

High Pressure Fittings

Scope On Our Products

TYPE :	ELBOW, M/F ELBOW, TEE, COUPLING, HALF COUPLING, CAP, PLUG, BUSHING, UNION, REDUCER INSERT, PIPE NIPPLE, OUTLETS ETC.	
SIZE:	NPS 1/8" ~ 4"(6mm ~ 100mm)	
RATING:	THREADED END – 3000lbs. SOCKET-WELD END – 3000lbs. BUTTWELD END – SCH80.	
SPECIFICATIONS:	A: DIN.SPEC: ASME B16.11-2001(REVISION OF ASME 16.11 -1996 79,83,95, 97 AND BOTHWELL SPEC	MSS – SP – JSB0203, B2316
MARKING:	B: MATERIAL SPEC: ASTM A105 1. CARBON AND ALLOY STEEL: MARKED BY STAMPING. 2. 3/8" UNDER: BRAND ONLY. 3. 1/2" TO 4": MARKED BRAND, MATERIAL,HEAT NO. B16(BELONG TO ANSI B16. 11 PRODUCT), PRESSURE AND SIZE.	
FINISHING:	BLACK, GALVANIZED (ON REQUEST), YELLOW DICHROMATE (ON REQUEST)	

British Standard Threads

ALL MEASUREMENTS IN MM

NOMINAL BORE OF PIPE		APPROX OUTSIDE DIAMETER	NUMBER OF THREADS PER INCH	PITCH	DEPTH OF THREADS	DIAMETER AT GAUGE PLANE	LENGTH OF USEFUL THREAD
IMPERIAL	METRIC	A		P	H	B	E
1/8	6	10.16	28	0.907	0.581	9.72	6.5
1/4	8	13.66	19	1.337	0.856	13.15	9.7
3/8	10	17.17	19	1.337	0.856	16.66	10.1
1/2	15	21.51	14	1.814	1.162	20.95	13.2
3/4	20	27.00	14	1.814	1.162	26.44	14.5
1	25	33.93	11	2.309	1.479	33.24	16.8
1 1/4	32	42.59	11	2.309	1.479	41.91	19.1
1 1/2	40	48.48	11	2.309	1.479	47.80	19.1
2	50	60.47	11	2.309	1.479	59.61	23.4
2 1/2	65	76.09	11	2.309	1.479	75.18	26.7
3	80	88.87	11	2.309	1.479	87.88	29.8
4	100	114.14	11	2.309	1.479	113.03	35.8
5	125	139.65	11	2.309	1.479	138.43	40.1
6	150	165.12	11	2.309	1.479	163.83	40.1

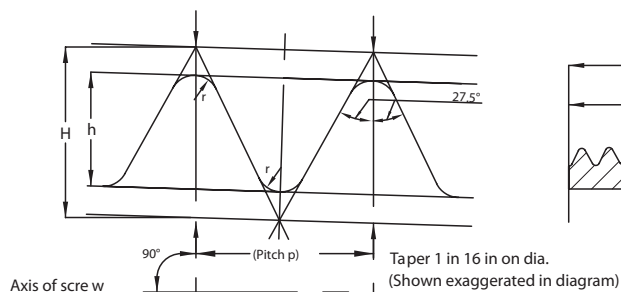


Fig. 2. (T ape)
 $H = 0.960237 \times p$
 $h = 0.640327 \times p$
 $r = 0.137278 \times p$

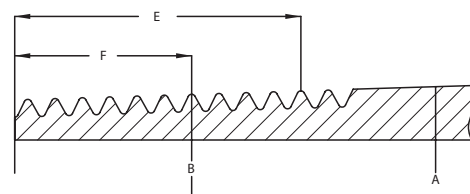


Fig. 3. (T ape)

High Pressure Fittings (cont)

