SHIELD™

Trusted Worldwide

STEEL

PIPING SYSTEM

Complete Solution for Fire-fighting, HVAC & Plumbing



ShieldGlobal.com

INTRODUCTION

SHIELD is a company created to cater to the infrastructure, fire protection and building services industries with a comprehensive range of products designed to be competitive and of assured quality.

We stay ahead of today's evolving market requirements by committing to a program of continued research and development.

We are able to maintain our high standards by ensuring that our worldwide manufacturing networks are the most advanced in the industry in Europe, Asia and America in terms of quality and delivery lead time. Our fully experienced and professional staff is there to provide engineering expertise and after sales service exactly when you need it.

Combine this with highly responsive and customer focused network of distribution centres around the world, you will find that customer satisfaction is what we excel at.

We are justifiably proud of our global client base. With offices and facilities in the UK and Middle East, we are able to comprehend the specific needs of your particular region.

Today, SHIELD proudly serves clients across the Middle East by supplying UL listed and FM approved Steel pipes and fittings from UAE to the highest quality standards.

* Refer to UL & FM certificates for more information.

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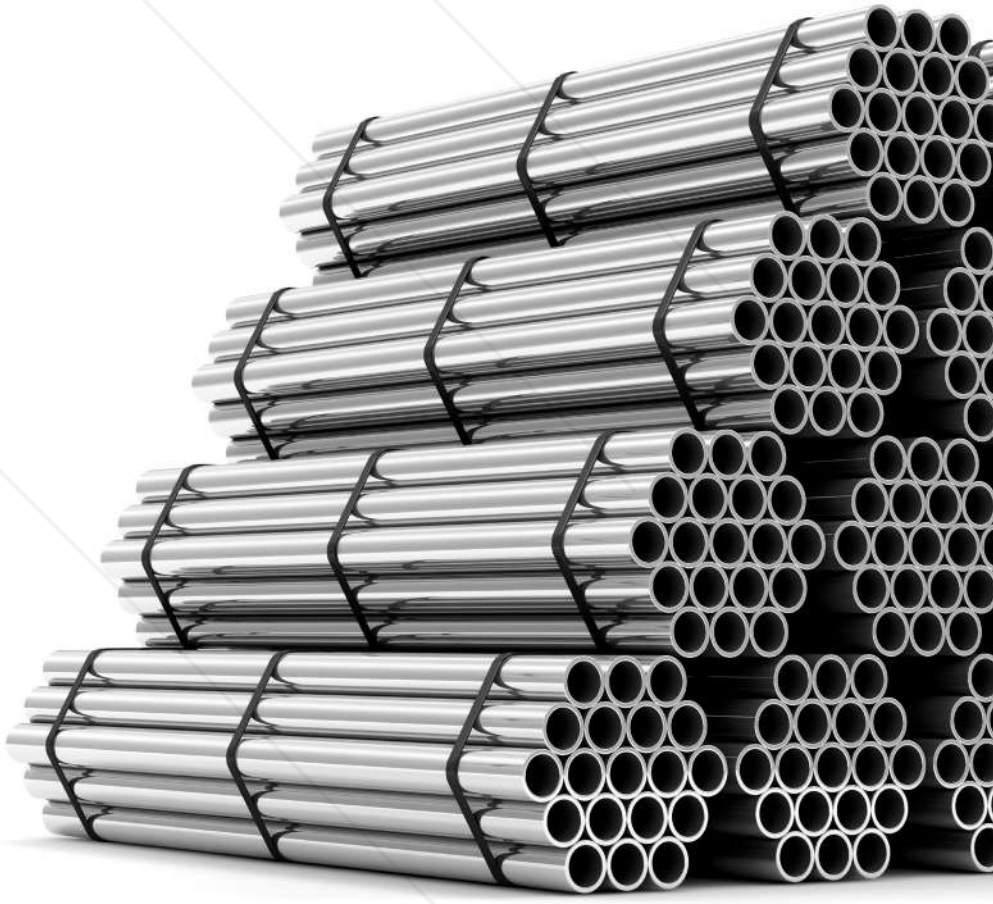
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Steel Pipes

Seamless & ERW

for numerous applications



Steel pipe is strong, tough and durable. Steel pipe have good excellent corrosion resistance and smooth finishing characteristics. Steel tubes are widely used in industrial and domestic applications.

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Seamless Pipe

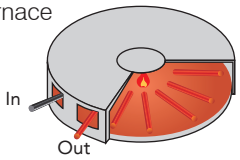
UL LISTED FM APPROVED

Manufacturing Process:

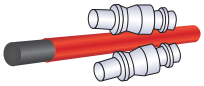
1. Round Billets



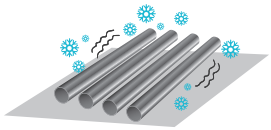
2. Rotary Hearth Furnace



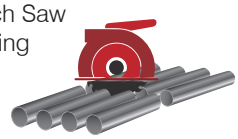
3. Piercing



7. Cooling Bed



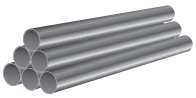
8. Batch Saw Cutting



9. Straightener

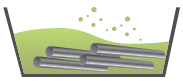


13. Seamless Pipes

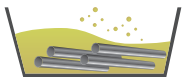


A. For Galvanized Tubes
(Available upon request)

i. Pickling



ii. Flux



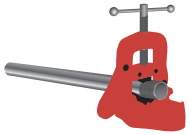
iii. Drying Furnace



viii. Visual Inspection



ix. Threading

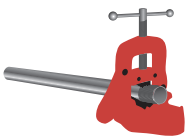


x. Thread Inspection



B. For Black Tubes
(Available upon request)

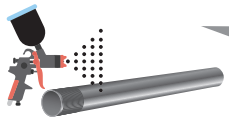
i. Threading



ii. Thread Inspection



iii. Black Enamel Paint

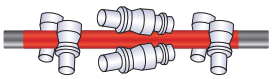


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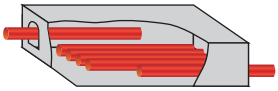
Seamless Pipe

Manufacturing Process:

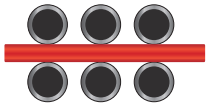
4. Multi-stand Pipe Mill (MPM)



5. Walking Beam Furnace



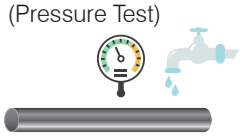
6. Stretch Reducing Mill



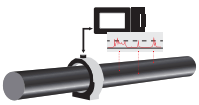
10. End Facing



11. Hydrostatic Testing (Pressure Test)



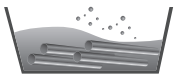
12. Eddy Current Testing (ECT)



13. Visual Inspection



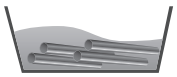
iv. Hot Dip Zinc Coating



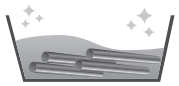
v. Steam Blowing



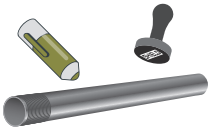
vi. Quenching



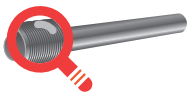
vii. Passivation (Dichromating)



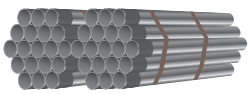
a. Marking & Stamping



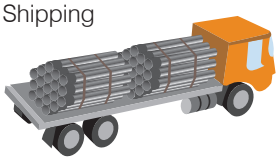
b. Final Inspection



c. Packing



d. Shipping



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Seamless Pipe

UL LISTED FM APPROVED

Technical Data:

Black & Hot Dipped Galvanized Seamless Steel Pipes conforming to ASTM A53:

Size	O.D.	Schedule 10		Schedule 20		Schedule 30		Standard		Schedule 40		Schedule 60		Schedule 80	
	mm	Wall	Wt.	Wall	Wt.	Wall	Wt.	Wall	Wt.	Wall	Wt.	Wall	Wt.	Wall	Wt.
⅜	17.1	-	-	-	-	-	-	2.31	0.84	2.31	0.84	-	-	3.20	1.10
½	21.3	-	-	-	-	-	-	2.77	1.27	2.77	1.27	-	-	3.73	1.62
¾	26.7	-	-	-	-	-	-	2.87	1.69	2.87	1.69	-	-	3.91	2.20
1	33.4	-	-	-	-	-	-	3.38	2.50	3.38	2.50	-	-	4.55	3.24
1¼	42.2	-	-	-	-	-	-	3.56	3.39	3.56	3.39	-	-	4.85	4.47
1½	48.3	-	-	-	-	-	-	3.68	4.05	3.68	4.05	-	-	5.08	5.41
2	60.3	-	-	-	-	-	-	3.91	5.44	3.91	5.44	-	-	5.54	7.48
2½	73.0	-	-	-	-	-	-	5.16	8.63	5.16	8.63	-	-	7.01	11.41
3	88.9	-	-	-	-	-	-	5.49	11.29	5.49	11.29	-	-	7.62	15.27
3½	101.6	-	-	-	-	-	-	5.74	13.57	5.74	13.57	-	-	8.08	18.63
4	114.3	-	-	-	-	-	-	6.02	16.07	6.02	16.07	-	-	8.56	22.32
5	141.3	-	-	-	-	-	-	6.55	21.77	6.55	21.77	-	-	9.52	30.94
6	168.3	-	-	-	-	-	-	7.11	28.26	7.11	28.26	-	-	10.97	42.56
8	219.1	-	-	6.35	33.31	7.04	36.31	8.18	42.55	8.18	42.55	10.31	53.08	12.70	64.64
10	273.0	-	-	6.35	41.75	7.80	51.01	9.27	60.29	9.27	60.29	12.70	81.52	15.09	95.97
12	323.8	-	-	6.35	49.71	8.38	65.18	9.52	73.78	10.31	79.70	14.27	108.92	17.48	132.04
14	355.6	6.35	54.69	7.92	67.90	9.52	81.25	9.52	81.25	11.13	94.55	15.09	126.71	19.05	158.10
16	406.4	6.35	62.64	7.92	77.83	9.52	93.17	9.52	93.17	12.70	123.30	16.66	160.12	21.44	203.53
18	457.0	6.35	70.60	7.92	87.75	11.13	122.43	9.52	105.10	14.27	155.87	19.05	205.83	23.83	254.67
20	508.0	6.35	78.55	9.52	117.02	12.70	155.12	9.52	117.02	15.09	183.42	20.62	247.83	26.19	311.17
24	610.0	6.35	94.46	9.52	140.88	14.27	209.50	9.52	140.88	17.48	255.24	24.61	355.02	30.96	441.78
26	660.0	7.92	127.43	12.70	202.85	-	-	9.52	152.80	-	-	-	-	-	-

Wall = Wall thickness in mm
Wt. = Weight in Kg/m
Available in black & hot dipped galvanized.
NOTE: Refer to UL/FM certificates for more information.

Factory Mutual System

UL LISTED

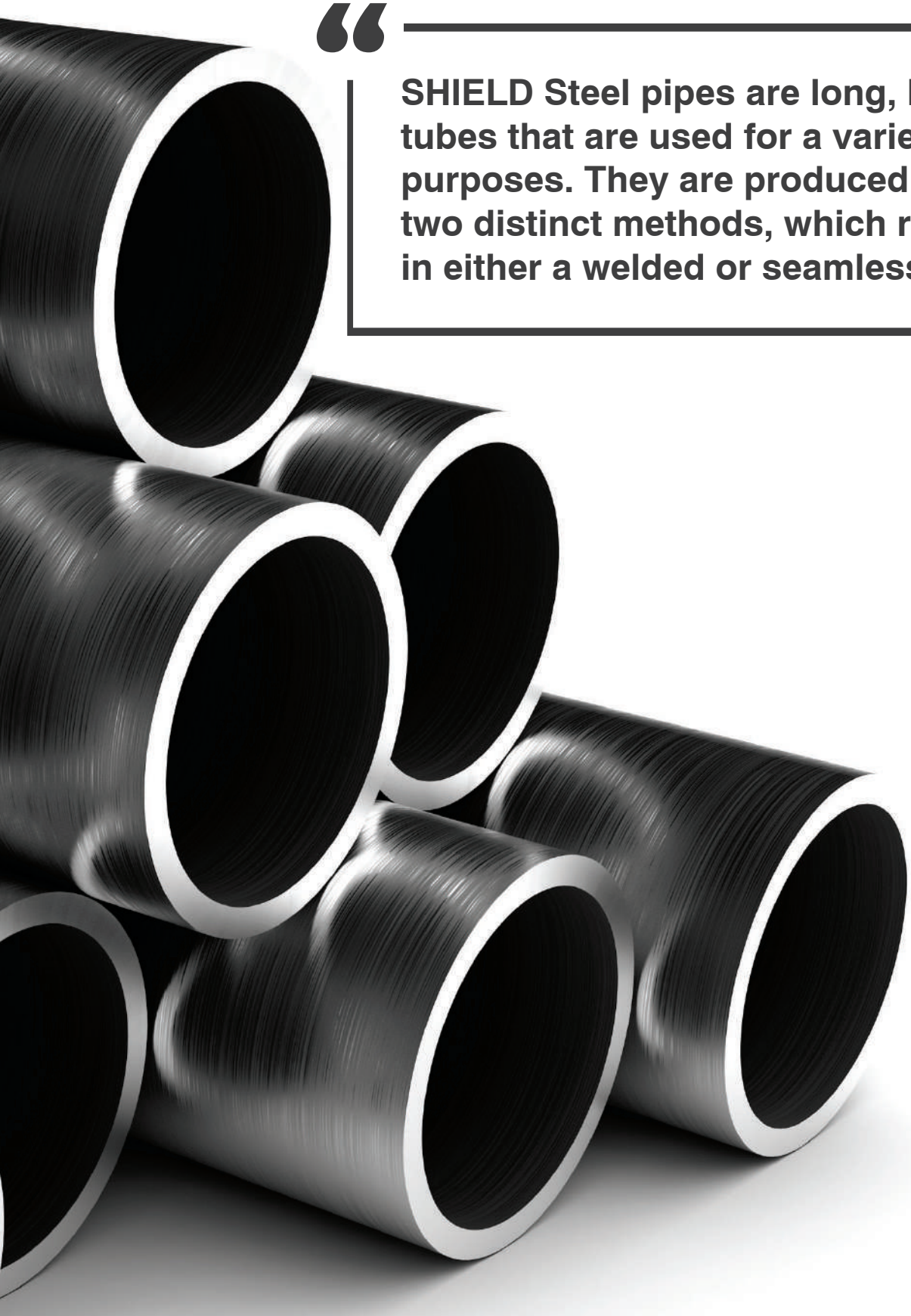


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SHIELD Steel pipes are long, hollow tubes that are used for a variety of purposes. They are produced by two distinct methods, which result in either a welded or seamless pipe.



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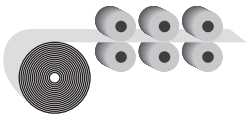
ERW Pipe

Manufacturing Process:

1. Spectrometer, Identity & Analysis Check



2. Decoiler



3. Slitting



4. End Shearing



8. Levelling & Forming



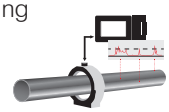
9. HF Welding



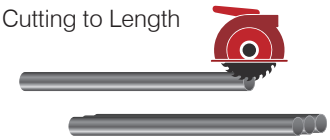
10. Removal of Internal & External Weld Bead



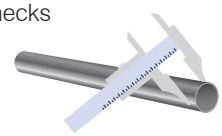
15. Eddy Current Testing



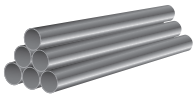
16. Identification Cutting to Length



17. Dimensional Checks

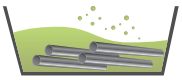


22. ERW Pipes

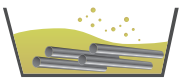


A. For Galvanized Tubes
(Available upon request)

i. Pickling



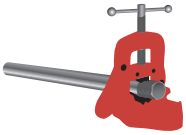
ii. Flux



vii. Visual Inspection



viii. Threading

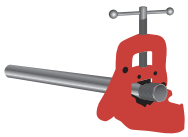


ix. Thread Inspection



B. For Black Tubes
(Available upon request)

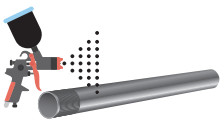
i. Threading



ii. Thread Inspection



iii. Black Enamel Paint



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ERW Pipe

Manufacturing Process:

5. Butt-weldding



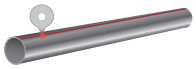
6. Strip Accumulator



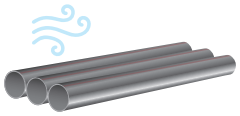
7. Strip Edge Preparation (Milling)



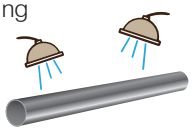
11. Induction Annealing of Weld Seam



12. Air Cooling



13. Normal Water Cooling



14. Sizing



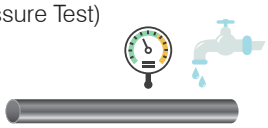
18. Weld Seam Test



19. Pipe End Bevelling/Facing



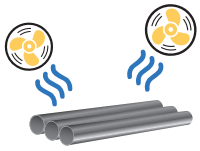
20. Hydrostatic Testing (Pressure Test)



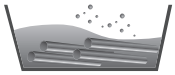
21. Visual Inspection



iii. Drying Furnace



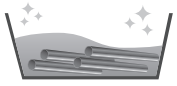
iv. Hot Dip Zinc Coating



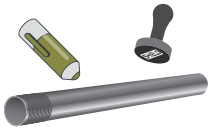
v. Steam Blowing



vi. Passivation (Dichromating)



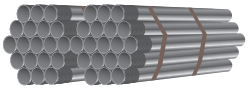
a. Marking & Stamping



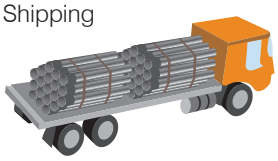
b. Final Inspection



c. Packing



d. Shipping



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ERW Pipe

UL LISTED FM APPROVED

Technical Data:

Black & Hot Dipped Galvanized Welded Steel Pipes conforming to **ASTM A53:**

Size	O.D.	Schedule 10		Schedule 20		Schedule 30		Standard		Schedule 40		Schedule 60		Schedule 80	
	mm	Wall	Wt.	Wall	Wt.	Wall	Wt.	Wall	Wt.	Wall	Wt.	Wall	Wt.	Wall	Wt.
⅜	17.1	-	-	-	-	-	-	2.31	0.84	2.31	0.84	-	-	3.20	1.10
½	21.3	-	-	-	-	-	-	2.77	1.27	2.77	1.27	-	-	3.73	1.62
¾	26.7	-	-	-	-	-	-	2.87	1.69	2.87	1.69	-	-	3.91	2.20
1	33.4	-	-	-	-	-	-	3.38	2.50	3.38	2.50	-	-	4.55	3.24
1¼	42.2	-	-	-	-	-	-	3.56	3.39	3.56	3.39	-	-	4.85	4.47
1½	48.3	-	-	-	-	-	-	3.68	4.05	3.68	4.05	-	-	5.08	5.41
2	60.3	-	-	-	-	-	-	3.91	5.44	3.91	5.44	-	-	5.54	7.48
2½	73.0	-	-	-	-	-	-	5.16	8.63	5.16	8.63	-	-	7.01	11.41
3	88.9	-	-	-	-	-	-	5.49	11.29	5.49	11.29	-	-	7.62	15.27
3½	101.6	-	-	-	-	-	-	5.74	13.57	5.74	13.57	-	-	8.08	18.63
4	114.3	-	-	-	-	-	-	6.02	16.07	6.02	16.07	-	-	8.56	22.32
5	141.3	-	-	-	-	-	-	6.55	21.77	6.55	21.77	-	-	9.52	30.94
6	168.3	-	-	-	-	-	-	7.11	28.26	7.11	28.26	-	-	10.97	42.56
8	219.1	-	-	6.35	33.31	7.04	36.31	8.18	42.55	8.18	42.55	10.31	53.08	12.70	64.64
10	273.0	-	-	6.35	41.75	7.80	51.01	9.27	60.29	9.27	60.29	12.70	81.52	15.09	95.97
12	323.8	-	-	6.35	49.71	8.38	65.18	9.52	73.78	10.31	79.70	14.27	108.92	17.48	132.04
14	355.6	6.35	54.69	7.92	67.90	9.52	81.25	9.52	81.25	11.13	94.55	15.09	126.71	19.05	158.10
16	406.4	6.35	62.64	7.92	77.83	9.52	93.17	9.52	93.17	12.70	123.30	16.66	160.12	21.44	203.53
18	457.0	6.35	70.60	7.92	87.75	11.13	122.43	9.52	105.10	14.27	155.87	19.05	205.83	23.83	254.67
20	508.0	6.35	78.55	9.52	117.02	12.70	155.12	9.52	117.02	15.09	183.42	20.62	247.83	26.19	311.17
24	610.0	6.35	94.46	9.52	140.88	14.27	209.50	9.52	140.88	17.48	255.24	24.61	355.02	30.96	441.78
26	660.0	7.92	127.43	12.70	202.85	-	-	9.52	152.80	-	-	-	-	-	-

Wall = Wall thickness in mm
Wt. = Weight in Kg/m
Available in black & hot dipped galvanized.
NOTE: Refer to UL/FM certificates for more information.

