



RHINO FITT ^{UK}

A Quality Product of WEC (LEEDS) Co.

STAINLESS STEEL WELDED PIPES



AN ISO 9001:2008 CERTIFIED COMPANY





W.E.C (Leeds) Ltd, established in the UK in 1997, is today a leading name in the Manufacture and Distribution of specialised hoses for the Oil and Petrochemical industry.

Recognising the opportunity in the piping industry W.E.C (Leeds) ramped up manufacturing to become a major PFV (Pipes, Fittings & Valves), branded as Rhinofitt. Today Rhinofitt is the preferred vendor across UK and Europe for enterprise level projects.

Upping the ante in the international market, based on our success in Europe, we are now one of the leading brands worldwide. Rhinofitt is known for offering a good quality product at competitive prices whilst maintaining a high standard of service and technical knowhow, supported by our wide network of distributors.

W.E.C (Leeds) recognises the need to offer the highest standards of customer service and this has always been a fundamental rule in our business

model as well as our success both for existing and potential new clients.

Within the Rhinofitt range we provide all types of Stainless Steel Pipes manufactured to cater various industries complying the ever growing demand in quality and service.

Product Range

Size: ½" to 24"

Wall Thickness: SCH 5S -80S

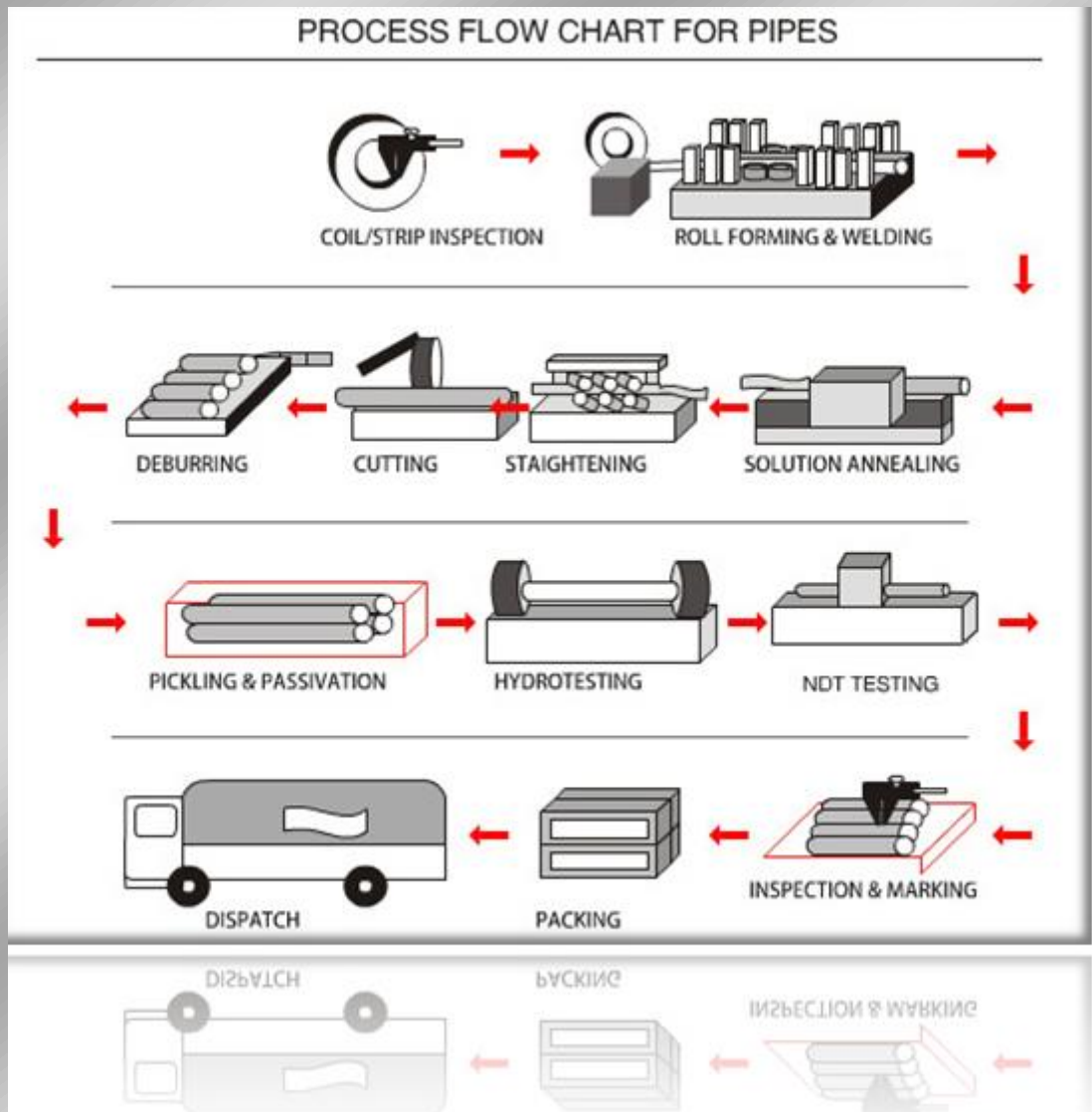
Length: 6 meters

Specification: ASTM A312

Material Grade: 304/304L, 316/316L

Electric Fusion Weld

The processing of Electric Fusion Welded (EFW) pipe begins as a coiled plate of steel with appropriate thickness and specific width to form a pipe that conforms to its relevant specification. EFW pipe is cold formed. The ribbon is pulled through a series of rollers that gradually form it into a cylindrical tube. As the edges of the now cylindrical plate come together, an electric charge is applied at the proper points to heat the edges so they can be welded together. Electric Fusion Welded pipe is a high speed production product that can be made in continuous lengths up to 115'. It produces uniform wall thicknesses and outside dimensions and is made in a wide range of specifications. It does, however, require minimum tonnage to set up on a specific size.



