

DIGEST OF COMMON - PIPE SPECIFICATIONS

CONTINUED

Specification and Size Range Where Indicated	Scope	Type	Grades	Chemistry																																																																																																																					
A-120 (has been withdrawn) NPS 1/8 - 16	Blk & Galv Welded & SMLS pipe for ordinary use - not intended for close coiling bending or high temperature service	CW ERW SMLS	None Specified	None Specified																																																																																																																					
A-53 NPS 1/8 - 26	Blk & Galv Welded & SMLS pipe suitable for welding and forming operations CW not intended for flanging. Grade B not intended for close coiling or severe cold forming. Pipe required for close coiling should be specified on order.	CW - Type F ERW - Type E SMLS - Type S	CW - Type F ERW & SMLS Grade A & B	<p style="text-align: center;">Composition, max %</p> <table border="1"> <thead> <tr> <th></th> <th>C</th> <th>Mg</th> <th>P</th> <th>S</th> </tr> </thead> <tbody> <tr> <td colspan="5" style="text-align: center;">Type S (seamless pipe)</td> </tr> <tr> <td colspan="5">Open-health, electric-furnace or basic-oxygen:</td> </tr> <tr> <td>Grade A</td> <td>0.25</td> <td>.095</td> <td>0.05</td> <td>0.045</td> </tr> <tr> <td>Grade B</td> <td>0.30</td> <td>1.20</td> <td>0.05</td> <td>0.045</td> </tr> <tr> <td colspan="5" style="text-align: center;">Type E (electric resistance welded)</td> </tr> <tr> <td colspan="5">Open-health, electric-furnace or basic-oxygen:</td> </tr> <tr> <td>Grade A</td> <td>0.25</td> <td>.095</td> <td>0.05</td> <td>0.045</td> </tr> <tr> <td>Grade B</td> <td>0.30</td> <td>1.20</td> <td>0.05</td> <td>0.045</td> </tr> <tr> <td colspan="5" style="text-align: center;">Type F (furnace welded pipe)</td> </tr> <tr> <td colspan="5">Open-health, electric-furnace or basic-oxygen:</td> </tr> <tr> <td></td> <td>0.30</td> <td>1.20</td> <td>0.05</td> <td>0.045</td> </tr> </tbody> </table> <p style="text-align: center;">Ladle and Check Limits</p>		C	Mg	P	S	Type S (seamless pipe)					Open-health, electric-furnace or basic-oxygen:					Grade A	0.25	.095	0.05	0.045	Grade B	0.30	1.20	0.05	0.045	Type E (electric resistance welded)					Open-health, electric-furnace or basic-oxygen:					Grade A	0.25	.095	0.05	0.045	Grade B	0.30	1.20	0.05	0.045	Type F (furnace welded pipe)					Open-health, electric-furnace or basic-oxygen:						0.30	1.20	0.05	0.045																																																									
	C	Mg	P	S																																																																																																																					
Type S (seamless pipe)																																																																																																																									
Open-health, electric-furnace or basic-oxygen:																																																																																																																									
Grade A	0.25	.095	0.05	0.045																																																																																																																					
Grade B	0.30	1.20	0.05	0.045																																																																																																																					
Type E (electric resistance welded)																																																																																																																									
Open-health, electric-furnace or basic-oxygen:																																																																																																																									
Grade A	0.25	.095	0.05	0.045																																																																																																																					
Grade B	0.30	1.20	0.05	0.045																																																																																																																					
Type F (furnace welded pipe)																																																																																																																									