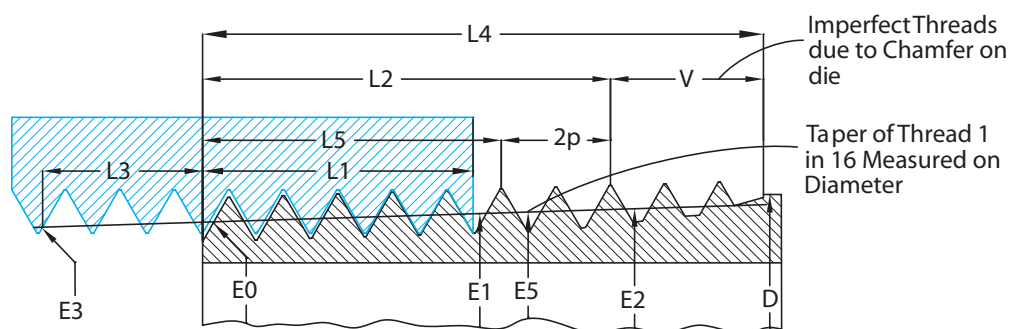
American National Standard Taper Pipe Threads, Npt								
NOMINAL BORE OF PIPE	OUTSIDE DIAMETER OF PIPE	THREADS PER INCH	PITCH	PITCH DIAMETER AT BEGINNING OF EXTERNAL THREAD	HANDTIGHT ENGAGEMENT		EFFECTIVE THREAD, EXTERNAL	
					LENGTH A (INCH)	DIAMETER B	LENGTH C (INCH)	DIAMETER
					L1	E1	L2	E2
1/16	0.3125	27	0.03704	0.27118	0.160	0.28118	0.2611	0.28750
1/8	0.405	27	0.03704	0.36351	0.1615	0.37360	0.2639	0.38000
1/4	0.540	18	0.05556	0.47739	0.2278	0.49163	0.4018	0.50250
3/8	0.675	18	0.05556	0.61201	0.240	0.62701	0.4078	0.63750
1/2	0.840	14	0.07143	0.75843	0.320	0.77843	0.5337	0.79179
3/4	1.050	14	0.07143	0.96768	0.339	0.98887	0.5457	1.00179
1	1.315	11 1/2	0.08696	1.21363	0.400	1.23863	0.6828	1.25630
1 1/4	1.660	11 1/2	0.08696	1.55713	0.420	1.58338	0.7068	1.60130
1 1/2	1.900	11 1/2	0.08696	1.79609	0.420	1.82234	0.7235	1.84130
2	2.375	11 1/2	0.08696	2.26902	0.436	2.29627	0.7565	2.31630
2 1/2	2.875	8	0.12500	2.71953	0.682	2.76216	1.1375	2.79062
3	3.500	8	0.12500	3.34062	0.766	3.38850	1.2000	3.41562
3 1/2	4.000	8	0.12500	3.83750	0.821	3.88881	1.2500	3.91562
4	4.500	8	0.12500	4.33438	0.844	4.38712	1.3600	4.41562
5	5.563	8	0.12500	5.39073	0.937	5.44929	1.4063	5.47862
6	6.625	8	0.12500	6.44609	0.958	6.50597	1.5125	6.54062

Angle between sides of thread is 60 degrees. Taper of thread, on diameter is 3 1/2 inch per foot. Angle of taper with center line is 1°47'. The basic maximum thread height, h, of the truncated thread is 0.8 x pitch of thread. The crest and root are truncated a minimum of 0.033 x pitch for all pitches. For maximum depth of truncation, see Table 2.

^A Also length of thin ring gauge and length from gauging notch to small end of plug gauge.

^B Also pitch diameter at gauging notch (handtight plane).

^C Also length of plug gauge.