Quality is Passion

Customer satisfaction drives Rhinofitt in every aspect from production to delivery thus committed to high quality starting from selection of raw material and continues in every stage of manufacturing process. To ensure product reliability through the process, Rhinofitt has fully equipped metallurgical laboratory with all tools for comprehensive product quality testing which includes but not limited to Hydro test and Destructive testing. The constant emphasis on high quality guarantees a long , trouble-free service life to our pipes without breakdowns or degradation.

Pipe Dimensions and Weights -Size ½" – 24"

SCHEDULE	5S	10S	40S	80S	10	20	30	40	60	80	100	120	140	160	STD	XS	XXS
SIZE O.D.	Wall/In Wgt/Ft																
1/4" 0.540			0.088 0.43	0.119 0.54				0.088 0.43		0.119 0.54					0.088 0.43	0.119 0.54	
3/8" 0.675			0.091 0.57	0.126 0.76				0.091 0.57		0.126 0.76					0.091 0.57	0.126 0.76	
1/2" 0.840	0.065 0.54	0.083 0.68	0.109 0.86	0.147 1.10			0.095 0.76	0.109 0.86		0.147 1.10				0.188 1.32	0.109 0.86	0.147 1.10	0.294 1.73
3/4" 1.050	0.065 0.69	0.083 0.87	0.113 1.14	0.154 1.49			0.095 0.98	0.113 1.14		0.154 1.49				0.219 1.96	0.113 1.14	0.154 1.49	0.308 2.46
1" 1.315	0.065 0.88	0.109 1.42	0.133 1.69	0.179 2.19			0.114 1.48	0.133 1.69		0.179 2.19				0.250 2.87	0.133 1.69	0.179 2.19	0.358 3.69
1 1/4" 1.660	0.065 1.12	0.109 1.82	0.140 2.29	0.191 3.02			0.117 1.95	0.140 2.29		0.191 3.02				0.250 3.80	0.140 2.29	0.191 3.02	0.382 5.26
1 1/2" 1.900	0.065 1.29	0.109 2.10	0.145 2.74	0.200 3.67			0.125 2.39	0.145 2.74		0.200 3.67				0.281 4.90	0.145 2.74	0.200 3.67	0.400 6.47
2" 2.375	0.065 1.62	0.109 2.66	0.154 3.69	0.218 5.07			0.125 3.03	0.154 3.69		0.218 5.07				0.344 7.53	0.154 3.69	0.218 5.07	0.436 9.11
2 1/2" 2.875	0.083 2.50	0.120 3.56	0.203 5.85	0.276 7.73			0.188 5.45	0.203 5.85		0.276 7.73				0.375 10.11	0.203 5.85	0.276 7.73	0.552 13.82
3" 3.500	0.083 3.06	0.120 4.37	0.216 7.65	0.300 10.35			0.188 6.71	0.216 7.65		0.300 10.35				0.438 14.46	0.216 7.65	0.300 10.35	0.600 18.76
3 1/2" 4.000	0.083 3.50	0.120 5.02	0.226 9.19	0.318 12.62			0.188 7.73	0.226 9.19		0.318 12.62					0.226 9.19	0.318 12.62	