Factory Mutual System

UL LISTED



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ERW Pipe

Technical Data:

Black & Hot Dipped Galvanized Welded Steel Pipes conforming to **BS EN 10255(1387:1985)**

Class	Nominal Bore		Outside Diameter				Wall Thickness		Weight of Pipes		No. of Pipes packed per standard bundle
			Max.		Min.				Plain Ended	Screwed & Socketed	
	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Kg/m	Kg/m	(1 Ton Approx.)
Light (1)	½	15	0.854	21.7	0.827	21.0	0.091	2.30	1.08	1.09	169
	¾	20	1.067	27.1	1.039	26.4	0.091	2.30	1.39	1.40	127
	1	25	1.339	34.0	1.307	33.2	0.114	2.90	2.20	2.22	91
	1¼	32	1.681	42.7	1.650	41.9	0.114	2.90	2.82	2.85	61
	1½	40	1.913	48.6	1.882	47.8	0.114	2.90	3.24	3.28	61
	2	50	2.390	60.7	2.346	59.6	0.126	3.20	4.49	4.56	37
	2½	65	3.004	76.3	2.961	75.2	0.126	3.20	5.73	5.85	37
	3	80	3.520	89.4	3.461	87.9	0.142	3.60	7.55	7.72	19
	4	100	4.524	114.9	4.449	113.0	0.157	4.00	10.8	11.1	19
Light (2)	½	15	0.843	21.4	0.827	21.0	0.079	2.00	0.947	0.956	169
	¾	20	1.059	26.9	1.039	26.4	0.091	2.30	1.38	1.39	127
	1	25	1.331	33.8	1.307	33.2	0.102	2.60	1.98	2.00	91
	1¼	32	1.673	42.5	1.650	41.9	0.102	2.60	2.54	2.57	61
	1½	40	1.906	48.4	1.882	47.8	0.114	2.90	3.23	3.27	61
	2	50	2.370	60.2	2.346	59.6	0.114	2.90	4.08	4.15	37
	2½	65	2.992	76.0	2.961	75.2	0.126	3.20	5.71	5.83	37
	3	80	3.492	88.7	3.461	87.9	0.126	3.20	6.72	6.89	19
	4	100	4.484	113.9	4.449	113.0	0.142	3.60	9.75	10.0	19
Light (A)	½	15	0.854	21.7	0.827	21.0	0.091	2.30	1.08	1.09	169
	¾	20	1.067	27.1	1.039	26.4	0.091	2.30	1.4	1.41	127
	1	25	1.339	34.0	1.307	33.2	0.114	2.90	2.2	2.22	91
	1¼	32	1.681	42.7	1.650	41.9	0.114	2.90	2.82	2.85	61
	1½	40	1.913	48.6	1.882	47.8	0.114	2.90	3.25	3.29	61
	2	50	2.390	60.7	2.346	59.6	0.126	3.20	4.51	4.58	37
	2½	65	2.992	76.0	2.961	75.2	0.126	3.20	5.75	5.87	37
	3	80	3.492	88.7	3.461	87.9	0.126	3.20	6.76	6.93	19
	4	100	4.484	113.9	4.449	113.0	0.142	3.60	983	10.1	19
	5	125	5.543	140.8	5.453	138.5	0.177	4.50	15.0	15.4	10
	6	150	6.555	166.5	6.453	163.9	0.177	4.50	17.8	18.4	10
Medium (B)	½	15	0.858	21.8	0.827	21.0	0.102	2.60	1.21	1.22	169
	¾	20	1.075	27.3	1.043	26.5	0.102	2.60	1.56	1.57	127
	1	25	1.346	34.2	1.311	33.3	0.126	3.20	2.41	2.43	91
	1¼	32	1.689	42.9	1.654	42.0	0.126	3.20	3.10	3.13	61
	1½	40	1.921	48.8	1.886	47.9	0.126	3.20	3.56	3.60	61
	2	50	2.394	60.8	2.350	59.7	0.142	3.60	5.03	5.10	37
	2½	65	3.016	76.6	2.965	75.3	0.142	3.60	6.42	6.54	37
	3	80	3.524	89.5	3.465	88.0	0.157	4.00	8.36	8.53	19
	4	100	4.528	115.0	4.453	113.1	0.177	4.50	12.2	12.5	19
	5	125	5.543	140.8	5.453	138.5	0.197	5.00	16.6	17.1	10
	6	150	6.555	166.5	6.453	163.9	0.197	5.00	19.8	20.4	10
Heavy (C)	½	15	0.858	21.8	0.827	21.0	0.126	3.20	1.44	1.45	169
	¾	20	1.075	27.3	1.043	26.5	0.126	3.20	1.87	1.88	127
	1	25	1.346	34.2	1.311	33.3	0.157	4.00	2.93	2.95	91
	1¼	32	1.689	42.9	1.654	42.0	0.157	4.00	3.79	3.82	61
	1½	40	1.921	48.8	1.886	47.9	0.157	4.00	4.37	4.41	61
	2	50	2.394	60.8	2.350	59.7	0.177	4.50	6.19	6.26	37
	2½	65	3.016	76.6	2.965	75.3	0.177	4.50	7.93	8.05	37
	3	80	3.524	89.5	3.465	88.0	0.197	5.00	10.3	10.5	19
	4	100	4.528	115.0	4.453	113.1	0.213	5.40	14.5	14.8	10
	5	125	5.543	140.8	5.453	138.5	0.213	5.40	17.9	18.4	10
	6	150	6.555	166.5	6.453	163.9	0.213	5.40	21.3	21.9	10

TOLERANCES:

- Thickness: Light Tube 1 & 2 -8%, Light Tube ±10% Medium and Heavy Tubes ±10%
- Weight: Medium and Heavy Tube ±7.5% and Single Tube +10% -8%, Quantity - 150 metres and above of one size & class ±4%
- Length: 6 metres ±0.05 metres.

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ERW Pipe

Technical Data:

Black & Hot Dipped Galvanized Welded Steel Pipes conforming to **AS 1074:1989:**

Nominal Size		Class	Outside Diameter		Thickness	Weight (Plain End)	Weight (Socketed)	Pcs/Bundle
			Min.	Max.				
Inch	mm		mm	mm	mm	Kg/m	Kg/m	
½	15	L	21.0	21.4	2.0	0.947	0.956	217
¾	20	L	26.4	26.9	2.3	1.380	1.390	127
1	25	L	33.2	33.8	2.6	1.980	2.000	91
1¼	32	L	41.9	42.5	2.6	2.540	2.570	61
1½	40	L	47.8	48.4	2.9	3.230	3.270	61
2	50	L	59.6	60.2	2.9	4.080	4.150	37
2½	65	L	75.2	76.0	3.2	5.710	5.830	37
3	80	L	87.9	88.7	3.2	6.720	6.890	19
4	100	L	113.0	113.9	3.6	9.750	10.000	19
½	15	M	21.1	21.7	2.6	1.210	1.220	217
¾	20	M	26.6	27.2	2.6	1.560	1.570	127
1	25	M	33.4	34.2	3.2	2.410	2.430	91
1¼	32	M	42.1	42.9	3.2	3.100	3.130	61
1½	40	M	48.0	48.8	3.2	3.570	3.610	61
2	50	M	59.8	60.8	3.6	5.030	5.100	37
2½	65	M	75.4	76.6	3.6	6.430	6.550	37
3	80	M	88.1	89.5	4.0	8.370	8.540	19
4	100	M	113.3	114.9	4.5	12.200	12.500	19
5	125	M	138.7	140.6	5.0	16.600	17.100	13
6	150	M	164.1	166.1	5.0	19.700	20.300	10
½	15	H	21.1	21.7	3.2	1.440	1.450	217
¾	20	H	26.6	27.2	3.2	1.870	1.880	127
1	25	H	33.4	34.2	4.0	2.940	2.960	91
1¼	32	H	42.1	42.9	4.0	3.800	3.830	61
1½	40	H	48.0	48.8	4.0	4.380	4.420	61
2	50	H	59.8	60.8	4.5	6.190	6.260	37
2½	65	H	75.4	76.6	4.5	7.930	8.050	37
3	80	H	88.1	89.5	5.0	10.300	10.500	19
4	100	H	113.3	114.9	5.4	14.500	14.800	19
5	125	H	138.7	140.6	5.4	17.900	18.400	13
6	150	H	164.1	166.1	5.4	21.300	21.900	10

PE: Plain End, RG: Rolled Groove, HDG: Hot-dipped Galvanising:

- Yield Strength (min): 195 MPa
- Ultimate Tensile Strength: 320 to 460 MPa
- Minimum Elongation: 20%
- Galvanising: Galavanizing comply with AS1650
- Threading: AS 1722-1

TOLERANCES:
Outside Diameter as per above table;

- Thickness: Light Tube -8%, Medium and Heavy Tubes -10%
- Weight: Single Tube +10% -8%, Quantity - 150 metres and above of one size & class ±4%
- Length: 6.5 metres ±0.08 metres.

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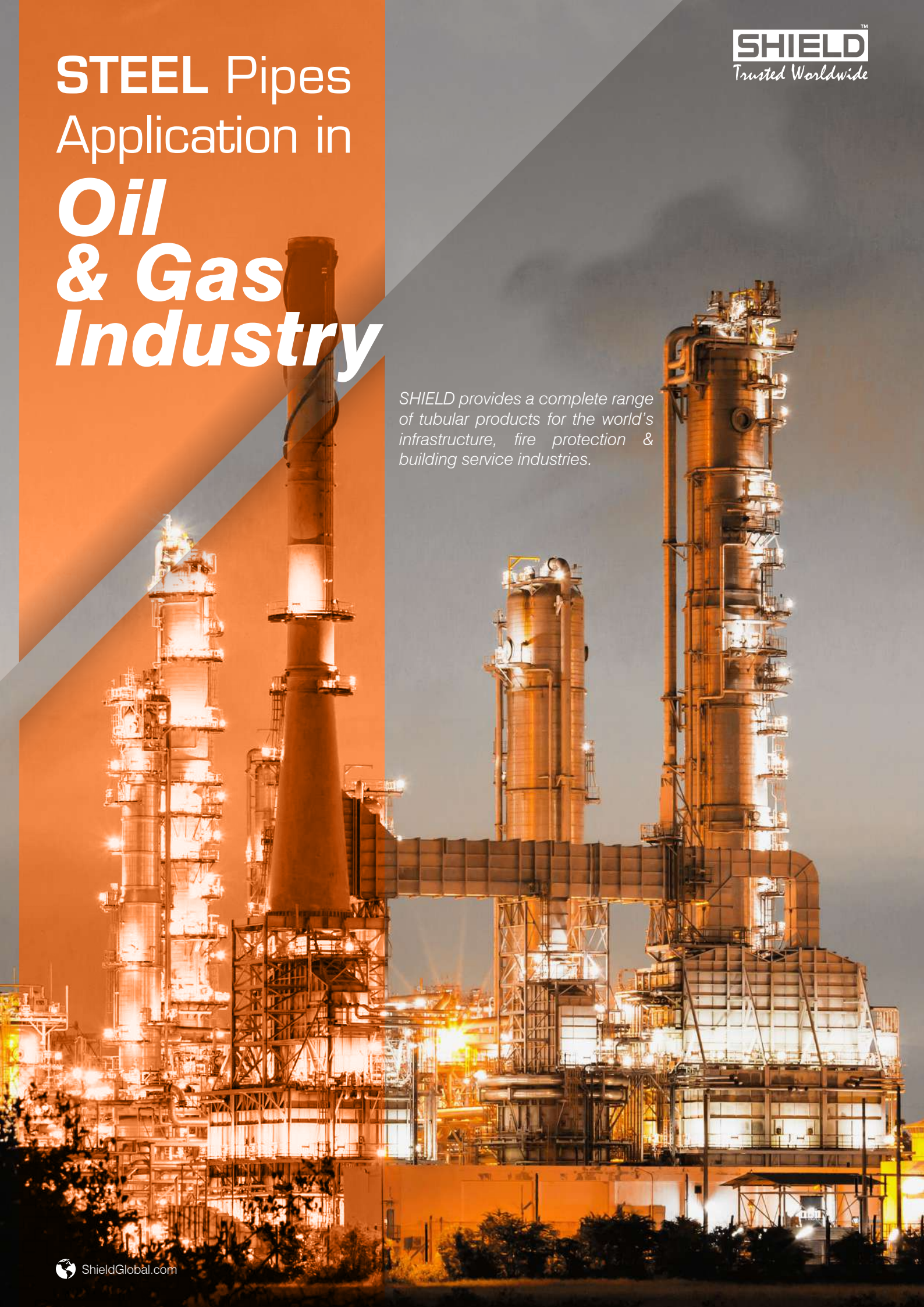
“Our pipes conform to FM* (Factory Mutual) approved and UL* (Underwriters Laboratories) listed and adhere to ASTM A 53 production standard. Our pipes also conform to AS 1074:1989 production standard from Australia.”

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SHIELD™
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STEEL Pipes Application in ***Oil & Gas Industry***

SHIELD provides a complete range of tubular products for the world's infrastructure, fire protection & building service industries.



ShieldGlobal.com

Steel Pipe

Technical Data:

Dimensions, Weights and Test Pressures according to **ASTM A53:**

NPS Designator	DN Designator	Specified Outside Diameter		Specified Wall Thickness		Nominal Weight		Weight Class	Schedule No.	Test Pressure			
										Grade A		Grade B	
Inch	mm	Inch	mm	Inch	mm	lb/ft	Kg/m	-	-	psi	kPa	psi	kPa
⅛	6	0.405	10.3	0.068	1.73	0.24	0.37	STD	40	700	4800	700	4800
				0.095	2.41	0.31	0.47	XS	80	850	5900	850	5900
¼	8	0.540	13.7	0.088	2.24	0.43	0.63	STD	40	700	4800	700	4800
				0.119	3.02	0.54	0.80	XS	80	850	5900	850	5900
⅜	10	0.675	17.1	0.091	2.31	0.57	0.84	STD	40	700	4800	700	4800
				0.126	3.20	0.74	1.10	XS	80	850	5900	850	5900
½	15	0.840	21.3	0.109	2.77	0.85	1.27	STD	40	700	4800	700	4800
				0.147	3.73	1.09	1.62	XS	80	850	5900	850	5900
				0.188	4.78	1.31	1.95	-	160	900	6200	900	6200
				0.294	7.47	1.72	2.55	XXS	-	1000	6900	1000	6900
¾	20	1.050	26.7	0.113	2.87	1.13	1.69	STD	40	700	4800	700	4800
				0.154	3.91	1.48	2.20	XS	80	850	5900	850	5900
				0.219	5.56	1.95	2.90	-	160	950	6500	950	6500
				0.308	7.82	2.44	3.64	XXS	-	1000	6900	1000	6900
1	25	1.315	33.4	0.133	3.38	1.68	2.50	STD	40	700	4800	700	4800
				0.179	4.55	2.17	3.24	XS	80	850	5900	850	5900
				0.250	6.35	2.85	4.24	-	160	950	6500	950	6500
				0.358	9.09	3.66	5.45	XXS	-	1000	6900	1000	6900
1¼	32	1.660	42.2	0.140	3.56	2.27	3.39	STD	40	1200	8300	1300	9000
				0.191	4.85	3.00	4.47	XS	80	1800	12400	1900	13100
				0.250	6.35	3.77	5.61	-	160	1900	13100	2000	13800
				0.382	9.70	5.22	7.77	XXS	-	2200	15200	2300	15900
1½	40	1.900	48.3	0.145	3.68	2.72	4.05	STD	40	1200	8300	1300	9000
				0.200	5.08	3.63	5.41	XS	80	1800	12400	1900	13100
				0.281	7.14	4.86	7.25	-	160	1950	13400	2050	14100
				0.400	10.16	6.41	9.56	XXS	-	2200	15200	2300	15900
2	50	2.375	60.3	0.154	3.91	3.66	5.44	STD	40	2300	15900	2500	17200
				0.218	5.54	5.03	7.48	XS	80	2500	17200	2500	17200
				0.344	8.74	7.47	11.11	-	160	2500	17200	2500	17200
				0.436	11.07	9.04	13.44	XXS	-	2500	17200	2500	17200
2½	65	2.875	73.0	0.203	5.16	5.80	8.63	STD	40	2500	17200	2500	17200
				0.276	7.01	7.67	11.41	XS	80	2500	17200	2500	17200
				0.375	9.52	10.02	14.90	-	160	2500	17200	2500	17200
				0.552	14.02	13.71	20.39	XXS	-	2500	17200	2500	17200
3	80	3.500	88.9	0.125	3.18	4.51	6.72	-	-	1290	8900	1500	1000
				0.156	3.96	5.58	8.29	-	-	1600	11000	1870	12900
				0.188	4.78	6.66	9.92	-	-	1930	13330	2260	15600
				0.216	5.49	7.58	11.29	STD	40	2220	15300	2500	17200
				0.250	6.35	8.69	12.93	-	-	2500	17200	2500	17200
				0.281	7.14	9.67	14.40	-	-	2500	17200	2500	17200
				0.300	7.62	10.26	15.27	XS	80	2500	17200	2500	17200
				0.438	11.13	14.34	21.35	-	160	2500	17200	2500	17200
				0.600	15.24	18.60	27.68	XXS	-	2500	17200	2500	17200