Open-health, electric-furnace or basic-oxygen:																																																																																																																									
	0.30	1.20	0.05	0.045																																																																																																																					
A-106 NPS 1/8 - 26	SMLS for high temperature service. Suitable for bending, flanging, and similar forming operations.	SMLS Only	Grades A, B & C	<p style="text-align: center;">Composition, max %</p> <table border="1"> <thead> <tr> <th>Element*</th> <th>Grade A</th> <th>Grade B</th> <th>Grade C</th> </tr> </thead> <tbody> <tr> <td>Chromium</td> <td>0.40</td> <td>0.40</td> <td>0.40</td> </tr> <tr> <td>Copper</td> <td>0.40</td> <td>0.40</td> <td>0.40</td> </tr> <tr> <td>Molybdenum</td> <td>0.15</td> <td>0.15</td> <td>0.15</td> </tr> <tr> <td>Nickel</td> <td>0.40</td> <td>0.40</td> <td>0.40</td> </tr> <tr> <td>Vanadium</td> <td>0.08</td> <td>0.08</td> <td>0.08</td> </tr> </tbody> </table> <p>*These five elements combined shall not exceed 1%.</p>	Element*	Grade A	Grade B	Grade C	Chromium	0.40	0.40	0.40	Copper	0.40	0.40	0.40	Molybdenum	0.15	0.15	0.15	Nickel	0.40	0.40	0.40	Vanadium	0.08	0.08	0.08																																																																																													
Element*	Grade A	Grade B	Grade C																																																																																																																						
Chromium	0.40	0.40	0.40																																																																																																																						
Copper	0.40	0.40	0.40																																																																																																																						
Molybdenum	0.15	0.15	0.15																																																																																																																						
Nickel	0.40	0.40	0.40																																																																																																																						
Vanadium	0.08	0.08	0.08																																																																																																																						
A-135 NPS 2-30	Electric resistance welded for conveying fluid, gas or vapor.	ERW Only	Grades A & B	<p style="text-align: center;">% max</p> <table border="1"> <thead> <tr> <th>Element</th> <th>Grade A</th> <th>Grade B</th> </tr> </thead> <tbody> <tr> <td>Carbon</td> <td>0.25</td> <td>0.30</td> </tr> <tr> <td>Manganese</td> <td>0.95</td> <td>1.20</td> </tr> <tr> <td>Phosphorus</td> <td>0.035</td> <td>0.035</td> </tr> <tr> <td>Sulfur</td> <td>0.035</td> <td>0.035</td> </tr> </tbody> </table> <p style="text-align: center;">Ladle and check limits</p>	Element	Grade A	Grade B	Carbon	0.25	0.30	Manganese	0.95	1.20	Phosphorus	0.035	0.035	Sulfur	0.035	0.035																																																																																																						
Element	Grade A	Grade B																																																																																																																							
Carbon	0.25	0.30																																																																																																																							
Manganese	0.95	1.20																																																																																																																							
Phosphorus	0.035	0.035																																																																																																																							
Sulfur	0.035	0.035																																																																																																																							
A-252 NPS 6 - 24	ERW or SMLS for Pipe Piles	ERW SMLS DSAW	Grades 1, 2, 3	<p style="text-align: center;">All grades .05 Max. % Phos.</p> <p style="text-align: center;">Ladle & check limits</p>																																																																																																																					