4" 4.500	0.083 3.95	0.120 5.67	0.237 10.89	0.337 15.12			0.188 8.74	0.237 10.89		0.337 15.12		0.438 19.18		0.531 22.72	0.237 10.89	0.337 15.12	0.674 27.8
5" 5.563	0.109 6.41	0.134 7.84	0.258 14.75	0.375 20.97				0.258 14.75		0.375 20.97		0.500 27.29		0.625 33.27	0.258 14.75	0.375 20.97	0.750 38.91
6" 6.625	0.109 7.66	0.134 9.38	0.280 19.15	0.432 28.84				0.280 19.15		0.432 28.84		0.562 36.73		0.719 45.78	0.280 19.15	0.432 28.84	0.864 53.66
8" 8.625	0.109 10.01	0.148 13.52	0.322 28.82	0.500 43.79		0.250 22.57	0.277 24.93	0.322 28.82	0.405 35.97	0.500 43.79	0.594 51.43	0.719 61.28	0.812 68.39	0.906 75.39	0.322 28.82	0.500 43.79	0.875 73.1
10" 10.750	0.134 15.34	0.165 18.83	0.365 40.86	0.500 55.25		0.250 28.3	0.307 34.56	0.365 40.86	0.500 55.25	0.594 65.03	0.719 77.75	0.844 90.13	1.000 105.11	1.125 116.73	0.365 40.86	0.500 55.25	1.000 105.11
12" 12.750	0.156 21.18	0.180 24.39	0.375 50.03	0.500 66.03		0.250 33.69	0.330 44.18	0.406 54.03	0.562 73.84	0.688 89.46	0.844 108.32	1.000 126.67	1.125 140.98	1.312 161.77	0.375 50.03	0.500 66.03	1.000 126.67
14" 14.000	0.156 23.28	0.188 27.99	*	**	0.250 37.06	0.312 46.04	0.375 55.08	0.438 64.03	0.594 85.84	0.750 107.13	0.938 132.08	1.094 152.2	1.250 171.81	1.406 190.88	0.375 55.08	0.500 72.77	
16" 16.000	0.165 28.17	0.188 32.05	*	**	0.250 42.45	0.312 52.76	0.375 63.16	0.500 83.55	0.656 108.51	0.844 137.89	1.031 166.37	1.219 194.23	1.438 225.73	1.594 247.54	0.375 63.16	0.500 83.55	
18" 18.000	0.165 31.72	0.188 36.10	*	**	0.250 47.84	0.312 59.49	0.438 82.92	0.562 105.65	0.750 139.47	0.938 172.52	1.156 209.9	1.375 246.42	1.562 276.79	1.781 311.39	0.375 71.25	0.500 94.33	
20" 20.000	0.188 40.15	0.218 46.49	*	**	0.250 53.23	0.375 79.33	0.500 105.11	0.594 124.26	0.812 167.96	1.031 210.82	1.281 258.49	1.500 299.15	1.750 344.29	1.969 382.72	0.375 79.33	0.500 105.11	
24" 24.000	0.218 55.89	0.250 64.01	*	**	0.250 64.01	0.375 95.50	0.562 142.00	0.688 172.9	0.969 240.58	1.219 299.36	1.531 370.83	1.812 433.41	2.062 487.65	2.344 547.21	0.375 95.50	0.500 126.67	
30" 30.000	0.250 80.18	0.312 99.85	*	**	0.312 98.85	0.500 159.01	0.625 197.91								0.375 119.76	0.500 159.01	
36" 36.000					0.312 120.03	0.500 191.35	0.625 238.34	0.750 285.00							0.375 144.01	0.500 191.35	