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SHIELD™
Trusted Worldwide

Steel Pipe

NPS Designator	DN Designator	Specified Outside Diameter		Specified Wall Thickness		Nominal Weight		Weight Class	Schedule No.	Test Pressure			
										Grade A		Grade B	
Inch	mm	Inch	mm	Inch	mm	lb/ft	Kg/m	-	-	psi	kPa	psi	kPa
3½	90	4.000	101.6	0.125	3.18	5.18	7.72	-	-	1120	7700	1310	19000
				0.156	3.96	6.41	9.53	-	-	1400	6700	1640	11300
				0.188	4.78	7.66	11.41	-	-	1690	11700	1970	13600
				0.226	5.74	9.12	13.57	STD	40	2030	14000	2370	16300
				0.250	6.35	10.02	14.92	-	-	2250	15500	2500	17200
				0.281	7.14	11.17	16.63	-	-	2500	17200	2500	17200
				0.318	8.08	12.52	18.63	XS	80	2800	19300	2800	19300
4	100	4.500	114.3	0.125	3.18	5.85	8.71	-	-	1000	6900	1170	8100
				0.156	3.96	7.24	10.78	-	-	1250	8600	1460	10100
				0.188	4.78	8.67	12.91	-	-	1500	10300	1750	12100
				0.219	5.56	10.02	14.91	-	-	1750	12100	2040	14100
				0.237	6.02	10.80	16.07	STD	40	1900	13100	2210	15200
				0.250	6.35	11.36	16.90	-	-	2000	13800	2330	16100
				0.281	7.14	12.67	18.87	-	-	2250	15100	2620	18100
				0.312	7.92	13.97	20.78	-	-	2500	17200	2800	19300
				0.337	8.56	15.00	22.32	XS	80	2700	18600	2800	19300
				0.438	11.13	19.02	28.32	-	120	2800	19300	2800	19300
				0.531	13.49	22.53	33.54	-	160	2800	19300	2800	19300
				0.674	17.12	27.57	41.03	XXS	-	2800	19300	2800	19300
5	125	5.563	141.3	0.156	3.96	9.02	13.41	-	-	1010	7000	1180	8100
				0.188	4.78	10.80	16.09	-	-	1220	8400	1420	9800
				0.219	5.56	12.51	18.61	-	-	1420	9800	1650	11400
				0.258	6.55	14.63	21.77	STD	40	1670	11500	1950	13400
				0.281	7.14	15.87	23.62	-	-	1820	12500	2120	14600
				0.312	7.92	17.51	26.05	-	-	2020	13900	2360	16300
				0.344	8.74	19.19	28.57	-	-	2230	15400	2600	17900
				0.375	9.52	20.80	30.94	XS	80	2430	16800	2800	19300
				0.500	12.70	27.06	40.28	-	120	2800	19300	2800	19300
				0.625	15.88	32.99	49.11	-	160	2800	19300	2800	19300
				0.750	19.05	38.59	57.43	XXS	-	2800	19300	2800	19300
6	150	6.625	168.3	0.188	4.78	12.94	19.27	-	-	1020	7000	1190	8200
				0.219	5.56	15.00	22.31	-	-	1190	8200	1390	9600
				0.250	6.35	17.04	25.36	-	-	1360	9400	1580	10900
				0.280	7.11	18.99	28.26	STD	40	1520	10500	1780	12300
				0.312	7.92	21.06	31.32	-	-	1700	11700	1980	13700
				0.344	8.74	23.10	34.39	-	-	1870	12900	2180	15000
				0.375	9.52	25.05	37.28	-	-	2040	14100	2380	16400
				0.432	10.97	28.60	42.56	XS	80	2350	16200	2740	18900
				0.562	14.27	36.43	54.20	-	120	2800	19300	2800	19300
				0.719	18.26	45.39	67.56	-	160	2800	19300	2800	19300
				0.864	21.95	53.21	79.22	XXS	-	2800	19300	2800	19300
8	200	8.625	219.1	0.188	4.78	16.96	25.26	-	-	780	5400	920	6300
				0.203	5.16	18.28	27.22	-	-	850	5900	1000	6900
				0.219	5.56	19.68	29.28	-	-	910	6300	1070	7400
				0.250	6.35	22.38	33.31	-	20	1040	7200	1220	8400
				0.277	7.04	24.72	36.31	-	30	1160	7800	1350	9300
				0.312	7.92	27.73	41.24	-	-	1300	9000	1520	10500

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Steel Pipe

NPS Designator	DN Designator	Specified Outside Diameter		Specified Wall Thickness		Nominal Weight		Weight Class	Schedule No.	Test Pressure			
										Grade A		Grade B	
Inch	mm	Inch	mm	Inch	mm	lb/ft	Kg/m	-	-	psi	kPa	psi	kPa
8	200	8.625	219.1	0.322	8.18	28.58	42.55	STD	40	1340	9200	1570	10800
				0.344	8.74	30.45	45.34	-	-	1440	9900	1680	11600
				0.375	9.52	33.07	49.20	-	-	1570	10800	1830	12600
				0.406	10.31	35.67	53.08	-	60	1700	11700	2000	13800
				0.438	11.13	38.33	57.08	-	-	1830	12600	2130	14700
				0.500	12.70	43.43	64.64	XS	80	2090	14400	2430	16800
				0.594	15.09	51.00	75.92	-	100	2500	17200	2800	19300
				0.719	18.26	60.77	90.44	-	120	2800	19300	2800	19300
				0.812	20.62	67.82	100.92	-	140	2800	19300	2800	19300
				0.875	22.22	72.49	107.88	XXS	-	2800	19300	2800	19300
				0.906	23.01	74.76	111.27	-	160	2800	19300	2800	19300
10	250	10.750	273.0	0.188	4.78	21.23	31.62	-	-	630	4300	730	5000
				0.203	5.16	22.89	34.08	-	-	680	4700	800	5500
				0.219	5.56	24.65	36.67	-	-	730	5000	860	5900
				0.250	6.35	28.06	41.75	-	20	840	5800	980	6800
				0.279	7.09	31.23	46.49	-	-	930	6400	1090	7500
				0.307	7.80	34.27	51.01	-	30	1030	7100	1200	8300
				0.344	8.74	38.27	56.96	-	-	1150	7900	1340	9200
				0.365	9.27	40.52	60.29	STD	40	1220	8400	1430	9900
				0.438	11.13	48.28	71.87	-	-	1470	10100	1710	11800
				0.500	12.70	54.79	81.52	XS	60	1670	11500	1950	13400
				0.594	15.09	64.49	95.97	-	80	1990	13700	2320	16000
				0.719	18.26	77.10	114.7	-	100	2410	16600	2800	19300
				0.844	21.44	89.38	133.00	-	120	2800	19300	2800	19300
				1.000	25.40	104.23	155.09	XXS	140	2800	19300	2800	19300
				1.125	28.57	115.75	172.21	-	160	2800	19300	2800	19300
12	300	12.750	323.8	0.203	5.16	27.23	40.55	-	-	570	3900	670	4600
				0.219	5.56	29.34	43.63	-	-	620	4300	720	5000
				0.250	6.35	33.41	49.71	-	20	710	4900	820	5700
				0.281	7.14	37.46	55.75	-	-	790	5400	930	6400
				0.312	7.92	41.48	61.69	-	-	880	6100	1030	7100
				0.330	8.38	43.81	65.18	-	30	930	6400	1090	7500
				0.344	8.74	45.62	67.90	-	-	970	6700	1130	7800
				0.375	9.52	49.61	73.78	STD	-	1060	7300	1240	8500
				0.406	10.31	53.57	79.70	-	40	1150	7900	1340	9200
				0.438	11.13	57.65	85.82	-	-	1240	8500	1440	9900
				0.500	12.70	65.48	97.43	XS	-	1410	9700	1650	11400
				0.562	14.27	73.22	108.92	-	60	1590	11000	1850	12800
				0.688	17.48	88.71	132.04	-	80	1940	13400	2270	15700
				0.844	21.44	107.42	159.86	-	100	2390	16500	2780	19200
				1.000	25.40	125.61	186.91	XXS	120	2800	19300	2800	19300
				1.125	28.57	139.81	208.00	-	140	2800	19300	2800	19300
				1.312	33.32	160.42	238.68	-	160	2800	19300	2800	19300

NOTE: Weight: Pipes are considered as Plain End Pipes

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Steel Pipe

NPS Designator	DN Designator	Specified Outside Diameter		Specified Wall Thickness		Nominal Weight		Weight Class	Schedule No.	Test Pressure			
										Grade A		Grade B	
Inch	mm	Inch	mm	Inch	mm	lb/ft	Kg/m	-	-	psi	kPa	psi	kPa
14	350	14.000	355.6	0.210	5.33	30.96	46.04	-	-	540	3700	630	4300
				0.219	5.56	32.26	47.99	-	-	560	3900	660	4500
				0.250	6.35	36.75	54.69	-	10	640	4400	750	5200
				0.281	7.14	41.21	61.35	-	-	720	5000	840	5800
				0.312	7.92	45.65	67.90	-	20	800	5500	940	6500
				0.344	8.74	50.22	74.76	-	-	880	6100	1030	7100
				0.375	9.52	54.62	81.25	STD	30	960	6600	1120	7700
				0.438	11.13	63.50	94.55	-	40	1130	7800	1310	9000
				0.469	11.91	67.84	100.94	-	-	1210	8300	1410	9700
				0.500	12.70	72.16	107.39	XS	-	1290	8900	1500	10300
				0.594	15.09	85.13	126.71	-	60	1530	10500	1790	12300
				0.750	19.05	106.23	158.10	-	80	1930	13300	2250	15500
				0.938	23.83	130.98	194.96	-	100	2410	16600	2800	19300
				1.094	27.79	150.93	224.65	-	120	2800	19300	2800	19300
				1.250	31.75	170.37	253.56	-	140	2800	19300	2800	19300
				1.406	35.71	189.29	281.70	-	160	2800	19300	2800	19300
				2.000	50.80	256.56	381.83	-	-	2800	19300	2800	19300
				2.125	53.97	269.76	401.44	-	-	2800	19300	2800	19300
				2.200	55.88	277.51	413.01	-	-	2800	19300	2800	19300
				2.500	63.50	307.34	457.40	-	-	2800	19300	2800	19300
16	400	16.000	406.4	0.219	5.56	36.95	54.96	-	-	490	3400	570	3900
				0.250	6.35	42.09	62.64	-	10	560	3900	660	4500
				0.281	7.14	47.22	70.30	-	-	630	4300	740	5100
				0.312	7.92	52.32	77.83	-	20	700	4800	820	5700
				0.344	8.74	57.57	85.71	-	-	770	5300	900	6200
				0.375	9.52	62.64	93.17	STD	30	840	5800	980	6800
				0.438	11.13	72.86	108.49	-	-	990	6800	1150	7900
				0.469	11.91	77.87	115.86	-	-	1060	7300	1230	8500
				0.500	12.70	82.85	123.30	XS	40	1120	7700	1310	9000
				0.656	16.66	107.60	160.12	-	60	1480	10200	1720	11900
				0.844	21.44	136.74	203.53	-	80	1900	13100	2220	15300
				1.031	26.19	164.98	245.56	-	100	2320	16000	2710	18700
				1.219	30.96	192.61	286.64	-	120	2740	18900	2800	19300
				1.438	36.53	223.85	333.19	-	140	2800	19300	2800	19300
				1.594	40.49	245.48	365.35	-	160	2800	19300	2800	19300
18	450	18.000	457.0	0.250	6.35	47.44	70.60	-	10	500	3400	580	4000
				0.281	7.14	53.23	79.24	-	-	560	3900	660	4500
				0.312	7.92	58.99	87.75	-	20	620	4300	730	5000
				0.344	8.74	64.93	96.66	-	-	690	4800	800	5500
				0.375	9.52	70.65	105.10	STD	-	750	5200	880	6100
				0.406	10.31	76.36	113.62	-	-	810	5600	950	6500
				0.438	11.13	82.23	122.43	-	30	880	6100	1020	7000
				0.469	11.91	87.89	130.78	-	-	940	6500	1090	7500
				0.500	12.70	93.54	139.20	XS	-	1000	6900	1170	8100
				0.562	14.27	104.76	155.87	-	40	1120	7700	1310	9000
				0.750	19.05	138.30	205.83	-	60	1500	10300	1750	12100
				0.938	23.83	171.08	254.67	-	80	1880	13000	2190	15100
				1.156	29.36	208.15	309.76	-	100	2310	15900	2700	18600
				1.375	34.92	244.37	363.64	-	120	2750	19000	2800	19300
				1.562	39.67	274.48	408.45	-	140	2800	19300	2800	19300
				1.781	45.24	308.79	459.59	-	160	2800	19300	2800	19300

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Steel Pipe

NPS Designator	DN Designator	Specified Outside Diameter		Specified Wall Thickness		Nominal Weight		Weight Class	Schedule No.	Test Pressure			
										Grade A		Grade B	
Inch	mm	Inch	mm	Inch	mm	lb/ft	Kg/m	-	-	psi	kPa	psi	kPa
20	500	20.000	508.0	0.250	6.35	52.78	78.55	-	10	450	3100	520	3600
				0.281	7.14	59.23	88.19	-	-	510	3500	590	4100
				0.312	7.92	65.66	97.67	-	-	560	3900	660	4500
				0.344	8.74	72.28	107.60	-	-	620	4300	720	5000
				0.375	9.52	78.67	117.02	STD	20	680	4700	790	5400
				0.406	10.31	84.04	126.53	-	-	730	5000	850	5900
				0.438	11.13	91.59	136.37	-	-	790	5400	920	6300
				0.469	11.91	97.92	145.70	-	-	850	5900	950	6500
				0.500	12.70	104.230	155.12	XS	30	900	6200	1050	7200
				0.594	15.09	123.230	183.42	-	40	1170	8100	1250	8600
				0.812	20.62	166.560	247.83	-	60	1460	10100	1710	11800
				1.031	26.19	209.060	311.17	-	80	1860	12800	2170	15000
				1.281	32.54	256.340	381.53	-	100	2310	15900	2690	18500
				1.500	38.10	296.650	441.49	-	120	2700	18600	2800	19300
				1.750	44.45	341.410	508.11	-	140	2800	19300	2800	19300
				1.969	50.01	379.530	564.81	-	160	2800	19300	2800	19300
24	600	24.000	610.0	0.250	6.35	63.470	94.46	-	10	380	2600	440	3000
				0.281	7.14	71.250	106.08	-	-	420	2900	490	3400
				0.312	7.92	79.010	117.51	-	-	470	3200	550	3800
				0.344	8.74	86.990	129.50	-	-	520	3600	600	4100
				0.375	9.52	94.710	140.88	STD	20	560	3900	660	4500
				0.406	10.31	102.400	152.37	-	-	610	4200	710	4900
				0.438	11.13	110.320	164.26	-	-	660	4500	770	5300
				0.469	11.91	117.980	175.54	-	-	700	4800	820	5700
				0.500	12.70	125.610	186.94	XS	-	750	5200	880	6100
				0.562	14.27	140.810	209.50	-	30	840	5800	980	6800
				0.688	17.48	171.450	255.24	-	40	1030	7100	1200	8300
				0.938	23.83	231.250	344.23	-	-	1410	9700	1640	11300
				0.969	24.61	238.570	355.02	-	60	1450	10000	1700	11700
				1.219	30.96	296.860	441.78	-	80	1830	12600	2130	14700
				1.531	38.89	367.740	547.33	-	100	2300	15900	2680	18500
				1.812	46.02	429.790	639.58	-	120	2720	18800	2800	19300
				2.062	52.37	483.570	719.63	-	140	2800	19300	2800	19300
				2.344	59.54	542.640	807.63	-	160	2800	19300	2800	19300
26	650	26.000	660.0	0.250	6.35	68.820	102.42	-	-	350	2400	400	2800
				0.281	7.14	77.260	115.02	-	-	390	2700	450	3100
				0.312	7.92	85.680	127.43	-	10	430	3000	500	3400
				0.344	8.74	94.350	140.45	-	-	480	3300	560	3900
				0.375	9.52	102.720	152.80	STD	-	520	3600	610	4200
				0.406	10.31	111.080	165.28	-	-	560	3900	660	4500
				0.438	11.13	119.690	178.20	-	-	610	4200	710	4900
				0.469	11.91	128.000	190.46	-	-	650	4500	760	5200
				0.500	12.70	136.300	202.85	XS	20	690	4800	810	5600
				0.562	14.27	152.830	227.37	-	-	780	5400	910	6300

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SHIELD™
Trusted Worldwide

STEEL Pipes Application in ***Fire Fighting Industry***



SHIELD Fire Safety and Security, has the world class facilities of steel pipes manufacturing for fire-fighting industry.

