ASTM A192 / ASME SA192 Seamless Boiler Tubes

ASTM A192 / A192M, ASME SA192 / SA192M is the standard applicable to Seamless carbon steel boiler tubes for High-pressure service.

ASTM A192 / ASME SA192 Standard covers minimum-wall thickness, seamless carbon steel boiler and superheater tubes for high-pressure service.

ASTM A192 / ASME SA192 Tubing sizes and thicknesses usually furnished to this specification are 1/2 in. to 7 in. [12.7 to 177.8 mm] outside diameter and 0.085 to 1.000 in. [2.2 to 25.4 mm], inclusive, in minimum wall thickness. Tubing having other dimensions may be furnished, provided such tubes comply with all other requirements of this specification.

ASTM A192 / ASME SA192 Tubes mechanical property requirements do not apply to tubing smaller than 1/8 in. [3.2 mm] inside diameter or 0.015 in. [0.4 mm] thickness.
ASTM A192 / ASME SA192 Referenced Documents:

ASTM A450 / A450M Specification for General Requirements for Carbon, Ferritic Alloy, and Austenitic Alloy Steel Tubes

**Standard:** ASTM A192 / ASME SA 192

**Description Name:** ASME SA 192 / ASTM A192 boiler pipes; A192 pipes; A192 carbon steel tube; ASTM A192 seamless tubing; ASTM A192 carbon steel pipe; SA192 SEAMLESS PIPE; ASTM A192 cold drawn seamless steel tubes; ASTM A192 pipes and tubing; carbon steel tube; Seamless steel tube; steel tube.

**Size:** 1/2 in. to 7 in. [12.7 to 177.8 mm]

**Schedule:** 1.5mm-35mm

**Shape:** Round

**Production type:** Hot finished and cold finished.

**Length:** Single random length/ Double random length or as customer’s actual request max length is 27m

**Grade:** A192 / SA192

**Heat Treatment:** Hot-finished tubes need not be heat treated. Cold-finished tubes shall be heat treated after the final cold-finishing at a temperature of 1200°F [650°C] or higher.

**Test requirement:**

**ASTM A192 / ASME SA192 Tube Chemical Compositions**

<table>
<thead>
<tr>
<th>Chemical Components (%)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>0.06-0.18</td>
</tr>
<tr>
<td>Si</td>
<td>≤0.25</td>
</tr>
<tr>
<td>Mn</td>
<td>0.27-0.63</td>
</tr>
<tr>
<td>P</td>
<td>≤0.035</td>
</tr>
<tr>
<td>S</td>
<td>≤0.035</td>
</tr>
<tr>
<td>Mo</td>
<td>/</td>
</tr>
<tr>
<td>Cr</td>
<td>/</td>
</tr>
<tr>
<td>V</td>
<td>/</td>
</tr>
</tbody>
</table>

**ASTM A192 / ASME SA192 Tube Mechanical Tests Required**

<table>
<thead>
<tr>
<th>Mechanical properties</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Tensile Strength (Mpa)</td>
<td>≥325</td>
</tr>
<tr>
<td>Yield Strength (Mpa)</td>
<td>≥180</td>
</tr>
<tr>
<td>Elongation (%)</td>
<td>≥35</td>
</tr>
<tr>
<td>Hardness (HRB)</td>
<td>≤77</td>
</tr>
</tbody>
</table>

**ASTM A192 / ASME SA192 Tube Wall Thickness Tolerance**

<table>
<thead>
<tr>
<th>Seamless, Cold-Finished Tubes</th>
<th>Wall thickness Tolerance %</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### ASTM A192 / ASME SA192 Tube Outside Diameter Tolerance

<table>
<thead>
<tr>
<th>Outside Diameter</th>
<th>Over (+)</th>
<th>Under (-)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 ½ (38.1) and under</td>
<td>20</td>
<td>0</td>
</tr>
<tr>
<td>Over 1½ (38.1)</td>
<td>22</td>
<td>0</td>
</tr>
</tbody>
</table>

### ASTM A192 / ASME SA192 Tube Cut Length Tolerance

<table>
<thead>
<tr>
<th>Outside Diameter, In. (mm)</th>
<th>Cut Length, in. (mm)</th>
<th>Over (+)</th>
<th>Under (-)</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Sizes</td>
<td>3/16 [5]</td>
<td>0 [0]</td>
<td></td>
</tr>
<tr>
<td>Under 2 [50.8]</td>
<td>1/8 [3]</td>
<td>0 [0]</td>
<td></td>
</tr>
<tr>
<td>2 [50.8] and over</td>
<td>3/16 [5]</td>
<td>0 [0]</td>
<td></td>
</tr>
<tr>
<td>Under 2 [50.8]</td>
<td>1/8 [3]</td>
<td>0 [0]</td>
<td></td>
</tr>
<tr>
<td>2 [50.8] and over</td>
<td>3/16 [5]</td>
<td>0 [0]</td>
<td></td>
</tr>
</tbody>
</table>

These permissible variations in length apply to tubes before bending. They apply to cut lengths up to and including 24 ft [7.3 m]. For lengths greater than 24 ft [7.3 m], the above over-tolerances shall be increased by 1/8 in. [3 mm] for each 10 ft [3 m] or fraction thereof over 24 ft or 1/2 in. [13 mm], whichever is the lesser.