Tolerance

Standard	Outside Diameter	Thickness	Length
ASTM A312	O.D. ≤ 48.26mm + 0.40mm - 0.80mm 48.26mm < O.D. ≤ 114.3mm ± 0.80mm 114.3mm < O.D. ≤ 219.08mm + 1.60mm - 0.80mm 219.08mm < O.D. ≤ 457.2mm + 2.40mm - 0.80mm 457.2mm < O.D. ≤ 609.6mm + 3.20mm - 0.80mm	(Nominal Thickness) + 15% - 12.5%	+ 6.0mm - 0mm
ASTM A358	(Based on circumferential measurement) ±0.5% (Difference between major and minor outside diameters)1%	- 0.3mm	L ≤ 7.3m + 6.0mm - 0mm

Chemical Composition

Standard & Grade	C	Si	Mn	P	S	Ni	Cr	Mo
ASTM TP304	≤ 0.080	≤ 1.00	≤ 2.00	≤ 0.045	≤ 0.030	8.0~11.0	18.0~20.0	
ASTM TP304L	≤ 0.035	≤ 1.00	≤ 2.00	≤ 0.045	≤ 0.030	8.0~13.0^	18.0~20.0	
ASTM TP316	≤ 0.080	≤ 1.00	≤ 2.00	≤ 0.045	≤ 0.030	10.0~14.0	16.0~18.0	2.0~3.0
ASTM TP316L	≤ 0.035	≤ 1.00	≤ 2.00	≤ 0.045	≤ 0.030	10.0~14.0	16.0~18.0	2.0~3.0