Steel Pipe

Chemical Composition & Mechanical Properties:

Specification	Type	Grade	Chemical Composition (%)									Mechanical Properties							
			C	Mn	P	S	Cr	Mo	Cu	Ni	V	Yield Strength				Tensile Strength			
												Min		Max		Min		Max	
			Max	Max	Max	Max	Max	Max	Max	Max	Max	Psi	mPa	Psi	mPa	Psi	mPa	Psi	mPa
ASTM A53	E, S	A	0.25	0.95	0.050	0.045	0.40	0.15	0.40	0.40	0.08	30,000	205	-	-	48,000	330	-	-
	E, S	B	0.30	1.20	0.050	0.045	0.40	0.15	0.40	0.40	0.08	35,000	240	-	-	60,000	415	-	-
EN 10255 (BS 1387)	E, S	-	0.20	1.40	0.035	0.030	-	-	-	-	-	-	195	-	-	-	320	-	520

D - Specified Outside Diameter (mm)
A - Cross Sectional Area (Inch / mm)
U - Specified Tensile Strength (psi / MPa)
E - ERW (Electric Resistance Welded)
S - Seamless
t - Specified Wall Thickness (mm)

Dimensional Tolerance & Weight:

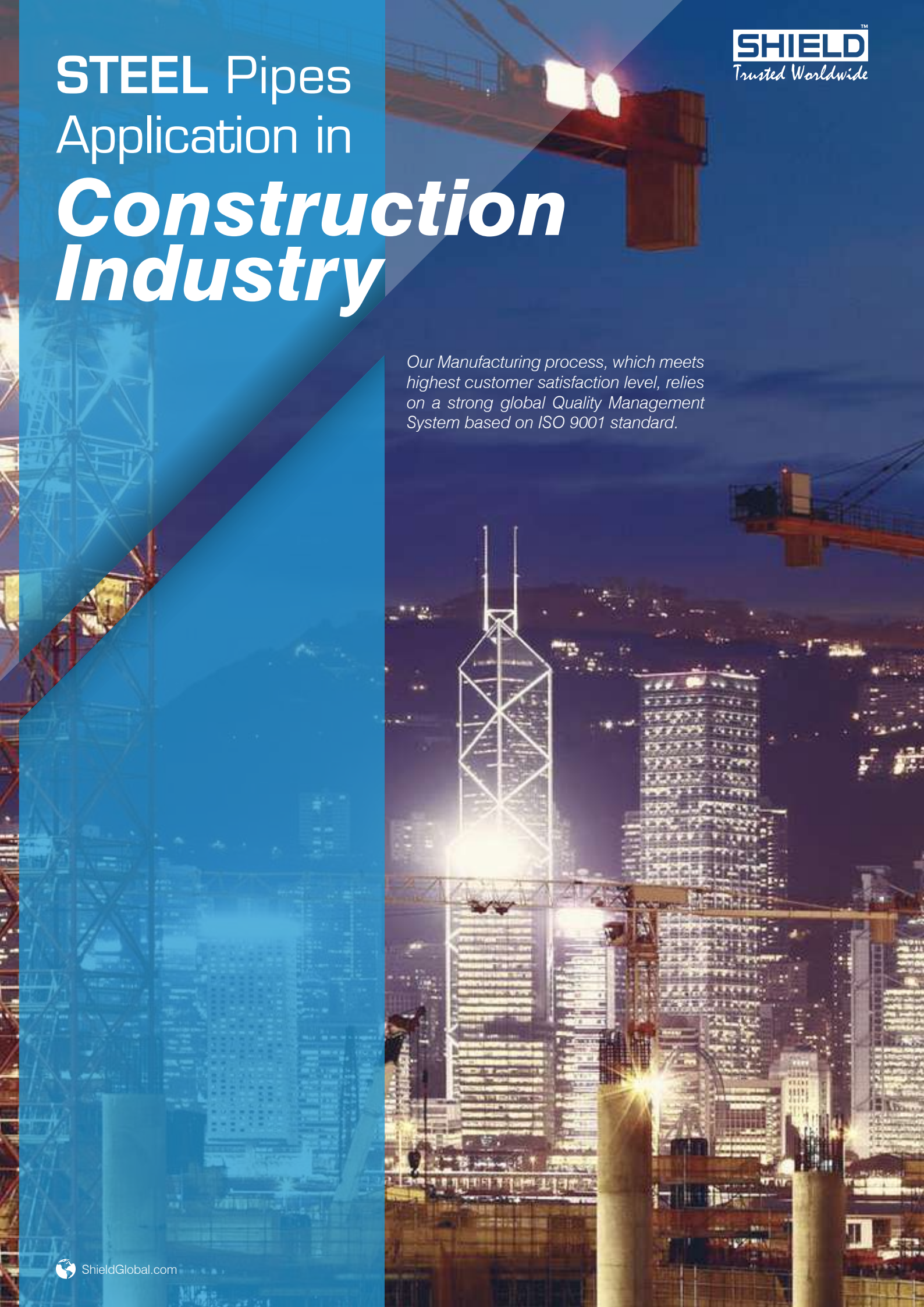
Specification	Type	Outside Diameter (O.D.)		Wall Thickness	Weight	Length							
		Pipe Body	Pipe Ends (Plain End)			Nominal		Avg (Min)		Minimum		Maximum	
						ft.	m	ft.	m	ft.	m	ft.	m
ASTM A53	E, S	1½" NPS & under: ±0.40 mm	N/A	At any point: - 12.5% (max)	±10%	20	5.8/6m	-	-	16	4.88	22	6.71
		2" NPS and over: ±1.0%				40	12	35	10.67	22	6.71	-	-
EN 10255 (BS 1387)	E, S	As per table of relevant specification	N/A	Light: + not limited , - 8%,	Carload 10 MT Light : ± 5% 10 MT, Med. & Heavy: ± 7.5%	-	6	-	-	-	4	-	7
				Note: For Seamless Pipes Tolerance shall be -12.5%, + not limited	Single Tube Light: +10%, -8% Med & Heavy: ± 10%								
				Medium & Heavy: + not limited, -10%		Tolerance - Exact Length: +6mm, -0 Approximate length: ±150mm							

E = ERW
S = Seamless
WT = Wall Thickness

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STEEL Pipes Application in ***Construction Industry***

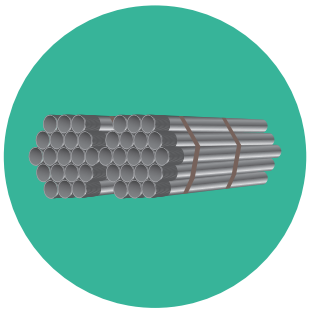
Our Manufacturing process, which meets highest customer satisfaction level, relies on a strong global Quality Management System based on ISO 9001 standard.



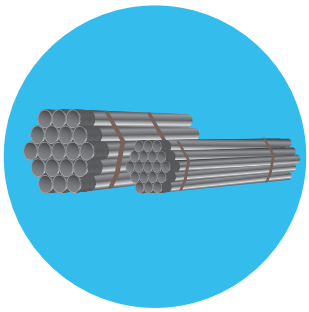
Steel Pipe

Storage & Handling:

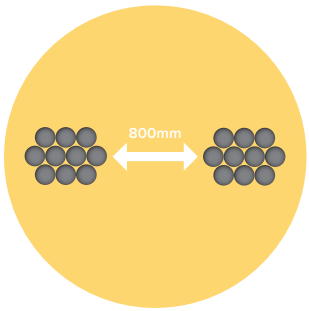
General Requirements and Restrictions on Storage and Handling:



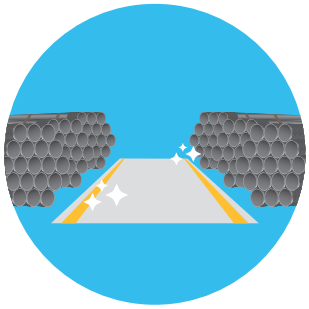
Material shall be handled & stored properly to avoid any damage to life, property & environment.



Materials shall be separated according to type, size and stacked on well drained, flat and unyielding surface.



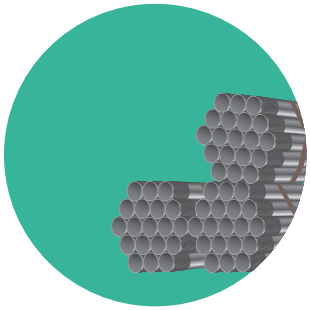
A minimum of 800mm wide passageway should be allowed in between piles for inspection and removal.



All passageways shall be kept clear of dry vegetation, greasy substance and debris.



Proper action plan should be there for storage and equipments with proper manoeuvrability for vehicles carrying materials.



High piles shall be staggered backside at suitable intervals in height.



Material stored on site shall be protected from atmospheric actions to avoid deterioration.



Personal Protective Equipment such as hard hats, steel toed boots, gloves etc., must be worn.



Material handling manual/guide should be provided for managing the material properly.

SHIELD reserves the right to change the contents without notice.

Dos and Don'ts



Never drag or roll individual pipes or bundles.



Never throw or drop pipes from vehicle.



Never use metal hooks, slings or chains when handling pipes.



Never stack pipe bundles more than 3 meters or 3 bundles high



Never place pipes in contact with lubricating or hydraulic oil, gasoline, solvent, or other aggressive materials



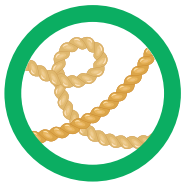
Don't remove pipe bundle from bottom layer



Never store pipes near sharp objects.



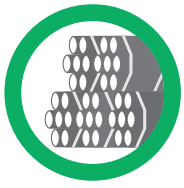
Always store pipes on flat, firm ground, able to withstand the weight of the material and lifting apparatus with stoppers.



Always use non-metal slings when handling pipes (e.g. nylon or polypropylene).



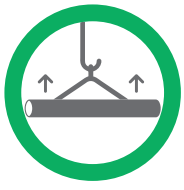
Always exercise special care when handling pipes in wet or frosty conditions, since they may become slippery.



Each stack shall have pipes of the same type and size only.



Always store pipes/fittings away from direct sunlight, rain, grass and water.



Always allow some bending deflection when pipes are loaded and unloaded.



Always protect pipes with opaque sheet or tarpaulin.

SHIELD reserves the right to change the contents without notice.

Steel Pipe

Employee Protection:

A list of the key requirements to protect employees, whether it is construction or repair of single or multi-storey buildings and bridges, or other structures where steel erection occurs.



Experienced or Certified or Knowledgeable employee required for lifting or handling equipment.



Personal Protective Equipment such as hard hats, steel toed boots, gloves etc., must be worn.



Load-related forklift, cranes or hoists must be used for handling.



Restrain pipes properly so they may not roll, slip, slide or fall over while storing.



Ensure that the crane is positioned directly over the load to prevent the pipes from swinging.



Equipment/Speed limits and load charts must be prominently displayed.



Load/Unload material from truck which is parked only on even surface.

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Threaded
Ductile Iron Fittings
for Fire-Fighting, CHW and Plumbing



Factory Mutual System

UL® LISTED

High quality threaded fittings in compliance with various international standards such as UL, ULC, FM, ASTM and BS. Having the widest range of threaded fittings from ½" to 6" sizes

Threaded Ductile Iron Fittings

Description:

SHIELD Threaded Fittings feature a complete range of ductile iron threaded fittings in a wide variety of configurations in sizes from ½" to 6".

SHIELD fittings are UL, ULC listed and FM approved for water line and fire protection applications.

> *SHIELD manufactures high quality threaded fittings in compliance with various international standards such as UL, FM, ASTM and BS. Having the widest range of threaded fittings from ½" to 6" sizes, SHIELD offers extensive customization options to suite specific project needs. Not only in design of fittings but also in the final finish, SHIELD offers both hot dipped galvanized or black Finish.*



Material	Max. Working Pressure	Dimensions	Threads	Finish
▸ Ductile Iron ASTM A536, BS EN 1563	▸ 500 psi	▸ American Standard ASME B16.3, B16.14, Class 150 & Unions ASME B16.39	▸ British Standard BS 21 ISO 7/1(Taper) ▸ American Standard ANSI B1.20.1(Upon request)	▸ Black or Hot Dipped Galvanized

SHIELD reserves the right to change the contents without notice.

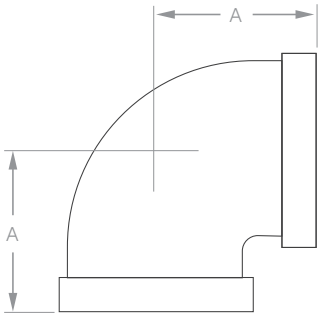
Threaded Ductile Iron Fittings

Elbow 90°:

SDT-100:

Nominal Size		A	
Inch	mm	Inch	mm
½	15	1.12	28.5
¾	20	1.31	33.3
1	25	1.50	38.1
1¼	32	1.75	44.5
1½	40	1.94	49.3
2	50	2.25	57.2
2½	65	2.70	68.6
3	80	3.08	78.2

> *SHIELD Steel Threaded Fittings are most suitable for marine, pumping, commercial, domestic chemical, and irrigation applications. All fittings have a high-quality appearance.*



UL/FM : ½" to 6"
Elbow 90°





NOTE: Refer to UL/FM certificates for more information.

SHIELD reserves the right to change the contents without notice.

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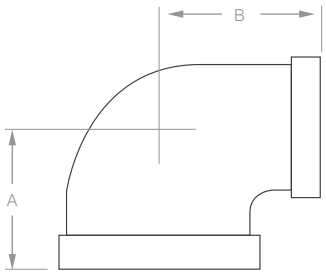
Threaded Ductile Iron Fittings

UL LISTED FM APPROVED

Reducing Elbow 90°:

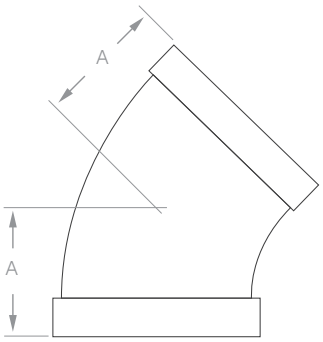
SDT-101:

Nominal Size		A		B	
Inch	mm	Inch	mm	Inch	mm
¾ x ½	20 x 15	1.20	30.5	1.22	31.0
1 x ½	25 x 15	1.26	32.0	1.40	35.5
1 x ¾	25 x 20	1.37	34.8	1.45	36.8
1¼ x ½	32 x 15	1.34	34.0	1.53	38.9
1¼ x ¾	32 x 20	1.45	36.8	1.62	41.2
1¼ x 1	32 x 25	1.58	40.1	1.67	42.4
1½ x ½	40 x 15	1.41	35.8	1.66	42.2
1½ x ¾	40 x 20	1.52	38.6	1.75	44.5
1½ x 1	40 x 25	1.65	41.9	1.80	45.7
1½ x 1¼	40 x 32	1.82	46.2	1.88	47.8
2 x ½	50 x 15	1.49	37.9	1.88	47.8
2 x ¾	50 x 20	1.60	40.6	1.97	50.0
2 x 1	50 x 25	1.73	43.9	2.02	51.3
2 x 1¼	50 x 32	1.90	48.3	2.10	53.3
2 x 1½	50 x 40	2.02	51.3	2.16	54.9



UL/FM : ¼" to 6"
Reducing Elbow 90°





UL/FM : ½" to 2½"
Elbow 45°

Elbow 45°:

SDT-200:

Nominal Size		A	
Inch	mm	Inch	mm
½	15	0.88	22.4
¾	20	0.98	24.9
1	25	1.12	28.5
1¼	32	1.29	32.8
1½	40	1.43	36.3
2	50	1.68	42.7
2½	65	1.95	49.5



NOTE: Refer to UL/FM certificates for more information.

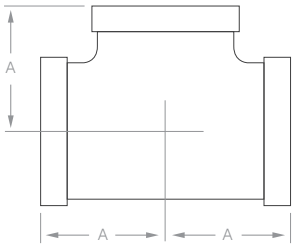
SHIELD reserves the right to change the contents without notice.

Threaded Ductile Iron Fittings

Tee:

SDT-12:

Nominal Size		A	
Inch	mm	Inch	mm
½	15	1.12	28.5
¾	20	1.31	33.3
1	25	1.50	38.1
1¼	32	1.75	44.5
1½	40	1.94	49.3
2	50	2.25	57.2
2½	65	2.70	68.6
3	80	3.08	78.2
4	100	3.79	96.3



UL/FM: ½" to 4"
Tee

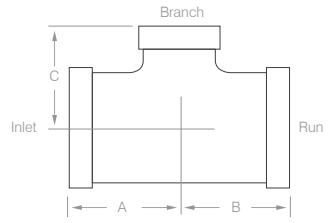
Pipe Tee has a T-shape having two outlets, at 90° to connect to the main line. It is a short piece of pipe with a lateral outlet. Pipe Tee is used to connect pipelines with a pipe at a right angle with the line. Pipe Tees are widely used as pipe fittings.

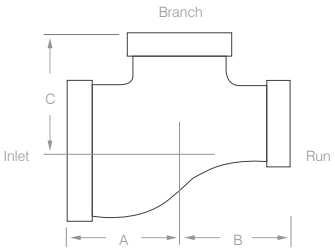
Reducing Tee:

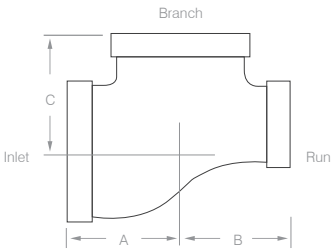
SDT-53 (Ductile Iron):

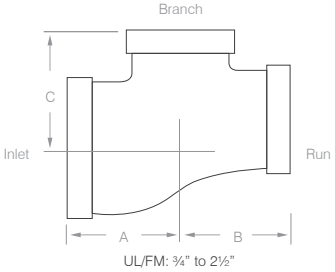
Nominal Size				A		B		C	
Inlet	Run	Branch							
Inch	Inch	Inch	mm	Inch	mm	Inch	mm	Inch	mm
¾	¾	½	20 x 20 x 15	1.20	30.5	1.20	30.5	1.22	31.0
¾	¾	1	20 x 20 x 25	1.45	36.8	1.45	36.8	1.37	34.8
1	½	1	25 x 15 x 25	1.50	38.1	1.40	35.5	1.50	38.1
1	¾	¾	25 x 20 x 20	1.37	34.8	1.31	33.3	1.45	36.8
1	¾	1	25 x 20 x 25	1.50	38.1	1.45	36.8	1.50	38.1
1	1	½	25 x 25 x 15	1.26	32.0	1.26	32.0	1.40	35.5
1	1	¾	25 x 25 x 20	1.37	34.8	1.37	34.8	1.45	36.8
1	1	1¼	25 x 25 x 32	1.67	42.4	1.67	42.4	1.58	40.1
1	1	1½	25 x 25 x 40	1.80	45.7	1.80	45.7	1.65	41.9
1¼	½	1¼	32 x 15 x 32	1.75	44.5	1.53	38.9	1.75	44.5
1¼	1	½	32 x 25 x 15	1.34	34.0	1.26	32.0	1.53	38.9
1¼	1	¾	32 x 25 x 20	1.45	36.8	1.37	34.8	1.62	41.2
1¼	1	1	32 x 25 x 25	1.58	40.1	1.50	38.1	1.67	42.4
1¼	1	1¼	32 x 25 x 32	1.75	44.5	1.67	42.4	1.75	44.5
1¼	1	1½	32 x 25 x 40	1.89	48.0	1.81	46.0	1.81	46.0
1¼	1¼	½	32 x 32 x 15	1.34	34.0	1.34	34.0	1.53	38.9
1¼	1¼	¾	32 x 32 x 20	1.45	36.8	1.45	36.8	1.62	41.2
1¼	1¼	1	32 x 32 x 25	1.58	40.1	1.58	40.1	1.67	42.4
1¼	1¼	1½	32 x 32 x 40	1.88	47.8	1.88	47.8	1.82	46.2
1¼	1¼	2	32 x 32 x 50	2.10	53.3	1.90	53.3	2.30	48.3
1½	1	½	40 x 25 x 15	1.41	35.8	1.34	34.0	1.66	42.2
1½	1	¾	40 x 25 x 20	1.52	38.6	1.75	34.8	1.37	44.5
1½	1	1	40 x 25 x 25	1.65	41.9	1.50	38.1	1.80	45.7
1½	1	1¼	40 x 25 x 32	1.82	46.2	1.67	42.4	1.88	47.8
1½	1	1½	40 x 25 x 40	1.94	49.3	1.80	45.7	1.94	49.3
1½	1¼	½	40 x 32 x 15	1.41	35.8	1.34	34.0	1.66	42.2
1½	1¼	¾	40 x 32 x 20	1.52	38.6	1.75	36.3	1.43	44.5
1½	1¼	1	40 x 32 x 25	1.65	41.9	1.58	40.1	1.80	45.7
1½	1¼	1¼	40 x 32 x 32	1.82	46.2	1.75	44.5	1.88	47.8
1½	1¼	1½	40 x 32 x 40	1.94	49.3	1.88	47.8	1.94	49.3
1½	1¼	2	40 x 32 x 50	2.16	54.9	2.10	53.3	2.02	51.3
1½	1½	½	40 x 40 x 15	1.41	35.8	1.41	35.8	1.66	42.2
1½	1½	¾	40 x 40 x 20	1.52	38.6	1.52	38.6	1.75	44.5
1½	1½	1	40 x 40 x 25	1.65	41.9	1.65	41.9	1.80	45.7
1½	1½	1¼	40 x 40 x 32	1.82	46.2	1.82	46.2	1.88	47.8
1½	1½	2	40 x 40 x 50	2.16	54.9	2.16	54.9	2.02	51.3
2	1	1½	50 x 25 x 40	2.02	51.3	1.80	45.7	2.16	54.9
2	1	2	50 x 25 x 50	2.25	57.2	2.02	51.3	2.25	57.2
2	1¼	1	50 x 32 x 25	1.57	44.0	1.73	40.0	2.01	51.0
2	1¼	2	50 x 32 x 50	2.25	57.2	2.10	53.3	2.25	57.2
2	1½	½	50 x 40 x 15	1.49	37.9	1.41	35.8	1.88	47.8
2	1½	¾	50 x 40 x 20	1.59	40.5	1.97	38.5	1.51	50.0
2	1½	1	50 x 40 x 25	1.73	43.9	1.65	41.9	2.02	51.3
2	1½	1¼	50 x 40 x 32	1.90	48.3	1.82	46.2	2.10	53.3
2	1½	1½	50 x 40 x 40	2.02	51.3	1.94	49.3	2.16	54.9
2	1½	2	50 x 40 x 50	2.25	57.2	2.16	54.8	2.25	57.2
2	2	½	50 x 50 x 15	1.49	37.9	1.49	37.9	1.88	47.8
2	2	¾	50 x 50 x 20	1.60	40.6	1.60	40.6	1.97	50.0
2	2	1	50 x 50 x 25	1.73	43.9	1.73	43.9	2.02	51.3
2	2	1¼	50 x 50 x 32	1.90	48.3	1.90	48.3	2.10	53.3
2	2	1½	50 x 50 x 40	2.02	51.3	2.02	51.3	2.16	54.9
2	2	2½	50 x 50 x 65	2.60	66.0	2.01	66.0	2.39	60.7











UL/FM: ¾" to 2½"
Reducing Tee

NOTE: Refer to UL/FM certificates for more information.