A-333	SMLS & Welded Carbon & Alloy Steel pipe for low temperature service	SMLS ERW	1, 3, 4, 6, 7, 8, 9	<p style="text-align: center;">% max</p> <table border="1"> <thead> <tr> <th>GR</th> <th>C</th> <th>MN</th> <th>P</th> <th>S</th> <th>Si</th> <th>NI</th> <th>CR</th> <th>CU</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>.30</td> <td>.40 - 1.05</td> <td>.025</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>3</td> <td>.19</td> <td>.31 - .64</td> <td>.025</td> <td>.025</td> <td>.18 - .37</td> <td>.318 - 3.82</td> <td></td> <td></td> </tr> <tr> <td>4</td> <td>.12</td> <td>.50 - 1.05</td> <td>.025</td> <td>.025</td> <td>.08 - .37</td> <td>.47 - .98</td> <td>.44 - 1.01</td> <td>.40 - .75</td> </tr> <tr> <td>6</td> <td>.30</td> <td>.29 - 1.06</td> <td>.025</td> <td>.025</td> <td>.10min</td> <td></td> <td></td> <td></td> </tr> <tr> <td>7</td> <td>.10</td> <td>.90 max.</td> <td>.025</td> <td>.025</td> <td>.13 - .32</td> <td>2.03 - 2.57</td> <td></td> <td></td> </tr> <tr> <td>8</td> <td>.13</td> <td>.90 max.</td> <td>.025</td> <td>.025</td> <td>.13 - .32</td> <td>8.40 - 9.60</td> <td></td> <td></td> </tr> <tr> <td>9</td> <td>.20</td> <td>.40 - 1.05</td> <td>.025</td> <td>.025</td> <td></td> <td>1.80 - 2.24</td> <td>.75 - 1.25</td> <td></td> </tr> <tr> <td>10</td> <td>.20</td> <td>1.15 - 1.50</td> <td>.035</td> <td>.018</td> <td>.10 - .36</td> <td>.25 max.</td> <td>.15 max.</td> <td>.06 max.</td> </tr> <tr> <td>11</td> <td>.10</td> <td>.90 max.</td> <td>.025</td> <td>.025</td> <td>.036 max.</td> <td>.350 - 37.0</td> <td>.50 max.</td> <td></td> </tr> </tbody> </table>	GR	C	MN	P	S	Si	NI	CR	CU	1	.30	.40 - 1.05	.025						3	.19	.31 - .64	.025	.025	.18 - .37	.318 - 3.82			4	.12	.50 - 1.05	.025	.025	.08 - .37	.47 - .98	.44 - 1.01	.40 - .75	6	.30	.29 - 1.06	.025	.025	.10min				7	.10	.90 max.	.025	.025	.13 - .32	2.03 - 2.57			8	.13	.90 max.	.025	.025	.13 - .32	8.40 - 9.60			9	.20	.40 - 1.05	.025	.025		1.80 - 2.24	.75 - 1.25		10	.20	1.15 - 1.50	.035	.018	.10 - .36	.25 max.	.15 max.	.06 max.	11	.10	.90 max.	.025	.025	.036 max.	.350 - 37.0	.50 max.																												
GR	C	MN	P	S	Si	NI	CR	CU																																																																																																																	
1	.30	.40 - 1.05	.025																																																																																																																						
3	.19	.31 - .64	.025	.025	.18 - .37	.318 - 3.82																																																																																																																			
4	.12	.50 - 1.05	.025	.025	.08 - .37	.47 - .98	.44 - 1.01	.40 - .75																																																																																																																	
6	.30	.29 - 1.06	.025	.025	.10min																																																																																																																				
7	.10	.90 max.	.025	.025	.13 - .32	2.03 - 2.57																																																																																																																			
8	.13	.90 max.	.025	.025	.13 - .32	8.40 - 9.60																																																																																																																			
9	.20	.40 - 1.05	.025	.025		1.80 - 2.24	.75 - 1.25																																																																																																																		
10	.20	1.15 - 1.50	.035	.018	.10 - .36	.25 max.	.15 max.	.06 max.																																																																																																																	
11	.10	.90 max.	.025	.025	.036 max.	.350 - 37.0	.50 max.																																																																																																																		
