

Pipe Specification API 5L

<b>Specification</b>	<b>API 5L NPS 1/8 -- 26</b>			
<b>Scope</b>	Covers WELDED and SEAMLESS pipe suitable for use in conveying gas, water, and oil in both the oil and natural gas industries.			
<b>Kinds of Steel Permitted For Pipe Material</b>	Open-hearth                      Basic-oxygen Electric-furnace			
<b>Hot-Dipped Galvanizing</b>	May be ordered galvanized.			
<b>Permissible Variations in Wall Thickness</b>		<u>Grade A, B, A25</u>		<u>X42 through X80</u>
	NPS 2 1/2 and smaller -- Seamless and welded, %	+20 -- 12.5		+15 -- 12.5
	NPS 3 -- Seamless and welded, %	+18 -- 12.5		+15 -- 12.5
	NPS 4 through 18 -- Seamless and welded, %	+15 -- 12.5		+15 -- 12.5
	NPS 20 and larger -- Welded, %	+17.5 -- 10.0		+19.5 -- 8.0
	NPS 20 and larger -- Seamless, %	+15.0 -- 12.5		+17.5 -- 10.0
<b>Chemical Requirements</b>		<u>C max %   Mn max %   P max %   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
<b>Tensile Requirements</b>	Lists minimum yield and tensile strength for all grads as well as a maximum tensile strength for X80. Maximum yield-to-tensile ratios outlined for cold-expanded pipe--may be waived when a fracture toughness requirement is specified.			
<b>Hydrostatic Testing</b>	Lists hydrostatic inspection test pressures for all sizes and grades covered by the specification.		Test Pressures are held for not less than: Seamless (all sizes) -- 5 seconds Welded (NPS 18 and smaller) -- 5 seconds (NPS 20 and larger) -- 10 seconds	
<b>Permissible Variations in Weights per Foot</b>	For each length of Standard Weight, Regular Weight, Extra Strong, and Double Extra Strong -- Not more than plus 10% minus 3.5%.		For Special Plain End -- Not more than plus 10% minus 5%.  For Carload Lots -- Not more than minus 1.75%.	
<b>Permissible Variations in Outside Diameter</b>	<b>Outside Diameter</b>	<b>Sizes Over Under</b>		
	at any point shall not vary from standard specified more than: -----			
		NPS 1 1/2 and smaller	1/64"	1/32"
		NPS 2 through 4	1%	1% (Buttweld Only)
		NPS 2 through 18	.75%	.75%
	NPS 20 through 26			
	Non-expanded	1%	1%	
<b>Mechanical Tests Specified</b>	<b>Tensile Test</b>	<b>Bending Test (Cold) -- 2" and smaller Buttweld.</b>		
	Seamless and Buttwelded -- All Sizes -- Longitudinal Specimens	<b>Degree of Bend    Diameter of Mandrel</b>		
	Electric Weld -- NPS 6 and smaller -- Longitudinal NPS 8 and Larger -- Transverse	For all API Uses                      90                      12 x OD of pipe		
<b>Number of Tests Required</b>		<b>On One Length From Each Lot of</b>		<b>Flattening</b> Non-Expanded Electric-Weld for single lengths crop ends from each length. For multiple lengths, crop ends from each length, plus 2 intermediate rings.
		<b>NPS</b>		
	<b>Tensile</b>	5 and smaller	40 or less	
		6 through 12	200 or less	
		14 and larger	100 or less	
	2 and smaller (Buttweld)	25 tons or less		
<b>Bending</b>	1 1/2 and smaller (Buttweld)	50 tons or less		
<b>Lengths</b>		<b>Shortest Length In Entire Shipment</b>	<b>Shortest Length in 95% of Entire Shipment</b>	<b>Minimum Average Length of Entire Shipment</b>
	<b>Threaded &amp; Coupled Pipe</b>			
	Single Random	16' 0"	18' 0"	--
	Double Random	22' 0"	--	35' 0"
<b>Required Markings on Each Length (On Tags attached to each Bundle in case of Bundled Pipe)</b>	<b>Paint Stenciled or Die Stamped (by agreement).</b> Manufacturer's name or mark. Spec 5L, size, weight per foot, grade, process of manufacture, type of steel, length (NPS 4 and larger only). Test pressure when higher than labulated(NPS 2 and larger only). Heat treat symbols, as applicable -- HN, HS, HA or HQ.			
<b>General Information</b>	<b>Supplementary Requirements available when specified.</b> SR5--Charpy impact Testing--Welded Pipe 20" & larger--Grade X52 or higher. SR3 -- Color Identification.                      SR6 -- Drop Weight Tear Testing--Welded Pipe 20" & larger--Grade X52 or higher. SR4 -- Nondestructive Inspection of Seamless Pipe.    SR8 -- Fracture Tough ness Testing of Line Pipe.			