Specifications

Minimum Wall Thickness

ACCORDING TO ASME B16.11

NPS	SOCKETWELD FITTINGS		THREADED FITTINGS	
	SOCKET WALL THICKNESS (MIN)	BODY WALL THICKNESS (MIN)	BODY WALL THICKNESS (MIN)	CAP END WALL THICKNESS (MIN)
1/8	3.2	2.4	3.0	5.0
1/4	3.3	3.0	3.5	5.0
3/8	3.5	3.2	3.5	5.0
1/2	4.1	3.8	4.0	6.5
3/4	4.3	3.9	4.5	6.5
1	5.0	4.6	5.0	9.5
1 1/4	5.3	4.9	5.5	9.5
1 1/2	5.6	5.1	5.5	11.0
2	6.1	5.6	7.0	12.5
2 1/2	7.7	7.0	7.5	16.0
3	8.3	7.6	9.0	19.0
4	9.4	8.6	11.0	22.0

Dimensional Tolerance For Forged Socket Weld Fittings

ACCORDING TO ASME B36.10

ITEM	TYPE OF PIPE FITTING	1/8 TO 1/4	3/8 TO 3/4	1 TO 2	2 1/2 TO 4
Bore diameter of socket	ALL TYPES OF PIPE FITTINGS	0.3, -0			±0.4, -0
Bore diameter of fitting		±0.4			±0.8
Centrioity of bore		±0.8			
Centre to bottom of socket	45, 90D Elbow, Tee	±0.3	±1.5	±2	±2.5
Bottom to bottom of socket	Full coupling	±1.5	±3	±4	±5
Bottom of socket to opposite face	Half coupling	±0.8	±1.5	±2	±2.5

Specifications (cont)

Dimensions Of Seamless Steel Pipe														
ACCORDING TO ASME B36.10														
TOLERANCES			NPS	OUTSIDE DIAMETER			STEEL PIPE WALL THICKNESS							
A53 A106 O. D.	API 5L O.D.	A530 O.D.		AVG	MAX	MIN	S/10	S/30	S/40	STD	XS	S/80	S/160	XXS
+1/64 -1/32	+1/64 -1/32	+1/64 -1/32	1/8		10.7	9.5	1.2	1.5	1.7	S/40	S/80	2.4	3.2	4.8
			1/4	13.7	14.1	12.9	1.7	1.9	2.2	S/40	S/80	3.0	3.7	6.1
			3/8	17.1	17.5	16.3	1.7	1.9	2.3	S/40	S/80	3.2	4.0	6.4
			1/2	21.3	21.7	20.5	2.1	2.4	2.8	S/40	S/80	3.7	4.7	7.5
			3/4	26.7	27.1	25.9	2.1	2.4	2.9	S/40	S/80	3.9	5.5	7.8
			1	33.4	33.8	32.8	2.8	2.9	3.4	S/40	S/80	4.5	6.4	9.1
			1 1/4	42.2	42.6	41.4	2.8	3.0	3.6	S/40	S/80	4.9	6.4	9.7
			1 1/2	48.3	48.7	47.5	2.8	3.2	3.7	S/40	S/80	5.1	7.1	10.2
±1%	±.75%	+ 1/32 -1/32	2	60.3	60.9	59.7	2.8	3.2	3.9	S/40	S/80	5.5	8.7	11.1
			2 1/2	73.0	73.7	72.2	3.1	4.8	5.2	S/40	S/80	7.0	9.5	14.0
			3	88.9	89.8	88.0	3.1	4.8	5.5	S/40	S/80	7.6	11.1	15.2
			4	114.3	115.4	113.2	3.1	4.8	6.0	S/40	S/80	8.6	13.5	17.1

Pressure Temperature Chart																			
PSI (OF)																			
NOMINAL PRESSURE RATINGS	SCREWED AND SOCKET WELD FITTINGS																		
	-20 ~ 100°	150°	200°	250°	300°	350°	400°	450°	500°	550°	600°	650°	700°	750°	800°	850°	900°	950°	1000°
2000lb	2000	1970	1940	1915	1895	1875	1850	1810	1735	1640	1540	1430	1305	1180	1015	830	615	425	235
3000lb	3000	2955	2915	2875	2845	2810	2775	2715	2605	2460	2310	2150	1960	1775	1525	1250	925	640	355
6000lb	6000	5915	5830	5750	5690	5625	5550	5430	5210	4925	4620	4300	3920	3550	3050	2500	1855	1285	715