A-335 NPS 1/8 - 26	SMLS Alloy Steel Pipe for high temperature service	SMLS Only	P1, P2, P5, P5b, P5c, P9, P11, P12, P15, P21, P22, P91	<table border="1"> <thead> <tr> <th>Grade</th> <th>UNS Des.</th> <th>C</th> <th>Mg</th> <th>P max</th> <th>S max</th> <th>Si</th> <th>Cr</th> <th>Mo</th> </tr> </thead> <tbody> <tr> <td>P1</td> <td>K11522</td> <td>.10-20</td> <td>30-80</td> <td>.025</td> <td>.025</td> <td>.10-50</td> <td></td> <td>44-66</td> </tr> <tr> <td>P2</td> <td>K11547</td> <td>.10-20</td> <td>30-61</td> <td>.025</td> <td>.025</td> <td>.10-30</td> <td>5-81</td> <td>44-66</td> </tr> <tr> <td>P5</td> <td>K41545</td> <td>.15max</td> <td>30-80</td> <td>.025</td> <td>.025</td> <td>.50max</td> <td>4-6</td> <td>45-66</td> </tr> <tr> <td>P5b</td> <td>K51545</td> <td>.15max</td> <td>30-80</td> <td>.025</td> <td>.025</td> <td>1.00-2.00</td> <td>4-6</td> <td>45-66</td> </tr> <tr> <td>P5c</td> <td>K41246</td> <td>.12max</td> <td>30-80</td> <td>.025</td> <td>.025</td> <td>.50max</td> <td>4-6</td> <td>45-66</td> </tr> <tr> <td>P9</td> <td>S50400</td> <td>.15max</td> <td>30-80</td> <td>.025</td> <td>.025</td> <td>25-1.00</td> <td>8-10</td> <td>80-1.10</td> </tr> <tr> <td>P11</td> <td>K11507</td> <td>.05-15</td> <td>30-80</td> <td>.025</td> <td>.025</td> <td>.50-1.00</td> <td>1-15</td> <td>44-66</td> </tr> <tr> <td>P12</td> <td>K11582</td> <td>.05-15</td> <td>30-80</td> <td>.025</td> <td>.025</td> <td>.50max</td> <td>.80-1.25</td> <td>44-66</td> </tr> <tr> <td>P15</td> <td>K11578</td> <td>.05-15</td> <td>30-80</td> <td>.025</td> <td>.025</td> <td>1.15-1.65</td> <td></td> <td>44-66</td> </tr> <tr> <td>P21</td> <td>K31545</td> <td>.05-15</td> <td>30-80</td> <td>.025</td> <td>.025</td> <td>.50max</td> <td>2.65-3.35</td> <td>80-1.06</td> </tr> <tr> <td>P22</td> <td>K21590</td> <td>.05-15</td> <td>30-80</td> <td>.025</td> <td>.025</td> <td>.50max</td> <td>1.9-2.5</td> <td>87-1.13</td> </tr> <tr> <td>P91</td> <td>K91580</td> <td>.08-12</td> <td>30-80</td> <td>.020</td> <td>.010</td> <td>20-50</td> <td>8-9.5</td> <td>85-1.05</td> </tr> </tbody> </table> <p>a. New designation established in accordance with Practice E-527 and SAE J1086, Practice for Numbering Metals and Alloys (UNS). b. Grade P5c shall have a titanium content of not less than 4 times the carbon content and not more than 0.70% or a columbium content of 8 to 10 times the carbon content.</p>	Grade	UNS Des.	C	Mg	P max	S max	Si	Cr	Mo	P1	K11522	.10-20	30-80	.025	.025	.10-50		44-66	P2	K11547	.10-20	30-61	.025	.025	.10-30	5-81	44-66	P5	K41545	.15max	30-80	.025	.025	.50max	4-6	45-66	P5b	K51545	.15max	30-80	.025	.025	1.00-2.00	4-6	45-66	P5c	K41246	.12max	30-80	.025	.025	.50max	4-6	45-66	P9	S50400	.15max	30-80	.025	.025	25-1.00	8-10	80-1.10	P11	K11507	.05-15	30-80	.025	.025	.50-1.00	1-15	44-66	P12	K11582	.05-15	30-80	.025	.025	.50max	.80-1.25	44-66	P15	K11578	.05-15	30-80	.025	.025	1.15-1.65		44-66	P21	K31545	.05-15	30-80	.025	.025	.50max	2.65-3.35	80-1.06	P22	K21590	.05-15	30-80	.025	.025	.50max	1.9-2.5	87-1.13	P91	K91580	.08-12	30-80	.020	.010	20-50	8-9.5	85-1.05
Grade	UNS Des.	C	Mg	P max	S max	Si	Cr	Mo																																																																																																																	
P1	K11522	.10-20	30-80	.025	.025	.10-50		44-66																																																																																																																	
P2	K11547	.10-20	30-61	.025	.025	.10-30	5-81	44-66																																																																																																																	
P5	K41545	.15max	30-80	.025	.025	.50max	4-6	45-66																																																																																																																	
P5b	K51545	.15max	30-80	.025	.025	1.00-2.00	4-6	45-66																																																																																																																	
P5c	K41246	.12max	30-80	.025	.025	.50max	4-6	45-66																																																																																																																	
P9	S50400	.15max	30-80	.025	.025	25-1.00	8-10	80-1.10																																																																																																																	
P11	K11507	.05-15	30-80	.025	.025	.50-1.00	1-15	44-66																																																																																																																	