TYPE 316L SCHEDULES 5S, 10S ALLOWABLE WORKING PRESSURE

ALLOWABLE WORKING PRESSURES FOR A-312 WELDED PIPE

TYPE 316L Schedules 5S, 10S

TEMPERATURE °F.		- 425 to 300	400	500	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	
MAX. STRESS		16700	15500	14400	13500	13200	12900	12600	12400	12100	11800	11500	11200	10800	10200	8800	6400	4700	3500	2500	1800	1300	1000	
NOM. PIPE SIZE	SCH. NO.	NOM. WALL.	ALLOWABLE WORKING PRESSURES PSIG																					
			½	5S 10S	.065 .083	1809 2310	1679 2144	1560 1992	1463 1888	1430 1826	1398 1785	1365 1743	1343 1715	1311 1674	1278 1632	1246 1591	1213 1549	1170 1494	1105 1411	953 1217	693 885	509 650	379 484	271 346
¾	5S 10S	.065 .083	1447 1848	1343 1715	1248 1594	1170 1494	1144 1461	1118 1428	1092 1394	1075 1372	1049 1339	1023 1306	997 1273	971 1239	936 1195	884 1129	763 974	555 708	407 520	303 387	217 277	158 199	113 144	87 111
1	5S 10S	.065 .109	1156 1938	1073 1799	997 1671	934 1587	913 1532	893 1497	872 1462	858 1439	837 1404	817 1389	796 1335	775 1300	747 1253	706 1184	609 1021	443 743	325 545	242 406	173 290	125 209	90 151	69 116
1¼	5S 10S	.065 .109	915 1535	850 1425	789 1324	740 1241	724 1213	707 1186	691 1158	680 1140	663 1112	647 1085	630 1057	614 1030	592 993	559 938	482 809	351 588	258 432	192 322	137 230	55 165	71 120	55 92
1½	5S 10S	.065 .109	800 1341	742 1245	690 1157	647 1084	632 1060	618 1038	603 1012	594 996	580 972	565 948	551 924	538 900	517 887	489 819	421 707	307 514	225 377	168 281	120 201	86 145	62 104	48 80
2	5S 10S	.065 .109	640 1073	594 996	552 925	517 867	506 848	494 829	483 810	475 797	464 777	452 758	441 739	429 720	414 694	391 655	337 565	245 411	180 302	134 225	96 161	69 116	50 84	38 64
2½	5S 10S	.083 .120	675 976	626 906	582 841	546 789	534 771	521 754	509 736	501 725	489 707	477 690	465 672	453 654	437 631	412 596	356 514	259 374	190 275	141 205	101 146	73 105	53 76	40 58
3	5S 10S	.083 .120	554 802	515 744	478 691	448 648	438 634	428 619	418 605	412 595	402 581	392 566	382 552	372 538	359 518	339 490	292 422	212 307	156 226	116 168	83 120	60 86	43 62	33 48
3¾	5S 10S	.083 .120	485 701	450 651	418 605	392 567	383 554	375 542	366 529	360 521	352 506	343 496	334 483	325 470	314 454	296 428	256 370	186 269	137 197	102 147	73 105	52 76	38 55	29 42
4	5S 10S	.083 .120	431 623	400 579	372 538	349 504	341 493	333 482	325 470	320 463	312 452	305 441	297 429	289 418	279 403	263 381	227 329	165 239	121 175	90 131	65 93	46 67	34 49	26 37
5	5S 10S	.109 .134	458 563	425 523	395 486	370 455	362 445	354 435	346 425	340 418	332 408	324 398	315 388	307 378	296 364	280 344	241 297	176 216	129 158	96 118	69 84	49 61	36 44	27 34
6	5S 10S	.109 .134	385 473	357 439	332 408	311 362	304 374	297 365	290 357	286 351	279 343	272 334	265 326	258 317	249 306	235 289	203 249	147 181	108 133	81 99	58 71	41 51	30 37	23 28
8	5S 10S	.109 .148	295 401	274 372	255 346	239 324	234 317	228 310	223 303	219 298	214 291	209 283	203 276	198 269	191 259	180 245	158 211	113 154	83 113	62 84	44 60	32 43	23 31	18 24
10	5S 10S	.134 .165	291 359	270 333	251 309	236 290	230 284	225 277	220 271	216 266	211 260	206 254	201 247	195 241	188 232	178 219	154 189	112 138	82 101	61 75	44 54	31 39	23 28	17 21
12	5S 10S	.156 .180	286 330	266 308	247 285	231 267	226 261	221 255	216 249	212 245	207 239	202 233	197 227	192 221	185 213	175 202	151 174	110 126	81 93	60 69	43 49	31 36	22 26	17 20
14	5S 10S	.156 .188	261 314	242 291	225 271	211 254	206 248	201 243	197 237	193 233	189 227	184 222	179 216	175 211	168 203	159 192	137 165	100 120	73 88	55 66	39 47	28 34	20 24	16 19
16	5S 10S	.165 .188	241 275	224 255	208 237	195 222	191 217	186 212	182 207	179 204	175 199	170 194	168 189	162 184	156 178	147 168	127 145	92 105	68 77	51 58	36 41	26 30	19 21	14 16
18	5S 10S	.165 .188	214 244	199 227	185 211	173 197	169 193	166 189	162 184	159 181	155 177	151 173	148 168	144 164	139 158	131 149	113 129	85 94	60 69	45 51	32 37	23 26	17 19	13 15
20	5S 10S	.188 .218	220 255	204 237	190 220	178 206	174 201	170 197	166 192	163 189	159 185	155 180	151 175	147 171	142 165	134 156	116 134	84 96	62 72	46 53	33 38	24 27	17 20	13 15
24	5S 10S	.218 .250	212 244	197 226	183 210	172 197	168 193	164 188	160 184	158 181	154 176	150 172	146 168	142 163	137 158	130 149	112 128	81 93	60 69	45 51	32 36	23 26	17 19	13 15