SHIELD reserves the right to change the contents without notice.

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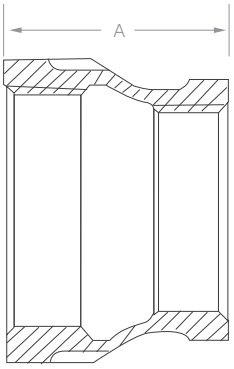
Threaded Ductile Iron Fittings

UL LISTED FM APPROVED

Reducing Coupling:

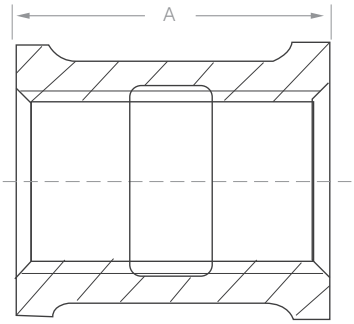
SDT-30:

Nominal Size		A	
Inch	mm	Inch	mm
1 x ½	25 x 15	1.69	42.9
1 x ¾	25 x 20	1.69	42.9
1¼ x ¾	32 x 20	2.06	52.3
1¼ x 1	32 x 22	2.06	52.3
1½ x 1	40 x 25	2.31	58.7
1½ x 1¼	40 x 32	2.31	58.7
2 x 1	50 x 25	2.81	71.4
2 x 1¼	50 x 32	2.81	71.4
2 x 1½	50 x 40	2.81	71.4



UL/FM: ½" to 1¼"
Reducing Coupling





UL/FM : ½" to 2"
Straight Coupling



Straight Coupling:

SDT-22:

Nominal Size		A	
Inch	mm	Inch	mm
½	15	1.34	34.0
¾	20	1.52	38.6
1	25	1.67	42.4
1¼	32	1.93	49.0
1½	40	2.15	54.6
2	50	2.53	64.3

NOTE: Refer to UL/FM certificates for more information.

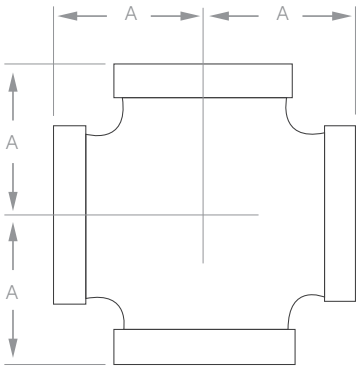
SHIELD reserves the right to change the contents without notice.

Threaded Ductile Iron Fittings

Cross:

SDT-13:

Nominal Size		A	
Inch	mm	Inch	mm
¾	20	1.30	33.1
1	25	1.50	38.1
1¼	32	1.75	44.5
1½	40	1.94	49.3
2	50	2.25	57.2



UL/FM : ¾" to 2"
Cross

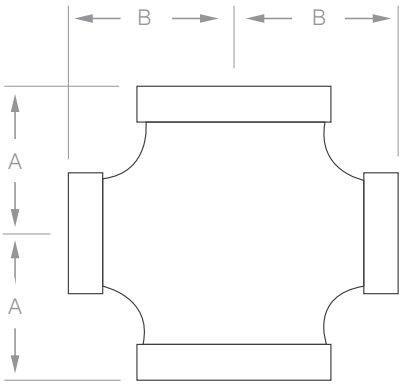
Factory Mutual System



Reducing Cross:

SDT-51:

Nominal Size		A		B	
Inch	mm	Inch	mm	Inch	mm
1¼ x 1	32 x 25	1.58	40.1	1.67	42.4
1½ x 1	40 x 25	1.65	41.9	1.80	45.7
1½ x 1¼	40 x 32	1.82	46.2	1.88	47.8
2 x 1	50 x 25	1.73	43.9	2.02	51.3



UL/FM : 1¼" to 2"
Reducing Cross

NOTE: Refer to UL/FM certificates for more information.

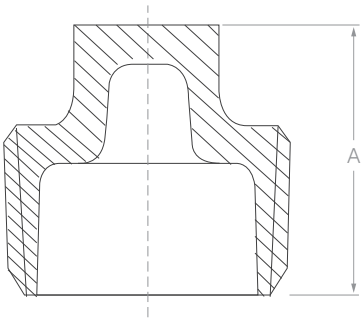
SHIELD reserves the right to change the contents without notice.

Threaded Ductile Iron Fittings

Plug:

SDT-55:

Nominal Size		A	
Inch	mm	Inch	mm
½	15	0.94	23.9
¾	20	1.07	27.2
1	25	1.25	31.8
1¼	32	1.36	34.5
1½	40	1.45	36.9
2	50	1.56	39.7



UL/FM : ½" to 2"
Plug



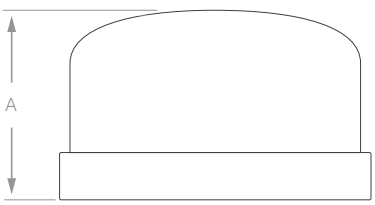


Cap:

SDT-14:

Nominal Size		A	
Inch	mm	Inch	mm
½	15	0.87	22.1
¾	20	0.97	24.6
1	25	1.16	29.5
1¼	32	1.28	32.5
1½	40	1.33	33.8
2	50	1.45	36.8
2½	65	1.70	43.2

NOTE: Sizes are available up to 6".



UL/FM : ½" to 2½"
Cap

NOTE: Refer to UL/FM certificates for more information.

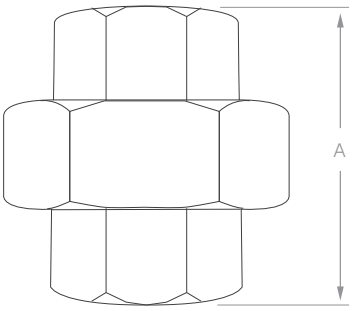
SHIELD reserves the right to change the contents without notice.

Threaded Ductile Iron Fittings

Union:

SDT-59:

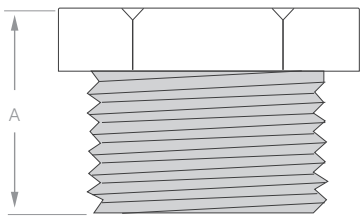
Nominal Size		A	
Inch	mm	Inch	mm
1	25	2.07	52.5
1¼	32	2.26	57.5
1½	40	2.40	61.0
2	50	2.76	70.0



UL/FM: 1" to 2"
Union







UL/FM: 1" to 2"
Hex Bush

Hex Bush:

SDT-57:

Nominal Size		A	
Inch	mm	Inch	mm
1 x ½	25 x 15	1.00	25.5
1 x ¾	25 x 20	1.00	25.5
1¼ x 1	32 x 25	1.08	27.4
1½ x 1	40 x 25	1.14	29.0
1½ x 1¼	40 x 32	1.14	29.0
2 x 1¼	50 x 32	1.22	31.0
2 x 1½	50 x 40	1.22	31.0

NOTE: Refer to UL/FM certificates for more information.

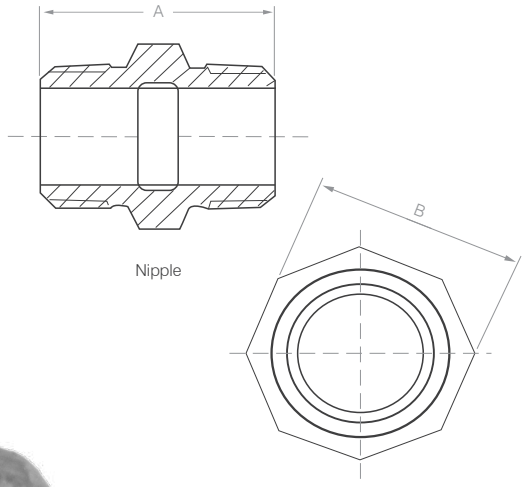
SHIELD reserves the right to change the contents without notice.

Threaded Ductile Iron Fittings

Nipple:

SDT-11:

Nominal Size		A		B	
Inch	mm	Inch	mm	Inch	mm
½	15	1.57	39.88	0.98	24.89
¾	20	1.77	44.96	1.18	29.97
1	25	2.05	52.07	1.45	36.83
1¼	32	2.20	55.88	1.81	45.97
1½	40	2.28	57.91	2.05	52.07
2	50	2.56	65.02	2.52	64.01
2½	65	2.83	71.88	3.15	80.01
3	80	3.15	80.01	3.70	93.98
4	100	3.62	91.95	4.65	118.11



Nipple



NOTE: Refer to UL/FM certificates for more information.

SHIELD reserves the right to change the contents without notice.

SHIELD™
Trusted Worldwide

Threaded

Malleable Iron Fittings

for Fire-Fighting, CHW and Plumbing



High quality threaded fittings in compliance with various international standards such as UL, ULC, FM, ASTM and BS. Having the widest range of threaded fittings from ½" to 6" sizes

Factory Mutual System

UL® LISTED

ShieldGlobal.com

Threaded Malleable Iron Fittings

LISTED FM APPROVED

Description:

SHIELD Threaded Fittings feature a complete range of malleable iron threaded fittings in a wide variety of configurations in sizes from ½" to 6".

SHIELD fittings are UL, ULC listed and FM approved for water line and fire protection applications.

> *SHIELD manufactures high quality threaded fittings in compliance with various international standards such as UL, FM, ASTM and BS. Having the widest range of threaded fittings from ½" to 6" sizes, SHIELD offers extensive customization options to suite specific project needs. Not only in design of fittings but also in the final finish, SHIELD offers both hot dipped galvanized or black Finish.*



Material	Max. Working Pressure	Dimensions	Threads	Finish
▸ Malleable Iron BS EN 1562	▸ 500 psi	▸ British Standard BS EN 10242, BS 143 & 1256	▸ British Standard BS 21 ISO 7/1(Taper) ▸ American Standard ANSI B1.20.1	▸ Black or Hot Dipped Galvanized

SHIELD reserves the right to change the contents without notice.

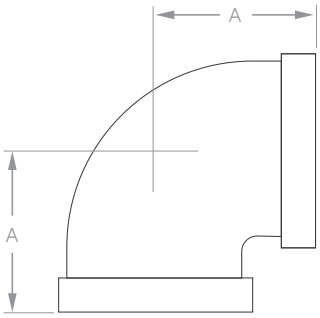
Threaded Malleable Iron Fittings

Elbow 90°:

SDT-100:

Nominal Size		A	
Inch	mm	Inch	mm
⅛	6	0.75	19.0
¼	8	0.83	21.0
⅜	10	0.98	25.0
½	15	1.10	28.0
¾	20	1.30	33.0
1	25	1.50	38.0
1¼	32	1.77	45.0
1½	40	1.97	50.0
2	50	2.28	58.0
2½	65	2.72	69.0
3	80	3.07	78.0
4	100	3.78	96.0
5	125	4.53	115.0
6	150	5.16	131.0





UL/FM : ½" to 6"
Elbow 90°

SHIELD Steel Threaded Fittings are most suitable for marine, pumping, commercial, domestic chemical, and irrigation applications. All fittings have a high-quality appearance.



NOTE: Refer to UL/FM certificates for more information.

SHIELD reserves the right to change the contents without notice.

SHIELD™
Trusted Worldwide

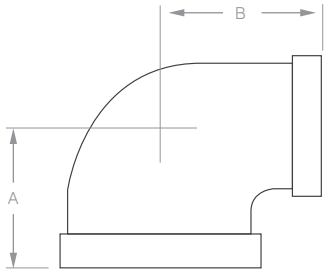
Threaded Malleable Iron Fittings

UL LISTED FM APPROVED

Reducing Elbow 90°:

SDT-101:

Nominal Size		A		B	
Inch	mm	Inch	mm	Inch	mm
¼ x ⅛	8 x 6	0.74	18.5	0.76	19.0
⅜ x ⅛	10 x 6	0.81	20.5	0.85	21.5
⅜ x ¼	10 x 8	0.91	23.0	0.91	23.0
½ x ¼	15 x 8	0.97	24.0	0.94	24.0
½ x ⅜	15 x 10	1.02	26.0	1.02	26.0
¾ x ¼	20 x 8	1.02	26.0	1.06	27.0
¾ x ⅜	20 x 10	1.10	28.0	1.10	28.0
¾ x ½	20 x 15	1.18	30.0	1.22	31.0
1 x ¼	25 x 8	1.06	27.0	1.22	31.0
1 x ⅜	25 x 10	1.18	30.0	1.27	32.0
1 x ½	25 x 15	1.26	32.0	1.34	34.0
1 x ¾	25 x 20	1.38	35.0	1.42	36.0
1¼ x ⅜	32 x 10	1.26	32.0	1.44	36.5
1¼ x ½	32 x 15	1.26	32.0	1.46	37.0
1¼ x ¾	32 x 20	1.42	36.0	1.61	41.0
1¼ x 1	32 x 25	1.57	40.0	1.65	42.0
1½ x ½	40 x 15	1.34	34.0	1.61	41.0
1½ x ¾	40 x 20	1.46	37.0	1.65	42.0
1½ x 1	40 x 25	1.65	42.0	1.81	46.0
1½ x 1¼	40 x 32	1.81	46.0	1.89	48.0
2 x ½	50 x 15	1.38	35.0	1.85	47.0
2 x ¾	50 x 20	1.57	40.0	1.89	48.0
2 x 1	50 x 25	1.69	43.0	1.87	50.0
2 x 1¼	50 x 32	1.85	47.0	2.09	53.0
2 x 1½	50 x 40	2.05	52.0	2.20	56.0
2½ x ¾	65 x 20	1.67	42.5	2.24	57.0
2½ x 1	65 x 25	1.83	46.5	2.30	58.5
2½ x 1¼	65 x 32	1.99	50.5	2.36	60.0
2½ x 1½	65 x 40	2.11	53.5	2.40	61.0
2½ x 2	65 x 50	2.40	61.0	2.60	66.0
3 x ¾	80 x 20	1.77	45.0	2.56	65.0
3 x 1	80 x 25	1.97	50.0	2.68	68.0
3 x 1¼	80 x 32	2.11	53.5	2.68	68.0
3 x 1½	80 x 40	2.20	56.0	2.72	69.0
3 x 2	80 x 50	2.38	60.5	2.80	71.0
3 x 2½	80 x 65	2.80	71.0	2.91	74.0
4 x 1¼	100 x 32	2.36	60.0	3.35	85.0
4 x 1½	100 x 40	2.44	62.0	3.35	85.0
4 x 2	100 x 50	2.68	68.0	3.39	86.0
4 x 2½	100 x 65	3.03	77.0	3.50	89.0
4 x 3	100 x 80	3.23	82.0	3.54	90.0
6 x 4	150 x 100	4.02	102.0	4.92	125.0



UL/FM : ¼" to 6"
Reducing Elbow 90°





NOTE: Refer to UL/FM certificates for more information.

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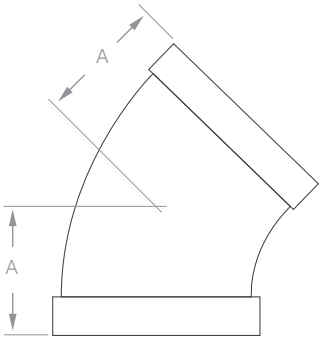
Threaded Malleable Iron Fittings

Elbow 45°:

SDT-200:

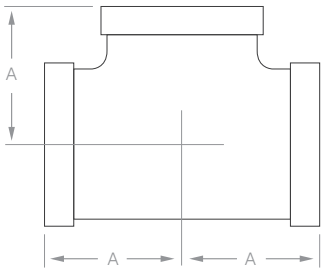
Nominal Size		A	
Inch	mm	Inch	mm
⅛	6	0.63	16.0
¼	8	0.73	18.5
⅜	10	0.79	20.0
½	15	0.87	22.0
¾	20	0.98	25.0
1	25	1.10	28.0
1¼	32	1.30	33.0
1½	40	1.97	50.0
2	50	2.28	58.0
2½	65	2.72	69.0
3	80	3.07	78.0
4	100	3.78	96.0
5	125	3.05	77.5
6	150	3.39	86.0





UL/FM : ½" to 2½"
Elbow 45°





UL/FM: ½" to 4"
Tee

Tee:

SDT-12:

Nominal Size		A	
Inch	mm	Inch	mm
⅛	6	0.75	19.0
¼	8	0.83	21.0
⅜	10	0.98	25.0
½	15	1.10	28.0
¾	20	1.30	33.0
1	25	1.50	38.0
1¼	32	1.77	45.0
1½	40	1.97	50.0
2	50	2.28	58.0
2½	65	2.72	69.0
3	80	3.07	78.0
4	100	3.78	96.0
5	125	4.53	115.0
6	150	5.16	131.0

Pipe Tee has a T-shape having two outlets, at 90° to connect to the main line. It is a short piece of pipe with a lateral outlet. Pipe Tee is used to connect pipelines with a pipe at a right angle with the line. Pipe Tees are widely used as pipe fittings.