P12	K11582	.05-15	30-80	.025	.025	.50max	.80-1.25	44-66																																																																																																																	
P15	K11578	.05-15	30-80	.025	.025	1.15-1.65		44-66																																																																																																																	
P21	K31545	.05-15	30-80	.025	.025	.50max	2.65-3.35	80-1.06																																																																																																																	
P22	K21590	.05-15	30-80	.025	.025	.50max	1.9-2.5	87-1.13																																																																																																																	
P91	K91580	.08-12	30-80	.020	.010	20-50	8-9.5	85-1.05																																																																																																																	
A-501 Square & Rectangular 1" - 10" Round 1" - 24"	Hot Formed Welded & SMLS Round, Square & Rectangular Tubing	SMLS Welded	None Specified	<p style="text-align: center;">Composition %</p> <table border="1"> <thead> <tr> <th>Element</th> <th>Heat Analysis</th> <th>Product Analysis</th> </tr> </thead> <tbody> <tr> <td>Carbon, max.</td> <td>0.26</td> <td>0.30</td> </tr> <tr> <td>Phosphorus, max.</td> <td>0.035</td> <td>0.045</td> </tr> <tr> <td>Sulfur, max.</td> <td>0.035</td> <td>0.045</td> </tr> <tr> <td>Copper, min.*</td> <td>0.20</td> <td>0.18</td> </tr> </tbody> </table> <p>*When copper steel is specified</p>	Element	Heat Analysis	Product Analysis	Carbon, max.	0.26	0.30	Phosphorus, max.	0.035	0.045	Sulfur, max.	0.035	0.045	Copper, min.*	0.20	0.18																																																																																																						
Element	Heat Analysis	Product Analysis																																																																																																																							
Carbon, max.	0.26	0.30																																																																																																																							
Phosphorus, max.	0.035	0.045																																																																																																																							
Sulfur, max.	0.035	0.045																																																																																																																							
Copper, min.*	0.20	0.18																																																																																																																							
A-587 NPS 1/2" - 10"	EW Pipe for process lines suitable for severe forming involving flanging and close bending	ERW Only	None Specified	<table border="1"> <thead> <tr> <th colspan="4">% MAX.</th> <th colspan="2">% MIN.</th> </tr> <tr> <th>C</th> <th>MN</th> <th>P</th> <th>S</th> <th>AL</th> <th></th> </tr> </thead> <tbody> <tr> <td>.15</td> <td>.27-.63</td> <td>.035</td> <td>.035</td> <td>.02-.11</td> <td></td> </tr> </tbody> </table>	% MAX.				% MIN.		C	MN	P	S	AL		.15	.27-.63	.035	.035	.02-.11																																																																																																				
% MAX.				% MIN.																																																																																																																					
C	MN	P	S	AL																																																																																																																					
.15	.27-.63	.035	.035	.02-.11																																																																																																																					
A-589 Type 1 NPS 6-16	SMLS & Welded Water Pipe Type 1 Drive Pipe	Type 1 SMLS or Welded	Type 1 A or B	<p style="text-align: center;">% MAX.</p> <table border="1"> <thead> <tr> <th>P</th> <th>S</th> </tr> </thead> <tbody> <tr> <td>.050</td> <td>.060</td> </tr> </tbody> </table>	P	S	.050	.060																																																																																																																	
P	S																																																																																																																								
.050	.060																																																																																																																								