The Allowable Stress Values used are as shown in Appendix "A" of ANSI B31.3-1993 for welded pipe to ASTM A-312 having a weld joint factor of .80.
 Allowable Working Pressures shown for each size reflect the minus 12½% manufacturers wall tolerance.

TYPE 316 SCHEDULES 10S ALLOWABLE WORKING PRESSURE

ALLOWABLE WORKING PRESSURES
FOR A-312 WELDED PIPE

TYPE 316
Schedule 10S

TEMPERATURE °F.		- 425 to 300	400	500	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	
MAX. STRESS			20000	19300	17900	17000	16700	16300	16100	15900	15700	15500	15400	15300	14500	12400	9600	7400	5500	4100	3100	2300	1700	1300
NOM. PIPE SIZE	SCH. NO.	NOM. WALL.	ALLOWABLE WORKING PRESSURES PSIG																					
½	10S	.083	2767	2670	2476	2352	2310	2255	2227	2200	2172	2144	2130	2117	2006	1715	1356	1024	761	587	429	318	235	180
¾	10S	.083	2213	2136	1981	1881	1848	1804	1782	1760	1737	1715	1704	1693	1605	1372	1085	819	609	454	343	255	188	144
1	10S	.109	2321	2240	2077	1973	1938	1892	1888	1845	1822	1799	1787	1775	1683	1439	1137	859	638	476	360	267	197	151
1¼	10S	.109	1839	1774	1646	1563	1535	1496	1480	1462	1443	1425	1416	1406	1333	1140	901	680	506	377	285	211	156	120
1½	10S	.109	1608	1550	1438	1365	1341	1309	1293	1277	1261	1245	1237	1229	1165	996	787	594	442	329	249	185	137	104
2	10S	.109	1285	1240	1150	1092	1073	1047	1034	1022	1009	996	969	983	932	797	630	475	353	263	199	148	109	84
2½	10S	.120	1169	1128	1046	993	976	952	941	929	917	906	900	894	847	725	573	432	321	240	181	134	99	76
3	10S	.120	960	926	859	816	802	782	773	763	754	744	739	734	696	595	470	355	264	197	149	110	82	62
3½	10S	.120	840	811	752	714	701	685	676	668	659	651	647	643	609	521	412	311	231	172	130	97	71	55
4	10S	.120	747	721	668	635	623	609	601	594	586	579	575	571	541	463	366	276	205	153	116	86	63	49
5	10S	.134	674	651	604	573	563	550	543	538	529	523	519	516	489	418	330	250	185	138	105	78	57	44
6	10S	.134	566	547	507	481	473	462	456	450	445	439	438	433	411	351	278	210	156	116	88	65	48	37
8	10S	.148	480	464	430	408	401	392	387	382	377	372	370	368	348	298	235	178	132	96	74	55	41	31
10	10S	.165	430	415	385	365	359	350	346	342	337	333	331	329	312	266	211	159	118	88	67	49	37	28
12	10S	.180	395	381	354	336	330	322	318	314	310	306	304	302	287	245	194	148	109	81	61	45	34	26
14	10S	.188	376	363	337	320	314	306	303	299	295	291	290	288	273	233	184	139	103	77	58	43	32	24
16	10S	.188	329	317	294	260	275	268	265	262	258	255	253	252	239	204	161	122	90	67	51	38	28	21
18	10S	.188	292	282	262	249	244	238	235	232	230	227	225	224	212	181	143	108	80	60	45	34	25	19
20	10S	.218	305	295	273	259	255	249	246	243	240	237	235	233	221	189	150	113	84	63	47	35	26	20
24	10S	.250	292	281	261	248	244	238	235	232	229	226	225	223	211	181	143	108	80	60	45	34	25	19

The Allowable Stress Values used are as shown in Appendix "A" of ANSI B31.3-1993 for welded pipe to ASTM A-312 having a weld joint factor of .80.
The Stress Values at all temperatures above 1000F apply only when the carbon is 0.04% or higher.