### ASTM A192 / ASME SA192 Tube Hydrostatic Test Pressures

Each tube shall be subjected to the hydrostatic pressure test, or instead of this test, a nondestructive test may be used when specified by the purchaser.

<table>
<thead>
<tr>
<th>Outside Diameter of Tube, in. [mm]</th>
<th>Hydrostatic Test Pressure, psi [MPa]</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 to 11/2 [25.4 to 38.1], excl</td>
<td>1500 [10]</td>
</tr>
</tbody>
</table>
ASTM A192 / ASME SA192 Flattening Test
One flattening test shall be made on specimens from each end of two tubes selected from each lot or fraction thereof.

ASTM A192 / ASME SA192 Flaring Test
One flaring test shall be made on specimens from each end of two tubes selected from each lot or fraction thereof. These tubes shall be selected apart from those used for the flattening test.

Ordering Information

Orders for ASTM A192 / ASME SA192 should include the following, as required, to describe the desired material adequately:

- Quantity (feet, meters, or number of lengths),
- Name of material (seamless tubes),
- Manufacture (hot-finished or cold-finished),
- Size (outside diameter and minimum wall thickness),
- Length (specific or random),
- Optional requirements,
- Test report required (see section on Certification of Specification A 450/A 450M),
- Specification designation,
- Special requirements.

Note:
- Mill test certificates will be issued according to EN10204.3
- The tubes shall be Seamless, and the testing shall be as per A 450 / A450M.

Application:

Apply to the boiler and Superheater tubes for high-pressure service.

Packing:

- Packed in wooden box or bundles protected with plastic paper, and suitably protected for sea-worthy delivery or as requested.
- The Product marking shall include the ASTM A192 or ASME SA192, size, heat no., Lot No. and Manufacture name or logo.

Photos for ASTM A192 / ASME SA192
Read more information of this products

- ASTM A92 / ASME SA192 Seamless boiler tubes

Related products

- Carbon steel
  - ASTM A179 / ASME SA179 Seamless tubes
  - ASTM A92 / ASME SA192 Seamless boiler tubes
  - ASTM A210 / ASME SA210 GRADE A1 Seamless tubes
  - ASTM A210 / ASME SA210 GRADE C Seamless tubes
- Alloy steel
  - ASTM A213 T11 T12 T22 Seamless alloy tubes
  - ASTM A 213/A 213M T2, T5, T5b, T9, T91 Seamless Alloy Steel tubes
- **ASTM A335 P1, P2, P5, P9 Seamless alloy pipes**
- **ASTM A335 P11, P12, P22, P91 seamless alloy pipes**
- **ASTM A209 ASME SA209 T1 tubes**
- **Stainless steel and Duplex**
  - **ASTM A269 Stainless Steel Tubes**
  - **ASTM A213 Stainless Steel Tubes**
  - **ASTM A249 Stainless Steel Tubes**
  - **ASTM A270 Sanitary Stainless Tubing**
  - **ASTM A312 Stainless Steel Pipes**
  - **ASTM A789 Duplex Stainless Tubing**
- **Copper and Brass**
  - **ASTM B111 Copper and Brass Tubes**

**Read more information of CTS TUBES main products**

- **Seamless carbon steel tubes**
- **Cold drawn precision steel tubes**
- **Seamless alloy steel tubes**
- **Copper alloy seamless tubes**
- **Titanium and titanium alloy tubes**
- **Stainless steel tubes**
- **U bent heat exchanger tubes**
- **Fin tubes**
- **Bearing steel tubes**

**About CTS TUBES**

CTS TUBES provide a wide range of steel products as Steel pipes, Seamless tube and seamless pipes, Alloy pipes, Pipe fittings, Stainless steel pipe, Copper tube and Titanium alloy tube used in the industry, construction etc. We are looking forward to getting in contact by phone or email and we hope that you enjoy our website. More than ten years of profound knowledge turn CTS TUBES to your competent partner as trading house for tubes, fittings and stainless steel.

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Our qualified team in our export department in China is always at your disposal and will help you. Profit by the knowledge of CTS TUBES which disposes to an intern data base. Get in Touch If you are interested in our products or cooperating

Get in Touch

If you are interested in our products or cooperation with us, even having a comment or a suggestion, please contact us now for more detailed information.

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