DIGEST OF COMMON - PIPE SPECIFICATIONS

CONTINUED

Specification and Size Range Where Indicated	Tensiles	Hydrostatic	Tests Bend	Flattening	Wall Tolerance	OD Tolerance
A-120 (has been withdrawn) NPS 1/8 - 16	None Specified	yes	None Specified	None Specified	Min. wall shall not be more than 12.5% under nominal wall	1/2" - 1-1/2" + 1/64" -1/32" 2" & over +/- 1% of OD
A-53 NPS 1/8 - 26	MIN. P.S.I.	yes	yes - 2" & under Std. & XHY 90° to 12 times nom. diameter. Close coiling 180° to 8 times nom. dia.	yes - over 2" nom. XHY & lighter. CW 90° to 75% ODv	Min. wall shall not be more than 12.5% under nominal wall	1/2" - 1-1/2" + 1/64" -1/32" 2" & over +/- 1% of OD
	Grade Yield Tensile					
	CW 25,000 48,000					
	GR-A 30,000 48,000 GR-B 35,000 60,000					
A-106 NPS 1/8 - 26	MIN. P.S.I.	yes	Not req'd over 2" diameter. 90° to 12 times dia. Close coiling 180° to 8 times diameter	yes - over 2" dia.	Min. wall shall not be more than 12.5% under nominal wall	1/8" - 1-1/2" + 1/64" -1/32" 2" - 4" +/- 1/32" 5" - 8" + 1/16" -1/32" 10" - 18" + 3/32" -1/32" 18" & over-1/8" -1/32"
	Grade Yield Tensile					
	A 30,000 48,000 B 35,000 60,000 C 40,000 70,000					
A-135 NPS 2-30	MIN. P.S.I.	yes	None Specified	yes - for all sizes to 2/3 OD	Min. wall shall not be more than 12.5% under nominal wall	For all sizes +/- 1% of OD
	Grade Yield Tensile					
	A 30,000 48,000 B 35,000 60,000					
A-252 NPS 6 - 24	MIN. P.S.I.	None Specified	None Specified	None Specified	Min. wall shall not be more than 12.5% under nominal wall. Surface defects no more than 25% deep	+/- 1% of OD
	Grade Yield Tensile					
	1 30,000 50,000 2 35,000 60,000 3 40,000 66,000					
A-333	MIN. P.S.I.	yes	None Specified	yes - for all sizes	Min. wall shall not be more than 12.5% under nominal wall	2" - 4" +/- 1/32" 5" - 8" + 1/16" - 1/32" 10" - 18" + 3/32" - 1/32" 18" & + 1/8" Over - 1/32"
	Grade Yield Tensile					
	1 30,000 50,000 2 35,000 65,000 3 35,000 60,000 6 35,000 60,000 7 35,000 65,000 8 75,000 100,000 9 46,000 63,000 10 65,000 80,000 11 35,000 65,000					
A-335 NPS 1/8 - 26	MIN. P.S.I.	yes	yes	yes	Min. wall shall not be more than 12.5% under nominal wall	1/8" - 1-1/2" + 1/64" -1/32" 2" - 4" +/- 1/32" 4" - 8" + 1/16" - 1/32" 10" - 18" + 3/32" - 1/32" 20" - 26" + 1/8" -1/32"
	Grade Yield Tensile					
	P1 30,000 55,000 P2 30,000 55,000 P-91 60,000 85,000 All					
	Others 30,000 60,000					
A-501 Square & Rectangular 1" - 10" Round 1" - 24"	MIN. P.S.I.	None Specified	Round None Shapes Yes	None Specified	None Specified Weight shall not be less than specified by more than 3.5%. Surface defect no more than 15%	Round: 1-1/2" & under + 1/65" - 1/32" 2" & over +/- 1% of OD Shapes: 2-1/2" & under +/- .020 2-1/2" - 3-1/2" +/- .025 3-1/2" - 5-1/2" +/- .030 5-1/2" & over +/- 1%
	Yield Tensile					
	36,000 58,000					
A-587 NPS 1/2" - 10"	MIN. P.S.I.	None Specified Nondestructive test shall be made	None Specified A flange test shall be made	yes - for all sizes	Refer to table 4 ASTM Standards for A-587	Refer to table 4 ASTM Standards for A-587
	Yield Tensile					
	30,000 48,000					
A-589 Type 1 NPS 6-16	MIN. P.S.I.	yes	None Specified	None Specified	Min. wall shall not be more than 12.5% nominal wall	1-1/2" & under + 1/64" - 1/32" 2" & over +/- 1% of OD
	Grade Yield Tensile					
	CW 25,000 45,000 A 30,000 48,000 B 35,000 60,000					

DIGEST OF COMMON - PIPE SPECIFICATIONS (cont.)