TYPE 316L SCHEDULES 40S, 80S ALLOWABLE WORKING PRESSURE

ALLOWABLE WORKING PRESSURES
FOR A-312 WELDED PIPE

TYPE 316L
Schedules 40S, 80S

TEMPERATURE °F.		- 425 to 300																						
MAX. STRESS		16700	15500	14400	13500	13200	12900	12600	12400	12100	11800	11500	11200	10800	10200	8800	6400	4700	3500	2500	1800	1300	1000	
NOM. PIPE SIZE	SCH. NO.	NOM. WALL.	ALLOWABLE WORKING PRESSURES PSIG																					
			1/2	40S	.109	3034	2816	2616	2453	2398	2344	2289	2253	2198	2144	2089	2035	1962	1853	1599	1163	854	636	454
	80S	.147	4092	3796	3528	3306	3234	3161	3067	3038	2965	2891	2816	2744	2646	2499	2158	1568	1152	858	613	441	319	245
3/4	40S	.113	2516	2335	2170	2034	1989	1944	1898	1888	1823	1778	1733	1687	1627	1537	1326	964	706	527	377	271	196	151
	80S	.154	3429	3183	2957	2772	2710	2649	2587	2546	2485	2423	2361	2300	2218	2094	1807	1314	965	719	513	370	267	205
1	40S	.133	2365	2195	2039	1912	1869	1827	1784	1756	1713	1671	1628	1586	1529	1444	1246	906	666	496	354	255	184	142
	80S	.179	3183	2954	2744	2573	2516	2458	2401	2363	2306	2249	2192	2134	2058	1944	1677	1220	896	667	476	343	248	191
1 1/4	40S	.140	1972	1830	1700	1594	1559	1523	1488	1464	1429	1393	1358	1322	1275	1204	1039	756	555	413	295	213	153	118
	80S	.191	2690	2497	2320	2175	2126	2078	2030	1997	1949	1901	1852	1804	1740	1643	1418	1031	757	564	403	290	209	161
1 1/2	40S	.145	1784	1656	1539	1442	1410	1378	1346	1325	1293	1261	1229	1197	1154	1090	940	684	502	374	267	192	139	107
	80S	.200	2461	2284	2122	1969	1945	1901	1857	1827	1763	1739	1695	1651	1592	1503	1297	943	693	516	368	265	192	147
2	40S	.154	1516	1407	1307	1226	1198	1171	1144	1126	1098	1071	1044	1017	980	926	799	581	427	318	227	163	118	91
	80S	.218	2146	1992	1850	1735	1696	1658	1619	1593	1555	1516	1478	1439	1388	1311	1131	822	604	450	321	231	167	129
2 1/2	40S	.203	1651	1532	1423	1335	1305	1275	1246	1226	1196	1166	1137	1107	1068	1008	870	633	465	346	247	178	129	99
	80S	.276	2244	2083	1935	1814	1774	1734	1693	1667	1626	1586	1548	1505	1452	1371	1183	860	632	470	336	242	175	134
3	40S	.216	1443	1339	1244	1166	1140	1115	1069	1071	1045	1020	994	968	933	881	760	553	406	302	216	156	112	86
	80S	.300	2004	1860	1728	1620	1584	1548	1512	1488	1452	1416	1380	1344	1296	1224	1056	766	564	420	300	216	156	120
3 1/2	40S	.226	1321	1226	1139	1068	1044	1020	997	961	957	933	910	886	854	807	696	506	372	277	198	142	103	79
	80S	.318	1859	1725	1603	1503	1469	1438	1402	1380	1347	1313	1280	1247	1202	1135	979	712	523	390	278	200	145	111
4	40S	.237	1231	1143	1062	995	973	951	929	914	892	870	848	826	796	752	649	472	347	258	184	133	96	74
	80S	.337	1751	1625	1510	1415	1384	1352	1321	1300	1269	1237	1206	1174	1132	1069	923	671	493	367	262	189	138	105
5	40S	.258	1084	1006	935	877	857	838	818	805	786	766	747	727	701	662	571	416	305	227	162	117	84	65
	80S	.375	1576	1463	1359	1274	1248	1217	1189	1170	1142	1114	1085	1057	1019	963	830	604	444	330	236	170	123	94
6	40S	.280	988	917	852	799	781	763	746	734	716	698	680	663	639	604	521	379	278	207	148	107	77	59
	80S	.432	1525	1415	1315	1232	1205	1178	1150	1132	1105	1077	1050	1022	986	931	803	584	429	320	228	164	119	91
8	40S	.322	873	810	753	706	690	674	659	648	632	617	601	585	564	533	460	335	246	183	131	94	68	52
	80S	.500	1355	1258	1169	1096	1071	1047	1023	1006	962	958	933	909	877	826	714	519	381	284	203	146	106	81
10	40S	.385	794	737	685	642	627	613	599	589	575	561	547	532	513	485	418	304	223	166	119	86	62	48
	80S	.500	1087	1009	938	879	860	840	820	807	788	768	749	729	703	664	573	417	306	228	163	117	85	65
12	40S	.375	688	638	593	556	544	531	519	511	498	486	474	461	445	420	362	264	194	144	103	74	54	41
	80S	.500	917	851	791	741	725	708	692	681	664	648	631	615	593	560	483	351	258	192	137	99	71	55
14	40S	.375	626	581	540	506	495	484	473	465	454	443	431	420	405	383	330	240	176	131	94	68	49	38
	80S	.500	835	775	720	675	660	645	630	620	605	590	575	560	540	510	440	320	235	175	125	90	65	50
16	40S	.375	548	509	473	443	433	423	413	407	397	387	377	368	354	335	289	210	154	115	82	59	43	33
	80S	.500	731	678	630	591	576	564	551	543	529	516	503	490	473	446	385	260	206	153	109	79	57	44
18	40S	.375	487	452	420	394	385	376	368	362	353	344	335	327	315	298	257	187	137	102	73	53	38	29
	80S	.500	649	603	560	525	513	502	490	482	471	459	447	436	420	397	342	249	183	136	97	70	51	39
20	40S	.375	438	407	378	354	347	339	331	326	318	310	302	294	284	268	231	168	123	92	66	47	34	26
	80S	.500	585	543	504	473	462	452	441	434	424	413	403	392	378	357	306	224	165	123	88	63	46	35
24	40S	.375	365	339	315	295	289	282	276	271	265	258	252	245	236	223	193	140	103	77	55	39	28	22
	80S	.500	487	452	420	394	385	376	368	362	353	344	335	327	315	298	257	187	137	102	73	53	38	29