NOTE: Refer to UL/FM certificates for more information.

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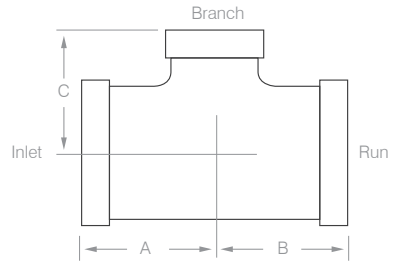
Threaded Malleable Iron Fittings

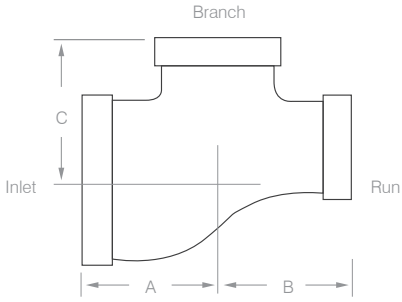
UL LISTED FM APPROVED

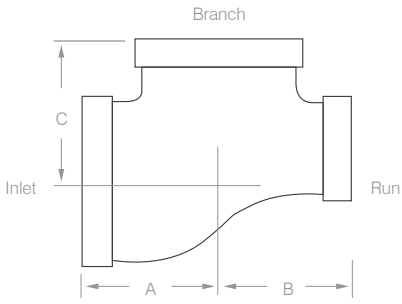
Reducing Tee:

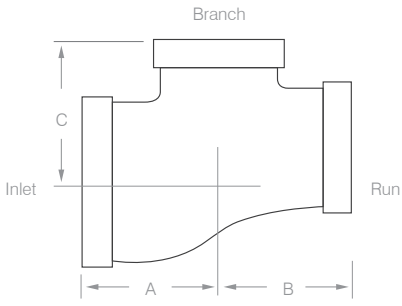
SDT-53:

Nominal Size				A		B		C	
Inlet Inch	Run Inch	Branch Inch	Inlet x Run x Branch mm	Inch	mm	Inch	mm	Inch	mm
¼	¼	⅛	8 x 8 x 6	0.74	18.5	0.76	18.5	0.74	19.0
⅜	⅜	¼	10 x 10 x 8	0.91	22.0	0.91	22.0	0.91	22.5
½	½	⅛	15 x 15 x 6	0.87	22.0	0.91	22.0	0.87	23.0
		¼	15 x 15 x 8	0.94	24.0	0.94	24.0	0.94	24.0
		⅜	15 x 15 x 10	1.02	26.0	1.02	26.0	1.02	26.0
		¾	15 x 15 x 20	1.22	31.0	1.18	31.0	1.22	30.0
		1	15 x 15 x 25	1.34	34.0	1.26	34.0	1.34	32.0
¾	½	½	20 x 15 x 15	1.18	30.0	1.22	28.0	1.10	31.0
		¾	20 x 15 x 20	1.30	33.0	1.30	31.0	1.22	33.0
		1	20 x 15 x 25	1.50	38.0	1.34	33.0	1.30	34.0
	¾	¼	20 x 20 x 8	1.02	26.0	1.06	26.0	1.02	27.0
		⅜	20 x 20 x 10	1.10	28.0	1.10	28.0	1.10	28.0
		½	20 x 20 x 15	1.18	30.0	1.22	30.0	1.18	31.0
		1	20 x 20 x 25	1.42	36.0	1.38	36.0	1.42	35.0
		1¼	20 x 20 x 32	1.61	41.0	1.42	41.0	1.61	36.0
1	¼	1	25 x 8 x 25	1.46	38.0	1.46	30.0	1.18	38.0
	½	1	25 x 15 x 25	1.50	38.0	1.50	34.0	1.34	38.0
		½	25 x 15 x 15	1.26	32.0	1.34	28.0	1.10	34.0
		¾	25 x 15 x 20	1.38	35.0	1.42	31.0	1.22	36.0
	¾	¾	25 x 20 x 20	1.38	35.0	1.42	33.0	1.30	36.0
		1	25 x 20 x 25	1.50	38.0	1.38	36.0	1.18	38.0
	1	¼	25 x 25 x 8	1.10	28.0	1.22	28.0	1.10	31.0
		⅜	25 x 25 x 10	1.18	30.0	1.26	30.0	1.18	32.0
		½	25 x 25 x 15	1.26	32.0	1.34	32.0	1.26	34.0
		¾	25 x 25 x 20	1.38	35.0	1.42	35.0	1.38	36.0
		1¼	25 x 25 x 32	1.65	42.0	1.57	42.0	1.65	40.0
		1½	25 x 25 x 40	1.81	46.0	1.65	46.0	1.81	42.0
		2	25 x 25 x 50	2.02	51.3	1.93	51.0	2.02	48.5
		2½	25 x 25 x 65	2.36	60.0	1.89	60.0	2.36	48.0
1¼	½	½	32 x 15 x 15	1.34	34.0	1.50	27.0	1.06	38.0
		¾	32 x 15 x 20	1.38	35.0	1.50	29.0	1.14	38.0
		1	32 x 15 x 25	1.58	39.0	1.67	34.0	1.36	41.5
		1¼	32 x 15 x 32	1.77	45.0	1.77	38.0	1.50	45.0
	¾	½	32 x 20 x 15	1.57	40.0	1.67	37.0	1.46	42.5
		¾	32 x 20 x 20	1.42	36.0	1.61	33.0	1.30	41.0
		1	32 x 20 x 25	1.57	40.0	1.65	36.0	1.42	42.0
		1¼	32 x 20 x 32	1.77	45.0	1.77	41.0	1.61	45.0
	1	½	32 x 25 x 15	1.34	34.0	1.50	32.0	1.26	38.0
		¾	32 x 25 x 20	1.42	36.0	1.61	35.0	1.38	41.0
		1	32 x 25 x 25	1.57	40.0	1.65	38.0	1.50	42.0
		1¼	32 x 25 x 32	1.77	45.0	1.77	42.0	1.65	45.0
	1¼	⅜	32 x 32 x 10	1.26	32.0	1.42	32.0	1.26	36.0
		½	32 x 32 x 15	1.34	34.0	1.50	34.0	1.34	38.0
		¾	32 x 32 x 20	1.42	36.0	1.61	36.0	1.42	41.0

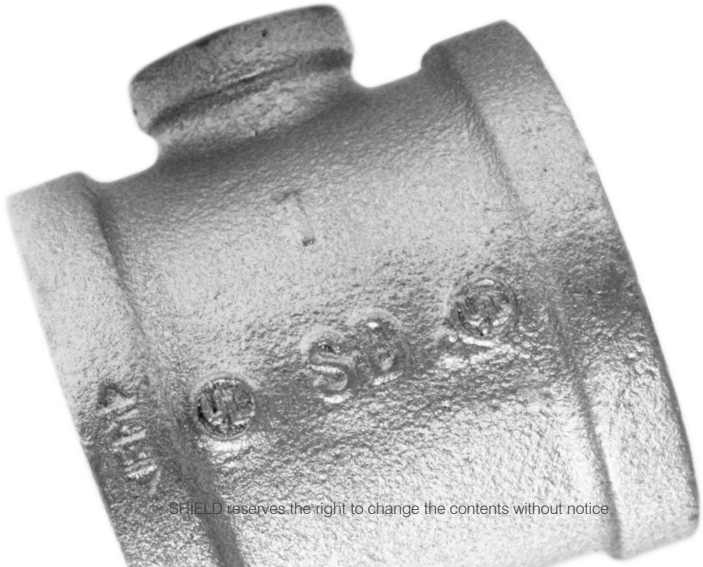








UL/FM: ¾" to 2½"
Reducing Tee



NOTE: Refer to UL/FM certificates for more information.

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Threaded Malleable Iron Fittings

Reducing Tee:

SDT-53:

Nominal Size				A		B		C	
Inlet Inch	Run Inch	Branch Inch	Inlet x Run x Branch mm	Inch	mm	Inch	mm	Inch	mm
1¼	1¼	1	32 x 32 x 25	1.57	40.0	1.65	40.0	1.57	42.0
		1½	32 x 32 x 40	1.89	48.0	1.81	48.0	1.89	46.0
		2	32 x 32 x 50	2.13	54.0	1.89	54.0	2.13	48.0
1½	½	1	40 x 15 x 25	1.73	44.0	1.81	34.0	1.34	46.0
		1½	40 x 15 x 40	1.97	50.0	1.97	42.0	1.65	50.0
	¾	¾	40 x 20 x 20	1.50	38.0	1.69	32.0	1.26	43.0
		1	40 x 20 x 25	1.73	44.0	1.81	35.0	1.38	346.0
		1¼	40 x 20 x 32	1.81	46.0	1.89	41.0	1.61	48.0
		1½	40 x 20 x 40	1.97	50.0	1.97	44.0	1.73	450.0
	1	½	40 x 25 x 15	1.46	37.0	1.61	32.0	1.26	41.0
		1	40 x 25 x 25	1.65	42.0	1.50	38.0	1.81	46.0
		1¼	40 x 25 x 32	1.81	45.0	1.65	41.5	1.89	47.0
		1½	40 x 25 x 40	1.97	50.0	1.81	46.0	1.97	50.0
	1¼	½	40 x 32 x 15	1.42	36.0	1.34	34.0	1.65	42.0
		¾	40 x 32 x 20	1.50	38.0	1.42	36.0	1.73	44.0
		1	40 x 32 x 25	1.65	42.0	1.57	40.0	1.81	46.0
		1¼	40 x 32 x 32	1.81	46.0	1.77	45.0	1.89	48.0
		1½	40 x 32 x 40	1.97	50.0	1.89	48.0	1.97	50.0
		2	40 x 32 x 50	2.17	55.0	2.11	53.5	2.03	51.5
	1½	⅜	40 x 40 x 10	1.34	34.0	1.34	34.0	1.54	39.0
		½	40 x 40 x 15	1.42	36.0	1.42	36.0	1.65	42.0
		¾	40 x 40 x 20	1.50	38.0	1.50	38.0	1.73	44.0
		1	40 x 40 x 25	1.65	42.0	1.65	42.0	1.81	46.0
		1¼	40 x 40 x 32	1.81	46.0	1.81	46.0	1.89	48.0
		2	40 x 40 x 50	2.17	55.0	2.17	55.0	2.05	52.0
		2½	40 x 40 x 65	2.56	65.0	2.56	65.0	2.17	55.0
2	½	2	50 x 15 x 50	2.24	57.0	1.89	47.5	2.24	57.0
	¾	2	50 x 20 x 50	2.28	58.0	1.97	50.0	2.28	58.0
	1	1	50 x 25 x 25	1.73	44.0	1.50	38.0	2.01	51.0
		1½	50 x 25 x 40	2.02	51.3	1.80	45.5	2.17	55.0
		2	50 x 25 x 50	2.28	58.0	2.05	52.0	2.28	58.0
	1¼	1	50 x 32 x 25	1.57	40.0	1.73	44.0	2.01	51.0
		1¼	50 x 32 x 32	1.89	48.0	1.77	45.0	2.13	54.0
		1½	50 x 32 x 40	2.05	52.0	1.89	48.0	2.17	55.0
		2	50 x 32 x 50	2.28	58.0	2.13	54.0	2.28	58.0
	1½	½	50 x 40 x 15	1.50	38.0	1.42	36.0	1.89	48.0
		¾	50 x 40 x 20	1.57	40.0	1.50	39.0	1.97	50.0
		1	50 x 40 x 25	1.73	44.0	1.65	42.0	2.05	52.0
		1¼	50 x 40 x 32	1.89	48.0	1.81	46.0	2.13	54.0
		1½	50 x 40 x 40	2.05	52.0	1.97	50.0	2.17	55.0
		2	50 x 40 x 50	2.28	58.0	2.17	55.0	2.28	58.0
	2	⅜	50 x 50 x 10	1.42	36.0	1.42	36.0	1.81	46.0
		½	50 x 50 x 15	1.50	38.0	1.50	38.0	1.89	48.0
		¾	50 x 50 x 20	1.57	40.0	1.57	40.0	1.97	50.0
		1	50 x 50 x 25	1.73	44.0	1.73	44.0	2.05	52.0

Nominal Size				A		B		C	
Inlet Inch	Run Inch	Branch Inch	Inlet x Run x Branch mm	Inch	mm	Inch	mm	Inch	mm
2	2	1¼	50 x 50 x 32	1.89	48.0	1.89	48.0	2.13	54.0
		1½	50 x 50 x 40	2.05	52.0	2.05	52.0	2.17	55.0
		2½	50 x 50 x 65	2.60	64.0	2.60	64.0	2.40	59.0
2½	1½	2½	65 x 40 x 65	2.72	68.5	2.52	63.5	2.72	68.5
	2	½	65 x 50 x 15	1.73	57.0	2.05	52.0	2.52	64.0
		1	65 x 50 x 25	2.09	53.0	2.09	53.0	2.36	60.0
		1¼	65 x 50 x 32	2.24	57.0	2.05	52.0	2.52	64.0
		2	65 x 50 x 50	2.38	60.5	2.24	57.0	2.60	66.0
		2½	65 x 50 x 65	2.64	67.0	2.56	65.0	2.64	67.0
	2½	½	65 x 65 x 15	1.57	40.0	1.61	40.0	2.24	56.0
		¾	65 x 65 x 20	1.73	43.0	1.73	43.0	2.32	57.0
		1	65 x 65 x 25	1.85	47.0	1.85	47.0	2.36	60.0
		1¼	65 x 65 x 32	2.05	52.0	2.05	52.0	2.44	62.0
		1½	65 x 65 x 40	2.17	55.0	2.17	55.0	2.48	63.0
		2	65 x 65 x 50	2.40	61.0	2.40	61.0	2.60	66.0
		3	65 x 65 x 80	2.95	75.0	2.95	75.0	2.83	72.0
		4	65 x 65 x 100	3.54	90.0	3.54	90.0	3.07	78.0
3	2	2	80 x 50 x 50	2.52	64.0	2.25	57.2	2.89	73.0
	2½	2	80 x 65 x 50	2.64	67.0	2.52	64.0	2.93	74.5
	3	½	80 x 80 x 15	1.65	42.0	1.65	42.0	2.52	64.0
		¾	80 x 80 x 20	1.77	45.0	1.77	45.0	2.56	65.0
		1	80 x 80 x 25	2.01	51.0	2.01	51.0	2.64	67.0
		1¼	80 x 80 x 32	2.17	55.0	2.17	55.0	2.76	70.0
		1½	80 x 80 x 40	2.28	58.0	2.28	58.0	2.80	71.0
		2	80 x 80 x 50	2.52	64.0	2.52	64.0	2.87	73.0
		2½	80 x 80 x 65	2.83	72.0	2.83	72.0	2.99	76.0
4	3	2	100 x 80 x 50	2.64	67.0	2.36	60.0	3.29	83.5
	4	½	100 x 100 x 15	1.97	50.0	1.97	50.0	3.11	79.0
		¾	100 x 100 x 20	2.09	53.0	2.09	53.0	3.11	79.0
		1	100 x 100 x 25	2.20	56.0	2.20	56.0	3.19	81.0
		1¼	100 x 100 x 32	2.40	60.0	2.40	60.0	3.27	84.0
		1½	100 x 100 x 40	2.52	61.0	2.52	61.0	3.31	84.0
		2	100 x 100 x 50	2.76	70.0	2.76	70.0	3.39	86.0
		2½	100 x 100 x 65	3.03	84.0	3.31	84.0	3.62	92.0
		3	100 x 100 x 80	3.31	82.0	3.31	82.0	3.54	90.0
6	6	2	150 x 150 x 50	2.95	75.0	2.95	75.0	4.53	115.0
		3	150 x 150 x 80	3.62	92.0	3.62	92.0	4.76	120.5
		4	150 x 150 x 100	4.13	105.0	4.13	105.0	4.92	125.0

NOTE: Refer to UL/FM certificates for more information.

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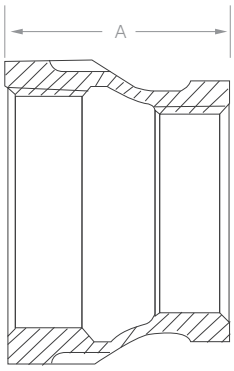
Threaded Malleable Iron Fittings

UL LISTED FM APPROVED

Reducing Coupling:

SDT-30:

Nominal Size		A	
Inch	mm	Inch	mm
¼ x ⅛	8 x 6	1.06	27.0
⅜ x ⅛	10 x 6	1.18	30.0
⅜ x ¼	10 x 8	1.18	30.0
½ x ⅛	15 x 6	1.42	36.0
½ x ¼	15 x 8	1.42	36.0
½ x ⅜	15 x 10	1.42	36.0
¾ x ⅛	20 x 6	1.54	39.0
¾ x ¼	20 x 8	1.54	39.0
¾ x ⅜	20 x 10	1.54	39.0
¾ x ½	20 x 15	1.54	39.0
1 x ¼	25 x 8	1.77	45.0
1 x ⅜	25 x 10	1.77	45.0
1 x ½	25 x 15	1.77	45.0
1 x ¾	25 x 20	1.77	45.0
1¼ x ¼	32 x 8	1.97	50.0
1¼ x ⅜	32 x 10	1.97	50.0
1¼ x ½	32 x 15	1.97	50.0
1¼ x ¾	32 x 20	1.97	50.0
1¼ x 1	32 x 25	1.97	50.0
1½ x ¼	40 x 8	2.17	55.0
1½ x ⅜	40 x 10	2.17	55.0
1½ x ½	40 x 15	2.17	55.0
1½ x ¾	40 x 20	2.17	55.0
1½ x 1	40 x 25	2.17	55.0
1½ x 1¼	40 x 32	2.17	55.0
2 x ½	50 x 15	2.56	65.0
2 x ¾	50 x 20	2.56	65.0
2 x 1	50 x 25	2.56	65.0
2 x 1¼	50 x 32	2.56	65.0
2 x 1½	50 x 40	2.56	65.0
2½ x ½	65 x 15	2.91	74.0
2½ x ¾	65 x 20	2.91	74.0
2½ x 1	65 x 25	2.91	74.0
2½ x 1¼	65 x 32	2.91	74.0
2½ x 1½	65 x 40	2.91	74.0
2½ x 2	65 x 50	2.91	74.0
3 x ½	80 x 15	2.78	70.5
3 x ¾	80 x 20	3.15	80.0
3 x 1	80 x 25	3.15	80.0
3 x 1¼	80 x 32	3.15	80.0
3 x 1½	80 x 40	3.15	80.0
3 x 2	80 x 50	3.15	80.0
3 x 2½	80 x 65	3.15	80.0
4 x 1	100 x 25	3.70	94.0
4 x 1¼	100 x 32	3.70	94.0
4 x 1½	100 x 40	3.70	94.0
4 x 2	100 x 50	3.70	94.0
4 x 2½	100 x 65	3.70	94.0
4 x 3	100 x 80	3.70	94.0
5 x 4	125 x 100	4.80	122.0
6 x 4	150 x 100	4.13	105.0
6 x 2	150 x 50	4.13	105.0
6 x 3	150 x 80	4.13	105.0



UL/FM: ½" to 1¼"
Reducing Coupling





NOTE: Refer to UL/FM certificates for more information.