Specification and Size Range Where Indicated	Scope	Type	Grades	Chemistry																																																																																				
Type II NPS 1-12	Type II Water well reamed and drifted	Type II SMLS, ERW or CW	Type II A or CW	<table border="1"> <thead> <tr> <th colspan="2">% MAX.</th> </tr> <tr> <th>P</th> <th>S</th> </tr> </thead> <tbody> <tr> <td>.050</td> <td>.060</td> </tr> </tbody> </table>	% MAX.		P	S	.050	.060																																																																														
% MAX.																																																																																								
P	S																																																																																							
.050	.060																																																																																							
Type III NPS 1-2	Type III Driven well pipe	Type III SMLS, ERW or CW	Type III A or CW																																																																																					
Type IV NPS 3-8	Type IV Water well casing	Type IV SMLS, ERW or CW	Type IV A or CW																																																																																					
API 5L	Welded and SMLS Line pipe	CW, ERW, SMLS DSAW	CW Grade 25 DSAW ERW & SMLS Grades A & B	<table border="1"> <thead> <tr> <th colspan="5">Ladle % Max</th> </tr> <tr> <th>GR</th> <th>C</th> <th>MN</th> <th>P</th> <th>S</th> </tr> </thead> <tbody> <tr> <td>A-25</td> <td>.21</td> <td>.60</td> <td>.08</td> <td>.06</td> </tr> <tr> <td>SMLS</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>A</td> <td>.22</td> <td>.90</td> <td>.04</td> <td>.05</td> </tr> <tr> <td>B</td> <td>.27</td> <td>1.15</td> <td>.04</td> <td>.05</td> </tr> <tr> <td>ERW</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>A</td> <td>.21</td> <td>.90</td> <td>.04</td> <td>.05</td> </tr> <tr> <td>B</td> <td>.26</td> <td>1.15</td> <td>.04</td> <td>.05</td> </tr> </tbody> </table>	Ladle % Max					GR	C	MN	P	S	A-25	.21	.60	.08	.06	SMLS					A	.22	.90	.04	.05	B	.27	1.15	.04	.05	ERW					A	.21	.90	.04	.05	B	.26	1.15	.04	.05																																							
Ladle % Max																																																																																								
GR	C	MN	P	S																																																																																				
A-25	.21	.60	.08	.06																																																																																				
SMLS																																																																																								
A	.22	.90	.04	.05																																																																																				
B	.27	1.15	.04	.05																																																																																				
ERW																																																																																								
A	.21	.90	.04	.05																																																																																				
B	.26	1.15	.04	.05																																																																																				
API 5LX	Welded and SMLS High test line pipe	ERW & SMLS DSAW	X-42 X-46 X-52 X-60 X-65 X-70 X-80	<table border="1"> <thead> <tr> <th colspan="7">Ladle % Max % Min</th> </tr> <tr> <th>GR</th> <th>C</th> <th>MN</th> <th>P</th> <th>S</th> <th>CB</th> <th>V</th> </tr> </thead> <tbody> <tr> <td>SMLS</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>X-42</td> <td>.29</td> <td>1.25</td> <td>.04</td> <td>.05</td> <td></td> <td></td> </tr> <tr> <td>X-46</td> <td>.31</td> <td>1.35</td> <td>.04</td> <td>.05</td> <td></td> <td></td> </tr> <tr> <td>X-52</td> <td>.31</td> <td>1.35</td> <td>.04</td> <td>.05</td> <td></td> <td></td> </tr> <tr> <td>X-60</td> <td>.26</td> <td>1.35</td> <td>.04</td> <td>.05</td> <td></td> <td>.02</td> </tr> <tr> <td>ERW</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>X-42</td> <td>.28</td> <td>1.25</td> <td>.04</td> <td>.05</td> <td></td> <td></td> </tr> <tr> <td>X-46</td> <td>.30</td> <td>1.35</td> <td>.04</td> <td>.05</td> <td></td> <td></td> </tr> <tr> <td>X-52</td> <td>.30</td> <td>1.35</td> <td>.04</td> <td>.05</td> <td></td> <td></td> </tr> <tr> <td>X-60</td> <td>.26</td> <td>1.35</td> <td>.04</td> <td>.05</td> <td>.005</td> <td></td> </tr> </tbody> </table>	Ladle % Max % Min							GR	C	MN	P	S	CB	V	SMLS							X-42	.29	1.25	.04	.05			X-46	.31	1.35	.04	.05			X-52	.31	1.35	.04	.05			X-60	.26	1.35	.04	.05		.02	ERW							X-42	.28	1.25	.04	.05			X-46	.30	1.35	.04	.05			X-52	.30	1.35	.04	.05			X-60	.26	1.35	.04	.05	.005	
Ladle % Max % Min																																																																																								
GR	C	MN	P	S	CB	V																																																																																		
SMLS																																																																																								
X-42	.29	1.25	.04	.05																																																																																				
X-46	.31	1.35	.04	.05																																																																																				
X-52	.31	1.35	.04	.05																																																																																				
X-60	.26	1.35	.04	.05		.02																																																																																		
ERW																																																																																								
X-42	.28	1.25	.04	.05																																																																																				
X-46	.30	1.35	.04	.05																																																																																				
X-52	.30	1.35	.04	.05																																																																																				
X-60	.26	1.35	.04	.05	.005																																																																																			
Federal WWP-406	Comparable to A-120 (has been withdrawn)																																																																																							
Federal WWP-404	Comparable to A-53																																																																																							

