (PSL) not shown for these products are not applicable.

Please place a check mark (✓) in each box that corresponds to the products you are applying to manufacture and monogram. (If using electronic PDF form, click your mouse in the corresponding box and the check mark will appear.)
<table>
<thead>
<tr>
<th><strong>20th Edition LIF</strong></th>
<th><strong>21st Edition LIF</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Casing and Tubing Heads</td>
<td>Casing and Tubing Heads/Spools ¹</td>
</tr>
<tr>
<td>Cross-Over Connectors</td>
<td>Crossover Connectors ¹</td>
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<tr>
<td>Tubing Head Adapters</td>
<td>&lt;deleted&gt; see Casing and Tubing Heads/Spools</td>
</tr>
<tr>
<td>Top Connectors</td>
<td>Top Connectors ¹</td>
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<tr>
<td>Tees and Crosses</td>
<td>Tees and Crosses ¹</td>
</tr>
<tr>
<td>Fluid Sampling Devices</td>
<td>&lt;deleted&gt; see Test Flange</td>
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<tr>
<td>Adapter and Spacer Spools</td>
<td>Adapter Spools and Spacer Spools ¹</td>
</tr>
<tr>
<td>Casing and Tubing Hangers</td>
<td>Mandrel-Type Hangers ²</td>
</tr>
<tr>
<td></td>
<td>Slip-Type Hangers ²</td>
</tr>
<tr>
<td>Valves</td>
<td>Gate, Ball, Plug Valves ¹</td>
</tr>
<tr>
<td></td>
<td>Check Valves ¹</td>
</tr>
<tr>
<td>Chokes</td>
<td>Chokes ¹</td>
</tr>
<tr>
<td>SSV/USV</td>
<td>Surface Safety Valves ¹, 4</td>
</tr>
<tr>
<td></td>
<td>Underwater Safety Valves ¹, 4</td>
</tr>
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<td></td>
<td>Boarding Shutdown Valves ¹, 4</td>
</tr>
<tr>
<td>SSV/USV Actuator</td>
<td>&lt;deleted&gt; see Actuators</td>
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<tr>
<td>Back Pressure Valves</td>
<td>Back-Pressure Valves ²</td>
</tr>
<tr>
<td>Flanged Connectors</td>
<td>Blind and Test Flanges ²</td>
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<tr>
<td>Threaded Connectors</td>
<td>Threaded Connectors ²</td>
</tr>
<tr>
<td>Other End Connectors</td>
<td>&lt;deleted&gt; still in specification</td>
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<tr>
<td>Bullplugs</td>
<td>Bullplugs ², 3</td>
</tr>
<tr>
<td>Valve-Removal Plugs</td>
<td>Valve-Removal Plugs ²</td>
</tr>
<tr>
<td>Actuators</td>
<td>Pneumatic and Hydraulic Actuators ³</td>
</tr>
<tr>
<td></td>
<td>Electric Actuators ³</td>
</tr>
<tr>
<td>Ring Joint Gaskets</td>
<td>Ring Gaskets ², 3</td>
</tr>
</tbody>
</table>
# Applicability of Product Specification Levels

## Table 4—Applicability of Product Specification Levels

<table>
<thead>
<tr>
<th>Equipment Category and Type (Reference Section)</th>
<th>Applicable PSLs</th>
<th>Equipment Category and Type (Reference Section)</th>
<th>Applicable PSLs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plugs, Connectors, Gaskets</td>
<td></td>
<td>Valves and Chokes</td>
<td></td>
</tr>
<tr>
<td>Flanges (blind, test)(^a) (see 14.1)</td>
<td>1, 2, 3, 4</td>
<td>Valves (gate, plug, ball) (see 14.11)</td>
<td>1, 2, 3, 4, 4</td>
</tr>
<tr>
<td>Ring gaskets (^b) (see 10.4.5 and 14.2)</td>
<td>NA</td>
<td>Valves (prepared for/and actuated) (see 14.11)</td>
<td>1, 2, 3, 4, 4</td>
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<tr>
<td>Threaded connectors (^a) (see 14.3)</td>
<td>1, 2, 3, 4</td>
<td>Check valves (see 14.11)</td>
<td>1, 2, 3, 4, 4</td>
</tr>
<tr>
<td>Tees and crosses (see 14.4)</td>
<td>1, 2, 3, 4, 4</td>
<td>Back-pressure valves (^b) (see 14.12)</td>
<td>NA</td>
</tr>
<tr>
<td>Bullplugs (^b) (see 14.5)</td>
<td>NA</td>
<td>SSVs and USVs (^c) (see 14.17)</td>
<td>2, 3, 4, 4</td>
</tr>
<tr>
<td>Valve-removal plugs (^b) (see 14.6)</td>
<td>NA</td>
<td>BSDVs (^d) (see 14.17)</td>
<td>3, 4</td>
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<tr>
<td>Top connectors (see 14.7)</td>
<td>1, 2, 3, 4, 4</td>
<td>Chokes (adjustable and positive) (see 14.15)</td>
<td>1, 2, 3, 4, 4</td>
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<tr>
<td>Crossover connectors (see 14.8)</td>
<td>1, 2, 3, 4, 4</td>
<td>Casing and Tubing Heads</td>
<td></td>
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<tr>
<td>Other end connectors (^a) (see 14.9)</td>
<td>1, 2, 3, 4</td>
<td>Housings (see 14.14)</td>
<td></td>
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<tr>
<td>Spools (adapter, spacer) (see 14.10)</td>
<td>1, 2, 3, 4, 4</td>
<td>Adapters (see 14.14)</td>
<td>1, 2, 3, 4, 4</td>
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<tr>
<td>Weld-neck flanges (^a) (see J.1)</td>
<td>1, 2, 3, 4</td>
<td>Other Equipment</td>
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</tr>
<tr>
<td>Segmented flanges (^a) (see L.1)</td>
<td>1, 2, 3, 4</td>
<td>Actuators (^b) (see 14.16)</td>
<td>NA</td>
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<tr>
<td>Nonintegral metal seals (^a) (see 10.4.5)</td>
<td>1, 2, 3, 4</td>
<td>Tree assemblies (^b) (see 14.18)</td>
<td>NA</td>
</tr>
<tr>
<td>Casing and Tubing Hangers</td>
<td></td>
<td>Packing mechanisms (^b) (see 9.1)</td>
<td>NA</td>
</tr>
<tr>
<td>Slip-type (^a) (see 14.13)</td>
<td>1, 2, 3, 4</td>
<td>Pressure boundary penetrations (^b) (see 9.2)</td>
<td>NA</td>
</tr>
<tr>
<td>Mandrel-type (^a) (see 14.13)</td>
<td>1, 2, 3, 4</td>
<td>Test and gauge ports (^b) (see 9.3)</td>
<td>NA</td>
</tr>
</tbody>
</table>

**FOOTNOTES**

\(^a\) Gas testing is not required, so PSL 3G designation is not applicable.

\(^b\) There is only one level of requirements for these products, so PSLs are not applicable (NA).

\(^c\) PSL 1 is not applicable to SSVs and USVs.

\(^d\) PSL 1 and PSL 2 are not applicable to BSDVs.

\(^e\) For products eligible for gas testing, PSL 3G designation and marking may apply.
Questions?