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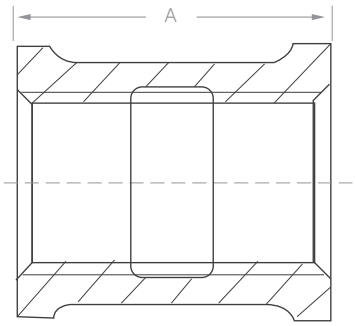
Threaded Malleable Iron Fittings

Straight Coupling:

SDT-22:

Nominal Size		A	
Inch		Inch	mm
⅛	6	0.98	25.0
¼	8	1.06	27.0
⅜	10	1.18	30.0
½	15	1.42	36.0
¾	20	1.54	39.0
1	25	1.77	45.0
1¼	32	1.97	50.0
1½	40	2.17	55.0
2	50	2.56	65.0
2½	65	2.91	74.0
3	80	3.15	80.0
4	100	3.70	94.0
5	125	3.74	95.0
6	150	4.13	105.0





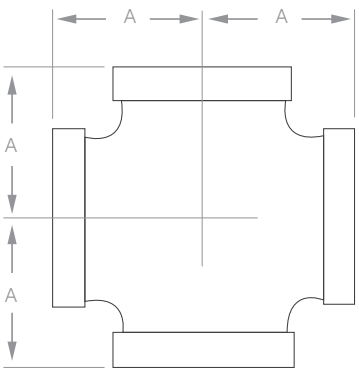
UL/FM : ½" to 2"
Straight Coupling



Cross:

SDT-13:

Nominal Size		A		B	
Inch	mm	Inch	mm	Inch	mm
½	15	1.10	28.0	1.10	28.0
¾	20	1.30	33.0	1.30	33.0
1	25	1.50	38.0	1.50	38.0
1¼	32	1.77	45.0	1.77	45.0
1½	40	1.97	50.0	1.97	50.0
2	50	2.28	58.0	2.28	58.0
2½	65	2.72	69.0	2.72	69.0
3	80	3.07	78.0	3.07	78.0
4	100	3.78	96.0	3.78	96.0



UL/FM : ¾" to 2"
Cross

NOTE: Refer to UL/FM certificates for more information.

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Threaded Malleable Iron Fittings

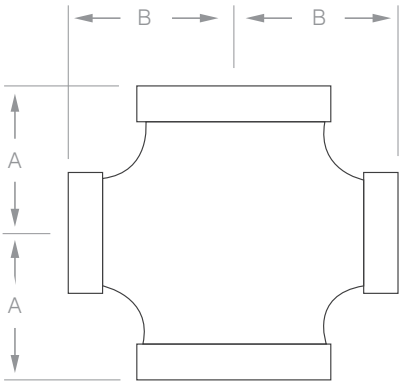
UL LISTED FM APPROVED

Reducing Cross:

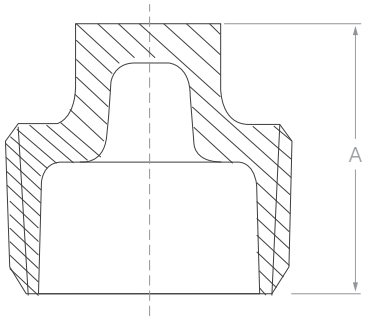
SDT-51:

Nominal Size		A		B	
Inch	mm	Inch	mm	Inch	mm
¾ x ½	20 x 15	1.18	30.0	1.22	31.0
1 x ½	25 x 15	1.26	32.0	1.34	34.0
1 x ¾	25 x 20	1.38	35.0	1.42	36.0
1¼ x ½	32 x 15	1.38	34.0	1.50	38.0
1¼ x ¾	32 x 20	1.42	36.0	1.61	41.0
1¼ x 1	32 x 25	1.57	40.0	1.65	42.0
1½ x ½	40 x 15	1.42	36.0	1.65	42.0
1½ x ¾	40 x 20	1.50	38.0	1.73	44.0
1½ x 1	40 x 25	1.65	42.0	1.81	46.0
1½ x 1¼	40 x 32	1.81	46.0	1.89	48.0
2 x ¾	50 x 20	1.57	40.0	1.97	50.0
2 x 1	50 x 25	1.73	44.0	2.05	52.0
2 x 1¼	50 x 32	1.89	48.0	2.13	54.0
2 x 1½	50 x 40	2.05	52.0	2.17	55.0
2½ x ¾	65 x 20	1.69	43.0	2.24	57.0
2½ x 1	65 x 25	1.85	47.0	2.36	60.0
2½ x 1¼	65 x 32	2.05	52.0	2.44	62.0
2½ x 1½	65 x 40	2.17	55.0	2.48	63.0
2½ x 2	65 x 50	2.40	61.0	2.60	66.0
3 x ¾	80 x 20	1.77	45.0	2.56	65.0
3 x 1	80 x 25	2.01	51.0	2.64	67.0
3 x 1¼	80 x 32	2.17	55.0	2.76	70.0
3 x 1½	80 x 40	2.28	58.0	2.80	71.0
3 x 2	80 x 50	2.52	64.0	2.99	73.0
3 x 2½	80 x 65	2.83	72.0	2.19	76.0
4 x 1	100 x 25	2.20	56.0	3.23	81.0
4 x 1¼	100 x 32	2.36	60.0	3.31	84.0
4 x 1½	100 x 40	2.40	61.0	3.31	84.0
4 x 2	100 x 50	2.76	70.0	3.39	86.0
4 x 2½	100 x 65	3.31	84.0	3.62	92.0
4 x 3	100 x 80	3.23	82.0	3.54	90.0

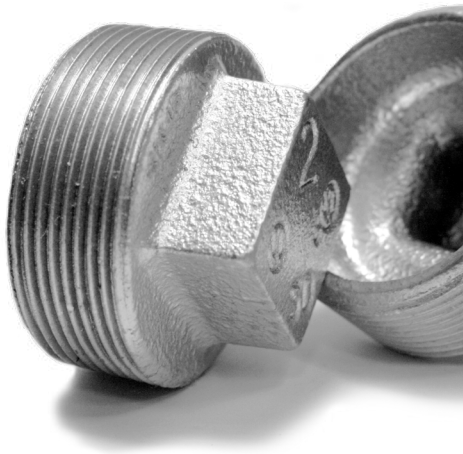




UL/FM : 1¼" to 2"
Reducing Cross



UL/FM : ½" to 2"
Plug



Plug:

SDT-55:

Nominal Size		A	
Inch	mm	Inch	mm
⅛	6	0.43	11.0
¼	8	0.55	14.0
⅜	10	0.59	15.0
½	15	0.71	18.0
¾	20	0.79	20.0
1	25	0.91	23.0
1¼	32	1.14	29.0
1½	40	1.18	30.0
2	50	1.42	36.0
2½	65	1.54	39.0
3	80	1.73	44.0
4	100	2.28	58.0
6	150	2.52	71.5

Factory Mutual System

NOTE: Refer to UL/FM certificates for more information.

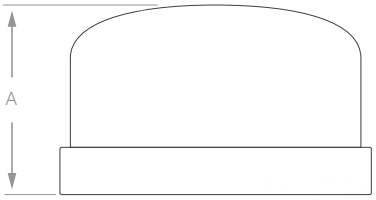
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Threaded Malleable Iron Fittings

Cap:

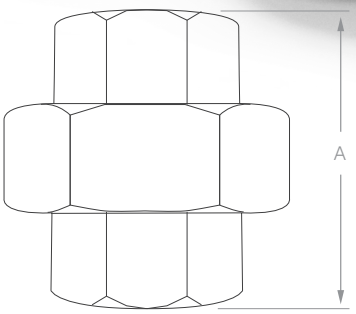
SDT-14:

Nominal Size		A	
Inch	mm	Inch	mm
½	15	0.75	19.0
¾	20	0.87	22.0
1	25	0.94	24.0
1¼	32	1.06	27.0
1½	40	1.06	27.0
2	50	1.26	32.0
2½	65	1.38	35.0
3	80	1.50	38.0
4	100	1.77	45.0
5	125	2.13	54.0
6	150	2.40	61.0



UL/FM : ½" to 2½"
Cap





UL/FM: 1" to 2"
Union

Union:

SDT-59:



Nominal Size		A	
Inch	mm	Inch	mm
⅛	6	1.50	38.0
¼	8	1.54	39.0
⅜	10	1.77	45.0
½	15	1.89	48.0
¾	20	2.17	55.0
1	25	2.28	58.0
1¼	32	2.56	65.0
1½	40	2.76	70.0
2	50	3.07	78.0
2½	65	3.35	85.0
3	80	3.74	95.0
4	100	4.72	120.0
6	150	5.71	145.0

NOTE: Refer to UL/FM certificates for more information.

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Threaded Malleable Iron Fittings

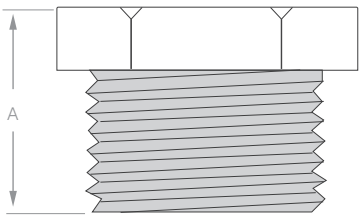
UL LISTED FM APPROVED

Hex Bush:

SDT-57:

Nominal Size		A	
Inch	mm	Inch	mm
¼ x ⅛	8 x 6	0.79	20.0
⅜ x ⅛	10 x 6	0.79	20.0
⅜ x ¼	10 x 8	0.79	20.0
½ x ⅛	15 x 6	0.94	24.0
½ x ¼	15 x 8	0.94	24.0
½ x ⅜	15 x 10	0.94	24.0
¾ x ⅛	20 x 6	1.02	26.0
¾ x ¼	20 x 8	1.02	26.0
¾ x ⅜	20 x 10	1.02	26.0
¾ x ½	20 x 15	1.02	26.0
1 x ¼	25 x 8	1.14	29.0
1 x ⅜	25 x 10	1.14	29.0
1 x ½	25 x 15	1.14	29.0
1 x ¾	25 x 20	1.14	29.0
1¼ x ⅜	32 x 10	1.22	31.0
1¼ x ½	32 x 15	1.22	31.0
1¼ x ¾	32 x 20	1.22	31.0
1¼ x 1	32 x 25	1.22	31.0
1½ x ¼	40 x 8	1.22	31.0
1½ x ⅜	40 x 10	1.22	31.0
1½ x ½	40 x 15	1.22	31.0

Nominal Size		A	
Inch	mm	Inch	mm
1½ x ¾	40 x 20	1.22	31.0
1½ x 1	40 x 25	1.22	31.0
1½ x 1¼	40 x 32	1.22	31.0
2 x 1	50 x 25	1.38	35.0
2 x 1¼	50 x 32	1.38	35.0
2 x 1½	50 x 40	1.38	35.0
2½ x ½	65 x 15	1.57	40.0
2½ x ¾	65 x 20	1.57	40.0
2½ x 1½	65 x 40	1.57	40.0
2½ x 2	65 x 50	1.57	40.0
3 x 2	80 x 50	1.73	44.0
3 x 2½	80 x 65	1.73	44.0
4 x ¾	100 x 20	2.01	51.0
4 x 1	100 x 25	2.01	51.0
4 x 1¼	100 x 32	2.01	51.0
4 x 1½	100 x 40	2.01	51.0
4 x 3	100 x 80	2.01	51.0
5 x 4	125 x 100	1.85	47.0
6 x 2½	150 x 65	2.72	69.0
6 x 5	150 x 125	2.52	69.0



UL/FM: 1" to 2"
Hex Bush

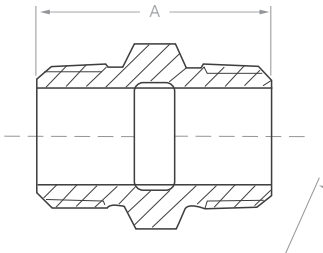


NOTE: Refer to UL/FM certificates for more information.

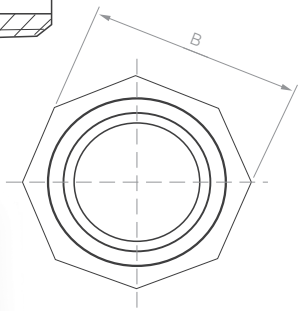
Nipple:

SDT-11:

Nominal Size		A	
Inch	mm	Inch	mm
⅛	6	1.14	29.0
¼	8	1.42	36.0
⅜	10	1.50	38.0
½	15	1.73	44.0
¾	20	1.85	47.0
1	25	2.09	53.0
1¼	32	2.24	57.0
1½	40	2.32	59.0
2	50	2.68	68.0
2½	65	2.95	75.0
3	80	3.27	83.0
4	100	3.74	95.0
5	125	4.06	103.0
6	150	4.33	110.0



Nipple





NOTE: Refer to UL/FM certificates for more information.

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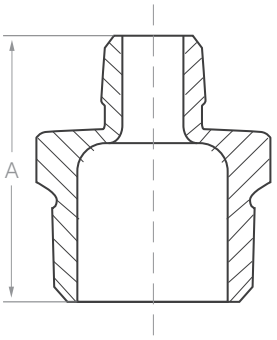
Threaded Malleable Iron Fittings

Hex Reducing Nipple:

SDT-111:

Nominal Size		A	
Inch	mm	Inch	mm
¼ x ⅛	8 x 6	1.22	31.0
⅜ x ¼	10 x 8	1.50	38.0
½ x ¼	15 x 8	1.73	44.0
½ x ⅜	15 x 10	1.73	44.0
¾ x ¼	20 x 8	1.85	47.0
¾ x ⅜	20 x 10	1.85	47.0
¾ x ½	20 x 15	1.85	47.0
1 x ½	25 x 15	2.09	53.0
1 x ¾	25 x 20	2.09	53.0
1¼ x ½	32 x 15	2.24	57.0
1¼ x ¾	32 x 20	2.24	57.0
1¼ x 1	32 x 25	2.24	57.0
1½ x ½	40 x 15	2.32	59.0
1½ x ¾	40 x 20	2.32	59.0
1½ x 1	40 x 25	2.32	59.0
1½ x 1¼	40 x 32	2.32	59.0

Nominal Size		A	
Inch	mm	Inch	mm
2 x ½	50 x 15	2.68	68.0
2 x ¾	50 x 20	2.68	68.0
2 x 1	50 x 25	2.68	68.0
2 x 1¼	50 x 32	2.68	68.0
2 x 1½	50 x 40	2.68	68.0
2½ x 1	65 x 25	2.95	75.0
2½ x 1¼	65 x 32	2.95	75.0
2½ x 1½	65 x 40	2.95	75.0
2½ x 2	65 x 50	2.95	75.0
3 x 1½	80 x 40	3.27	83.0
3 x 2	80 x 50	3.27	83.0
3 x 2½	80 x 65	3.27	83.0
4 x 2	100 x 50	3.43	87.0
4 x 2½	100 x 65	3.43	87.0
4 x 3	100 x 80	3.43	87.0



Hex Reducing Nipple

NOTE: Refer to UL/FM certificates for more information.

Friction Loss Technical Data

Friction Loss of Water in Pipe Fittings in Terms of Equivalent:

Length-Feet of Straight Pipe:

Nominal Size Inch	Actual Inside Diameter mm	Friction Factor mm	90° Elbow (Mod. SDT-100)	90° Street Elbow (Mod. SDT-110)	Tee (Mod. SDT-12)	Coupling (Mod. SDT-22)	Nipple (Mod. SDT-11) Inch	Union (Mod. SDT-59) Inch
½	19.7	0.027	2.66	2.68	2.22	1.45	1.66	0.88
¾	25.2	0.024	3.93	3.83	2.96	1.84	0.21	1.24
1	30.2	0.023	5.11	4.75	4.21	2.11	1.68	2.03
1¼	40.4	0.022	7.43	5.15	6.89	2.71	2.03	2.12
1½	46.3	0.021	7.40	8.08	6.75	3.50	3.92	2.59
2	58.1	0.020	10.26	9.15	8.21	4.40	4.04	2.65
2½	73.7	0.018	12.21	14.41	12.54	5.31	11.21	4.08
3	86.4	0.016	17.58	19.29	12.59	7.68	9.76	6.92
4	111.5	0.016	21.87	20.75	18.89	9.57	7.89	5.40

SHIELD reserves the right to change the contents without notice.

Threaded Fittings Installation



Pipe Threads

- Pipe threads should be done according to the matching thread of fittings for BSPT thread BS21 or ISO 7/1(Tapper); For NPT thread, ASME B1.20.1, prior to installation the thread should be checked with a quality thread gauge and ensure that it is compatible with the pipe.



Clean Threads

- Fabricated threads should be clean and free of rust and foreign particles prior to do the application of sealant
- Ensure no bumps or first three threads, no broken teeth and other defects affecting the installation.



Sealant Application

- A moderate amount PTFE tape is recommended. Tape should be applied evenly across the full length of the pipe threads. While using PTFE tape, a minimum of three overlapping wraps should be applied along the full length of pipe thread.
- Wrapping of tape should be started from the second thread and towards the direction of threading.



Tightening

- Pipe can be tightened either by manually or by an automatic machine. If tighten manually, firmly tighten the fittings by hand. With the pipe firmly secured, advance the fitting two to three complete revolutions using a pipe wrench. If tightening is done by automatic machine, strictly follow the parameters specified by machine manufacturer. The end face of the steel pipe connected to the pipe fitting must be flush, the thread should not be slanted, and there should be no ellipse or bending phenomenon, otherwise the pipe will not be straight after connection.
- When tightening with wrench, pay attention to prevent the product from being broken due to screwing of the square side. The best installation method is to fix the pipe fitting and twist the steel pipe to ensure the product is safe.



Test and Inspection

- Once the installation is done, flushing should be done on the system and followed by pressurizing, inspect for any leak. If a leak is detected, advance the fitting to tighten and retest the inspection. Do not backoff fittings during or after tightening. Always depressurize and drain before attempting to disassemble, remove or adjust any pipe component.