CONTINUED

ASTM & API SPECIFICATIONS WITH COMPARABLE ANSI DESIGNATIONS

ASTM OR API DESIGNATIONS	ANSI DESIGNATIONS		TITLE
	CURRENT	REPLACED	
ASTM A-53	B-125.1	B-36.1	Welded & Seamless pipe
ASTM A-106	B-125.30	B-36.3	Seamless carbon steel pipe for high temperature service
ASTM A-120*	B-125-2	B-36.20	Black & galvanized and seamless steel pipe for ordinary uses
ASTM A-134	B-125.55	B-36.4	Electric-fusion (Arc) welded steel plate pipe (sizes 16" & over)
ASTM A-135	B-125.3	B-36.5	Electric resistance welded pipe
ASTM A-139	B-125.31	B-36.9	Electric-fusion (Arc) welded steel plate pipe (sizes 4" & over)
ASTM A-155	B-125.4	B-36.11	Electric fusion welded steel pipe for high temperature service
ASTM A-211	B-125.56	B-36.16	"Insert discontinued 1994"
ASTM A-312	B-125.16	B-36.26	Seamless and welded austenitic stainless steel pipe
ASTM A-333	B-125.17	B-36.40	Seamless and welded steel pipe for low temperature service
ASTM A-335	B-124.24	B-36.42	Seamless ferritic alloy steel pipe for high temperature service

* has been withdrawn

DIGEST OF COMMON - PIPE SPECIFICATIONS

CONTINUED

Specification and Size Range Where Indicated	Tensiles			Hydrostatic	Tests Bend	Flattening	Wall Tolerance	OD Tolerance
Type II NPS 1-12	MIN. P.S.I.			yes	None Specified	None Specified	Min. wall shall not be more than 12.5% under nominal wall	1-1/2" & under + 1/64" - 1/32" 2" & over +/- 1% of OD
	Grade	Yield	Tensile					
	CW	25,000	45,000					
	A	30,000	48,000					
Type III NPS 1-2	MIN. P.S.I.			yes	yes-for A-25 pipe 2-3/8 & smaller	yes	2-7/8" & smaller + 20% - 12.5%	1.900 & under + .016" - .031"
	Grade	Yield	Tensile					
	A-25	25,000	45,000					
	A	30,000	48,000					
Type IV NPS 3-8	MIN. P.S.I.			yes			3-1/2" OD + 18% - 12.5%	2-3/8" - 4" OD +/- 1%
	Grade	Yield	Tensile					
API 5L	MIN. P.S.I.			yes	None Specified	yes - for ERW	4" - 18" + 15% - 12.5%	4-1/2" & over +/- .75%
	Grade	Yield	Tensile					
API 5LX	MIN. P.S.I.			yes	None Specified	yes - for ERW	+ 15% - 12.5%	+/- .75%
	Grade	Yield	Tensile					
	X-42	42,000	60,000					
	X-46	46,000	63,000					
Federal WWP-406	Comparables to A-120							
	Comparables to A-53							
Federal WWP-404	Comparables to A-53							

ASTM & API SPECIFICATIONS WITH COMPARABLE ANSI DESIGNATIONS

ASTM A-358	B-125.57	B-36.47	Electric fusion welded austenitic chromium-nickel alloy steel pipe for high temperature service
ASTM A-369	B-125.77	B-36.48	Carbon & ferritic alloy steel forged and bored pipe for high temperature service
ASTM A-376	B-125-25	B-36.43	Seamless austenitic steel pipe for high temperature temperature central station service
ASTM A-381	B-125.25	B-36.49	Metal arc welded steel pipe for high pressure transmission systems
ASTM A-405	B-125.26	B-36.44	Seamless ferritic alloy steel pipe specially heat treated for high temperature service
ASTM A-523	G-62.5		Plain end seamless & ERW steel pipe for high pressure pipe type cable circuits
ASTM A-524	B-125.37	B-36.56	Seamless C.S. pipe for process piping
ASTM A-530	B-125.20	B-36.57	General requirements for specialized carbon and alloy steel pipe
API 5L			Line pipe
API 5LX			High test line pipe
API 5LS			Spiral weld line pipe

DIGEST OF COMMON - PIPE SPECIFICATIONS



Ellisville, MO 63011

Toll Free: 1-800-221-0201

Fax: 636-394-9389

<http://www.ozarktubular.com>

E-Mail: Info@ozarktubular.com