

Pipe Specification A53

<b>Specification</b>	<b>A53 NPS 1/8 – 26 STD. XS and XXS, ANSI Schedules 10 through 160</b>																									
<b>Scope</b>	Covers Seamless and Welded, Black and hot-dipped galvanized nominal (average) wall pipe for coiling, bending, flanging and other special purposes and is suitable for welding. Continuous-Welded pipe is not intended for flanging. Purpose for which pipe is intended should be stated on order.																									
<b>Kinds of Steel Permitted For Pipe Material</b>	Open-hearth                      Basic-oxygen Electric-furnace																									
<b>Hot-Dipped Galvanizing</b>	Sets standards for coating of pipe with zinc inside and outside by the hot-dipped process. Weight of coating must not average less than 1.8 oz. Per square foot and not less than 1.6 oz. Per square foot.																									
<b>Permissible Variations in Wall Thickness</b>	The minimum wall thickness at any point shall not be more than 12.5% under the nominal wall thickness specified.																									
<b>Chemical Requirements</b>	<table border="0"> <tr> <td></td> <td style="text-align: center;"><u>C max %</u></td> <td style="text-align: center;"><u>Mn max %</u></td> <td style="text-align: center;"><u>P max %</u></td> <td style="text-align: center;"><u>S max %</u></td> </tr> <tr> <td>Seamless or ERW</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>    Grade A</td> <td style="text-align: center;">0.25</td> <td style="text-align: center;">0.95</td> <td style="text-align: center;">0.05</td> <td style="text-align: center;">0.06</td> </tr> <tr> <td>    Grade B</td> <td style="text-align: center;">0.30</td> <td style="text-align: center;">1.20</td> <td style="text-align: center;">0.05</td> <td style="text-align: center;">0.06</td> </tr> <tr> <td>Continuous-weld</td> <td style="text-align: center;">-</td> <td style="text-align: center;">-</td> <td style="text-align: center;">0.08</td> <td style="text-align: center;">0.06</td> </tr> </table>		<u>C max %</u>	<u>Mn max %</u>	<u>P max %</u>	<u>S max %</u>	Seamless or ERW					Grade A	0.25	0.95	0.05	0.06	Grade B	0.30	1.20	0.05	0.06	Continuous-weld	-	-	0.08	0.06
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<b>Hydrostatic Testing</b>	Hydrostatic inspection test pressures for plain end and threaded and coupled pipe are specified. Hydrostatic pressure shall be maintained for not less than 5 seconds for all sizes of seamless and electric resistance-weld pipe.																									
<b>Permissible Variations in Weights per Foot</b>	Plus or Minus 10%																									
<b>Permissible Variations in Outside Diameter</b>	Outside Diameter at any point shall not vary from standard specified more than -- <table border="0"> <tr> <td style="text-align: center;"><u>For NPS 1 1/2 and Smaller Sizes</u></td> <td style="text-align: center;"><u>For NPS 2 and Larger Sizes</u></td> </tr> <tr> <td style="text-align: center;">1/64 "                      1/32" under</td> <td style="text-align: center;">1% over                      1% under</td> </tr> </table>	<u>For NPS 1 1/2 and Smaller Sizes</u>	<u>For NPS 2 and Larger Sizes</u>	1/64 "                      1/32" under	1% over                      1% under																					
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<b>Mechanical Tests Specified</b>	<p>Tensile Test -- Transverse required on ERW for NPS 8 and large.</p> <p>Sending Test (Cold) -- STD and XS-NPS 2 and under XXS-NPS 1 1/4 and under.</p> <table border="0"> <tr> <td></td> <td style="text-align: center;"><u>Degree of Bend</u></td> <td style="text-align: center;"><u>Diameter of Mandrel</u></td> </tr> <tr> <td>    For Normal A53 Uses</td> <td style="text-align: center;">90</td> <td style="text-align: center;">12 x nom. dia. of pipe</td> </tr> <tr> <td>    For Close Coiling</td> <td style="text-align: center;">180</td> <td style="text-align: center;">8 x nom. dia. of pipe</td> </tr> </table> <p>Flattening Test -- NPS 2 and larger STD and XS. (Not required for XXS pipe).</p>		<u>Degree of Bend</u>	<u>Diameter of Mandrel</u>	For Normal A53 Uses	90	12 x nom. dia. of pipe	For Close Coiling	180	8 x nom. dia. of pipe																
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<b>Number of Tests Required</b>	<p>Seamless and Electric-Resistance-Welded -- Bending, flattening, tensile on one length of pipe from each lot of 500 lengths or less of a size.</p> <p>Continuous-Weld -- Bending, flattening, tensile</p> <table border="0"> <tr> <td style="text-align: center;"><u>NPS 1 1/2 &amp; smaller</u></td> <td style="text-align: center;"><u>NPS 2 &amp; larger</u></td> </tr> <tr> <td style="text-align: center;">one/25 tons</td> <td style="text-align: center;">one/50 tons</td> </tr> </table>	<u>NPS 1 1/2 &amp; smaller</u>	<u>NPS 2 &amp; larger</u>	one/25 tons	one/50 tons																					
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<b>Lengths</b>	<p>Standard Weight</p> <p>    Single Random -- 16' - 22'. 5% may be jointers. If Plain Ends -- 5% may be 12' - 16'.</p> <p>    Double Random -- Shortest Length 22', minimum average for order 35'.</p> <p>Extra Strong &amp; Double Extra Strong</p> <p>    Single Random -- 12' - 22'. 5% may be 6' - 12'.</p> <p>    Double Random (XS and lighter) -- Shortest Length 22', minimum average for order 35'.</p> <p>    Lengths longer than single random with wall thicknesses heavier than XS subject to negotiation.</p>																									
<b>Required Markings on Each Length (On Tags attached to each Bundle in case of Bundled Pipe)</b>	<p>Rolled, Stamped or Stenciled (Mfrs. Option)</p> <p>Name or brand of manufacturer.</p> <p>Kind of pipe, that is, Continuous Welded, Electric-Resistance-Welded A, Electric-Resistance-Welded B, Seamless A; or Seamless B; XS for extra strong, XXS for double extra strong.</p> <p>ASTM A53</p> <p>Length of pipe.</p>																									
<b>General Information</b>	<p>Couplings -- Applied handling tight. Couplings, 2" and smaller straight tapped, other sizes taper tapped.</p> <p>Thread Protection -- Applied to pipe 4" and large.</p> <p>End Finish (unless otherwise specified) --</p> <p>    STD or XS, or wall thicknesses less than 0.500 in. (excluding XXS): Plain and beveled.</p> <p>    All XXS and wall thicknesses over 0.500 in.: Plain end square cut.</p>																									