The Allowable Stress Values used are as shown in Appendix "A" of ANSI B31.3-1993 for welded pipe to ASTM A-312 having a weld joint factor of .80.
Allowable Working Pressures shown for each size reflect the minus 12 1/2% manufacturers wall tolerance.

TYPE 316 SCHEDULES 40S, 80S ALLOWABLE WORKING PRESSURE

ALLOWABLE WORKING PRESSURES FOR A-312 WELDED PIPE

TYPE 316 Schedules 40S, 80S

TEMPERATURE °F.		- 425 to 300	400	500	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	
MAX. STRESS		20000	19300	17900	17000	16700	16300	16100	15900	15700	15500	15400	15300	14500	12400	9800	7400	5500	4100	3100	2300	1700	1300	
NOM. PIPE SIZE	SCH. NO.	NOM. WALL.	ALLOWABLE WORKING PRESSURES PSIG																					
			1/2	40S 80S	.109 .147	3633 4900	3506 4729	3252 4386	3088 4165	3034 4092	2961 3994	2925 3945	2889 3896	2652 3847	2816 3798	2798 3773	2780 3749	2634 3553	2253 3038	1780 2401	1344 1813	999 1348	745 1005	563 760
3/4	40S 80S	.113 .154	3013 4107	2908 3963	2697 3675	2561 3491	2516 3429	2456 3347	2426 3308	2396 3265	2365 3224	2335 3183	2320 3162	2305 3142	2185 2977	1868 2546	1477 2012	1115 1519	829 1129	618 842	467 637	347 472	256 349	196 267
1	40S 80S	.133 .179	2832 3811	2733 3678	2535 3411	2407 3240	2365 3183	2308 3106	2280 3068	2251 3030	2223 2992	2195 2954	2161 2935	2166 2916	2053 2763	1756 2383	1368 1888	1048 1410	779 1048	581 781	439 591	326 438	241 324	184 248
1 1/4	40S 80S	.140 .191	2361 3222	2279 3109	2113 2883	2007 2738	1972 2690	1925 2628	1901 2593	1877 2561	1854 2529	1830 2497	1818 2481	1807 2465	1712 2336	1464 1997	1157 1579	874 1192	649 886	484 660	366 499	272 370	201 274	153 209
1 1/2	40S 80S	.145 .200	2137 2947	2062 2844	1912 2638	1816 2505	1784 2461	1742 2402	1720 2373	1699 2343	1677 2314	1656 2284	1645 2269	1635 2255	1549 2137	1325 1827	1047 1444	791 1091	588 811	438 604	331 457	246 339	182 251	139 192
2	40S 80S	.154 .218	1816 2570	1752 2480	1625 2300	1543 2185	1516 2146	1480 2095	1462 2069	1443 2043	1425 2018	1407 1992	1398 1979	1389 1966	1316 1863	1126 1593	890 1259	672 951	499 707	372 527	281 398	209 296	154 218	118 167
2 1/2	40S 80S	.203 .276	1977 2688	1908 2594	1769 2406	1680 2285	1651 2244	1611 2191	1592 2164	1572 2137	1552 2110	1532 2083	1522 2070	1512 2056	1433 1949	1226 1667	969 1317	732 995	544 739	405 551	306 417	227 309	168 228	129 175
3	40S 80S	.216 .300	1728 2400	1688 2316	1547 2148	1469 2040	1443 2004	1408 1956	1391 1932	1374 1908	1356 1884	1339 1860	1331 1848	1322 1836	1253 1740	1071 1488	847 1176	639 888	475 660	354 492	266 372	199 276	147 204	112 156
3 1/2	40S 80S	.226 .318	1582 2226	1527 2146	1416 1992	1345 1892	1321 1859	1289 1814	1274 1792	1258 1770	1242 1747	1226 1725	1218 1714	1210 1703	1147 1614	981 1360	775 1091	585 824	435 612	324 456	245 345	182 256	134 189	103 145
4	40S 80S	.237 .337	1475 2097	1423 2023	1320 1877	1253 1782	1231 1751	1202 1709	1187 1688	1172 1667	1158 1646	1143 1625	1135 1615	1128 1604	1069 1520	914 1300	723 1027	546 776	406 577	302 430	229 325	170 241	125 178	96 136
5	40S 80S	.258 .375	1299 1887	1253 1821	1162 1689	1104 1604	1084 1576	1058 1538	1045 1519	1032 1501	1019 1482	1006 1463	1000 1453	993 1444	941 1368	805 1170	636 925	480 698	357 519	266 387	201 293	149 217	110 160	84 123
6	40S 80S	.280 .432	1183 1826	1142 1762	1059 1634	1006 1552	988 1525	964 1488	953 1470	941 1452	929 1433	917 1415	911 1406	905 1397	858 1324	734 1132	580 895	438 676	325 502	243 374	183 283	138 210	101 155	77 119
8	40S 80S	.322 .500	1045 1623	1009 1566	936 1453	889 1380	873 1355	852 1323	841 1307	831 1290	821 1274	810 1258	805 1250	800 1242	758 1177	648 1006	512 795	387 601	287 446	214 333	162 252	120 187	89 138	68 106
10	40S 80S	.365 .500	951 1302	917 1257	851 1166	808 1107	794 1087	775 1061	765 1048	758 1035	746 1022	737 1009	732 1003	727 996	689 944	589 807	466 638	352 482	261 358	195 287	147 202	109 150	81 111	62 85
12	40S 80S	.375 .500	824 1098	795 1060	737 983	700 933	688 917	671 895	663 884	655 873	646 862	638 851	634 845	630 840	597 796	511 681	404 538	305 406	226 302	169 225	128 170	95 126	70 93	54 71
14	40S 80S	.375 .500	750 1000	724 965	671 895	638 850	626 835	611 815	604 805	596 795	589 785	581 775	578 770	574 765	544 725	465 620	366 490	278 370	206 275	154 205	116 155	86 115	64 85	49 65
16	40S 80S	.375 .500	656 875	633 844	587 783	558 744	548 731	535 713	528 704	522 696	515 687	509 678	505 674	502 669	476 634	407 543	322 429	243 324	180 241	135 179	102 136	75 101	56 74	43 57
18	40S 80S	.375 .500	583 778	563 751	522 696	496 661	487 649	475 634	470 626	464 618	458 611	452 603	449 599	446 595	423 584	362 482	266 381	216 288	160 214	120 159	90 121	67 89	50 68	38 51
20	40S 80S	.375 .500	525 700	507 676	470 627	446 595	438 585	428 571	423 564	417 557	412 550	407 543	404 539	402 536	381 508	326 434	257 343	194 259	144 193	108 144	81 109	60 81	45 60	34 46
24	40S 80S	.375 .500	438 583	422 563	392 522	372 496	365 487	357 475	352 470	348 464	343 458	339 452	337 449	335 446	317 423	271 362	214 286	162 216	120 160	90 120	68 90	50 67	37 50	28 38

The Allowable Stress Values used are as shown in Appendix "A" of ANSI B31.3-1993 for welded pipe to ASTM A-312 having a weld joint factor of .80.
The Stress Values at all temperatures above 1000F apply only when the carbon is 0.04% or higher.



LARGE DIAMETER WITH SPECIAL WALL-THICKNESS



PRE-INSULATED PIPE (HDPE/RP etc.)



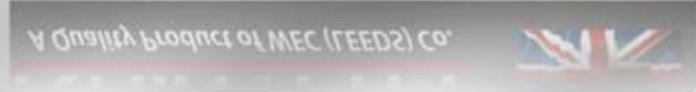
INNER/OUTER EPOXY COATED PIPES



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