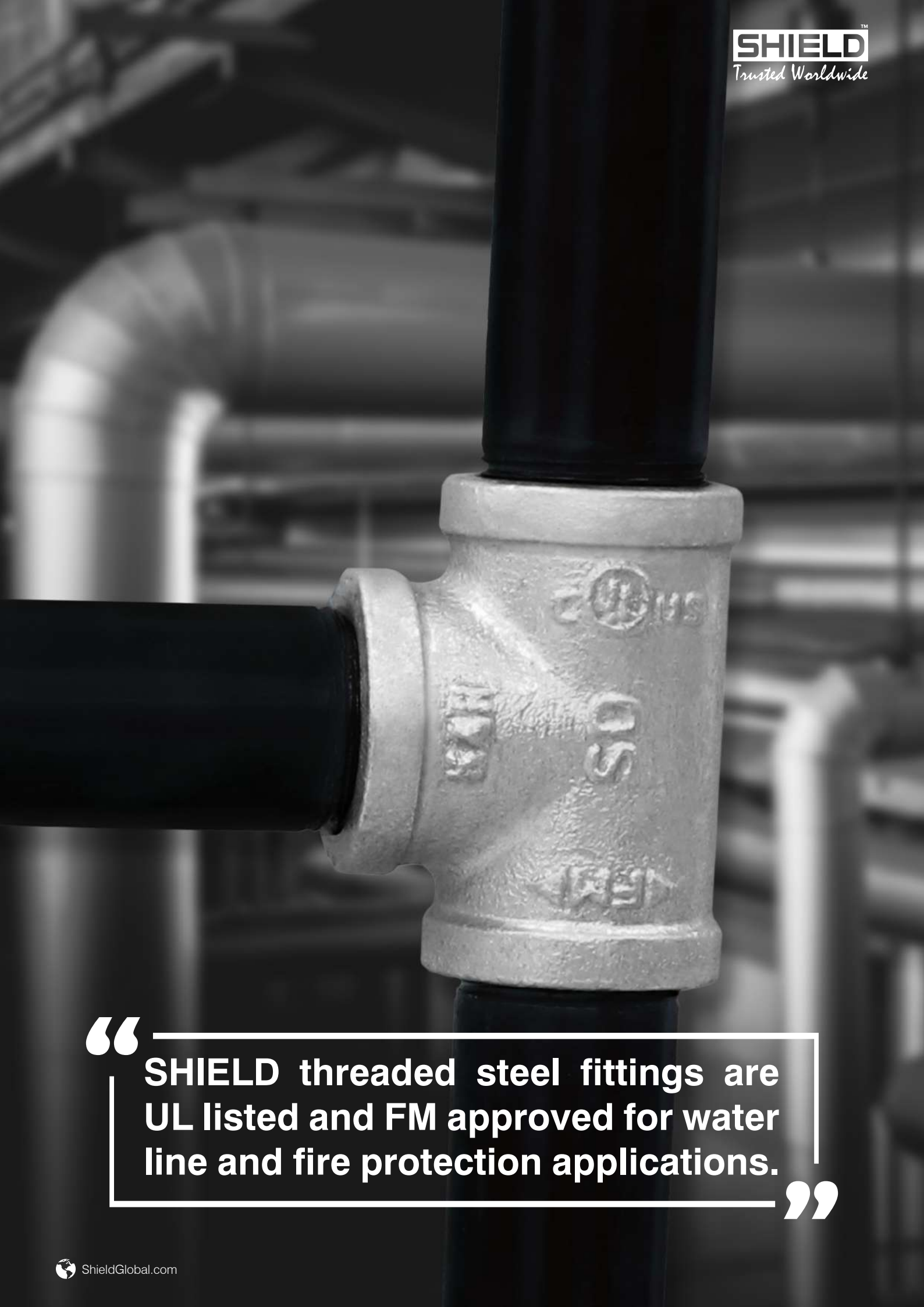


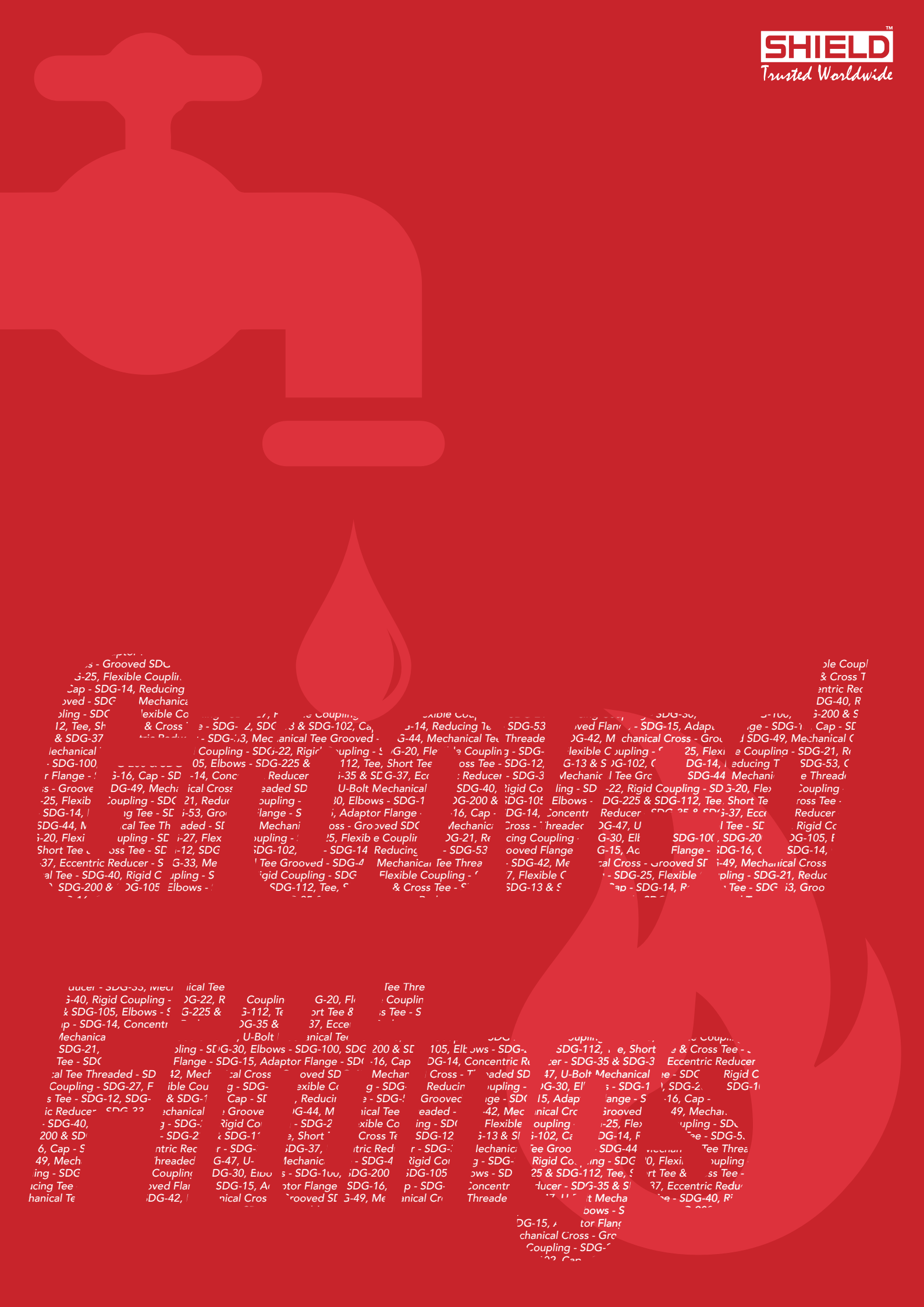
Maintenance

- Shield Threaded Fittings for Fire Fighting / Chilled Water application do not require any ongoing maintenance. Always follow generally accepted piping principles when caring for a piping system and ensure the entire system is as per NFPA standard/relevant standards.

* Don't over tight these fittings as it may leads to failure of threads or even cause cracks and leak.

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SHIELD
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“SHIELD threaded steel fittings are UL listed and FM approved for water line and fire protection applications.”
ShieldGlobal.com



SHIELD™
Trusted Worldwide

Grooved

Ductile Iron Fittings

for Fire Fighting, HVAC & Water



Factory Mutual System

UL® LISTED

With the help of SHIELD Grooved fittings the installation at site is faster, ease of maintenance, flexibility, noise cancellation, vibration reduction and sustainability can be achieved.

SHIELD™
Trusted Worldwide

Grooved Fittings

Description:

The SHIELD Grooved System provides an economical and efficient piping system solution and offers significant benefits when compared to conventional types of pipe connections including:

- Faster Installation
- No need for welding or heating, the SHIELD System ensures a safer and reliable working environment.
- Ensures easy alignment
- Reduces noise and vibration
- Easy to install and remove in case of any maintenance requirements



SHIELD Grooved Systems:

Wide range of coupling and fittings for piping applications in Air Conditioning, Fire Fighting Systems and water pipelines etc.

SHIELD Grooved Systems offer 3 types of couplings:

- High Pressure Couplings (Flexible)
- Medium Pressure Couplings (Rigid, Flexible)
- Light Pressure Couplings (Rigid, Flexible)

Material:

SHIELD Grooved Coupling housing and other grooved fittings are cast from Ductile Iron to ASTM A536 Grade 65-45-12 in red paint or hot dipped galvanized, bolts are carbon steel to ISO 898 - 1 class 8.8 heat treated, hot dipped galvanized nuts and bolt can also be supplied upon request.

Gasket (C shaped):

Shield Grooved Coupling are available in various types of gasket.
Coupling with EPDM rubber gasket are widely used around the world and it conforms to ASTM D2000-1, Grade A.

It is important to use the gasket that suits your application, use the table below to select the optimum gasket.

Material	Temperature Range	Colour	General Recommended Application
EPDM	-34°C to +110°C	Green Strip	Cold water service, variety of diluted acid, oil free air, chemical. This is NOT recommended for Petroleum services.
Nitrile	-29°C to +82°C	Orange Strip	Petroleum products, vegetable and mineral oils, air with oil vapours. This is NOT recommended for hot water.
Silicone	-40°C to +177°C	White	Dry heat and air without hydrocarbons up to +177°C and certain chemicals.

SHIELD Grooved Coupling EPDM Gaskets must be lubricated on the lips and outside back prior to assembly using SHIELD lubricant or equivalent for a wet system.
However for a dry system SHIELD recommends using a silicone based lubricant.
NOTE: Petroleum based lubricants should NOT be used at all.

NOTE: Refer to UL/FM/LPCB certificates for more details.

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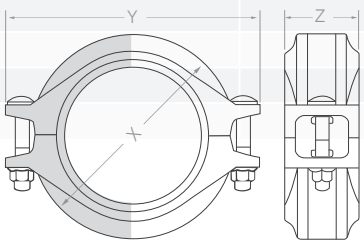
Grooved Fittings

Rigid Coupling - Standard:

SDG-22:

Nominal Size	Pipe O.D.	Maximum Working Pressure	Dimensions			Bolt/Nut No. - Size
			X	Y	Z	
Inch	mm	psi	mm	mm	mm	mm
1	33.7	500	59.0	100.0	44.0	2-M10 x 57
1¼	42.4	500	66.0	109.5	45.0	2-M10 x 57
1½	48.3	500	72.0	115.0	45.0	2-M10 x 57
2	60.3	500	85.0	131.0	45.0	2-M10 x 57
2½	73.0	500	98.0	145.0	45.0	2-M10 x 57
3 O.D.	76.1	500	101.0	147.0	45.0	2-M10 x 57
3	88.9	500	115.0	170.0	46.0	2-M12 x 70
4¼ O.D.	108.0	500	140.0	197.0	52.0	2-M12 x 70
4	114.3	500	146.0	200.0	52.0	2-M12 x 70
5¼ O.D.	133.0	300	165.0	232.0	52.0	2-M16 x 85
5½ O.D.	139.7	500	170.0	238.0	52.0	2-M16 x 85
5	141.3	500	172.0	236.5	52.0	2-M16 x 85
6¼ O.D.	159.0	300	190.0	258.0	52.0	2-M16 x 85
6½ O.D.	165.1	500	198.0	266.0	52.0	2-M16 x 85
6	168.3	500	204.0	270.0	52.0	2-M16 x 85
8	219.1	500	262.0	346.0	62.0	2-M20 x 115
-	267.4	225	318.0	404.0	63.0	2-M20 x 115
10	273.0	500	320.0	410.0	63.0	2-M22 x 125
-	318.5	300	364.0	460.0	63.0	2-M22 x 140
12	323.9	500	378.0	466.0	63.0	2-M22 x 140
14	355.6	300	415.0	510.0	72.0	3-M22 x 140
16	406.4	300	468.0	575.0	72.0	3-M22 x 140
18	457.2	300	508.0	608.0	78.0	3-M22 x 140
20	508.0	300	563.0	660.0	78.0	4-M22 x 140
24	609.6	300	671.0	772.0	78.0	4-M22 x 140





SDG-22

Rigid Coupling - Standard



NOTE: Refer to UL/FM/LPCB certificates for more details.

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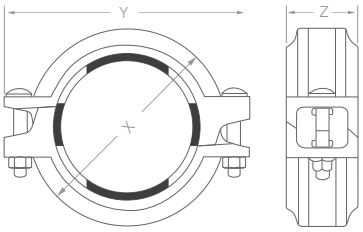
Grooved Fittings

UL LISTED FM APPROVED

Rigid Quick Coupling

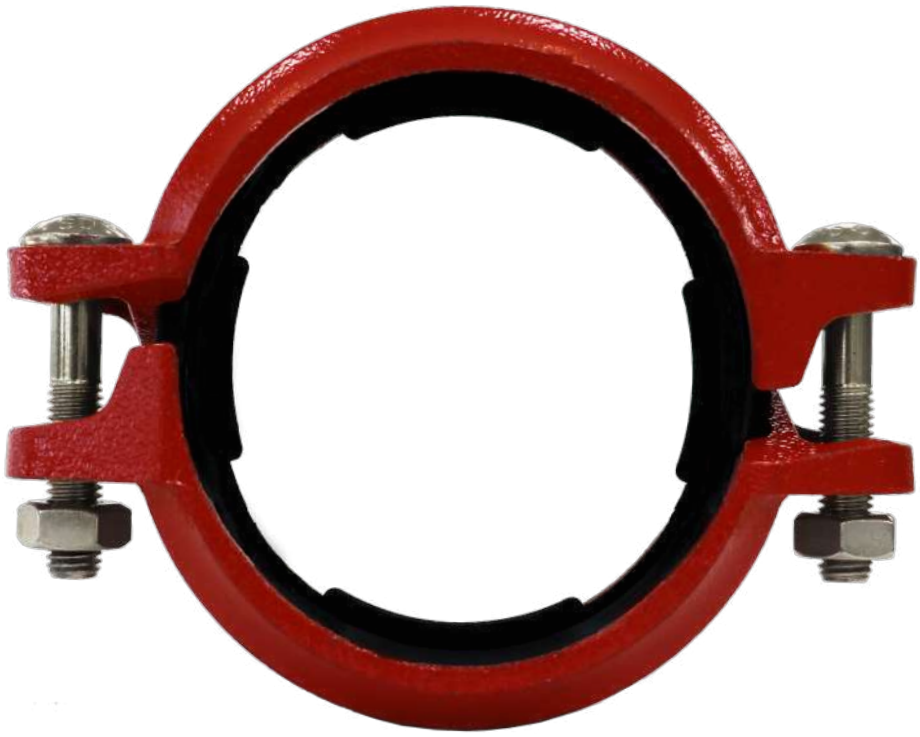
SDG-18:

Nominal Size	Pipe O.D.	Maximum Working Pressure	Dimensions			Bolt/Nut No. - Size
Inch	mm	psi	X mm	Y mm	Z mm	mm
1¼	42.4	300	64.8	108	46.6	2-M10 x 57
1½	48.3	300	71.8	115	46.6	2-M10 x 57
2	60.3	300	85	125.8	48	2-M10 x 57
2½	73.0	300	97	140	48	2-M10 x 57
3 O.D.	76.1	300	100	140	48	2-M10 x 57
3	88.9	300	112.3	160	48	2-M10 x 63
4	114.3	300	137.5	196	50.5	2-M12 x 70
5½ O.D.	139.7	300	166.6	229	52.5	2-M12 x 70
5	141.3	300	168.1	229.5	52.5	2-M12 x 70
6½ O.D.	165.1	300	189.6	249	52.5	2-M12 x 82
6	168.3	300	196.3	257	52.5	2-M12 x 82
8	216.3	300	244.8	322	63	2-M16 x 89
8	219.1	300	254.4	326	63	2-M16 x 89
10	273	300	314	404	68	2-M22 x 140
12	323.9	300	368	473	68	2-M22 x 140



SDG-18

Rigid Quick Coupling



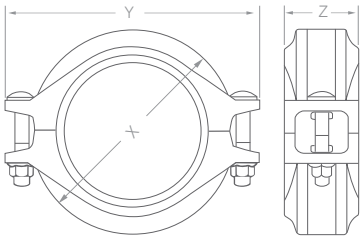
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Grooved Fittings

Rigid Coupling - Light:

SDG-20:

Nominal Size	Pipe O.D.	Maximum Working Pressure	Dimensions			Bolt/Nut No. - Size
Inch	mm	psi	X mm	Y mm	Z mm	mm
3	88.9	350	114.0	160.0	45.0	2-M10 x 57
4¼ O.D.	108.0	300	135.0	185.0	50.0	2-M12 x 70
4	114.3	350	140.0	192.0	46.5	2-M12 x 70
5½ O.D.	139.7	350	168.0	225.0	50.0	2-M12 x 76
5	141.3	350	170.0	225.0	50.0	2-M12 x 76
6¼ O.D.	159.0	300	190.0	252.0	50.0	2-M16 x 85
6½ O.D.	165.1	350	195.0	250.0	50.0	2-M12 x 76
6	168.3	350	200.0	255.0	50.0	2-M12 x 76
-	216.3	300	255.0	320.0	58.0	2-M16 x 85
8	219.1	350	255.0	324.0	58.0	2-M16 x 85
10	273.0	300	318.0	410.0	63.0	2-M20 x 115



SDG-20

Rigid Coupling - Light





NOTE: Refer to UL/FM/LPCB certificates for more details.

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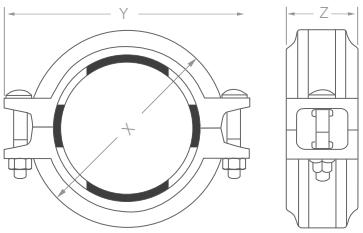
Grooved Fittings

UL LISTED FM APPROVED

Flexible Quick Coupling:

SDG-19:

Nominal Size	Pipe O.D.	Maximum Working Pressure	Dimensions			Bolt/Nut No. - Size
Inch	mm	psi	X mm	Y mm	Z mm	mm
1¼	42.4	300	64.8	108	47.1	2-M10 x 57
1½	48.3	300	71.8	115	47.1	2-M10 x 57
2	60.3	300	85	125.8	48.5	2-M10 x 57
2½	73.0	300	97	140	48.5	2-M10 x 57
3 O.D.	76.1	300	100	140	48.5	2-M10 x 57
3	88.9	300	112.3	160	48.5	2-M10 x 63
4	114.3	300	137.5	196	51	2-M12 x 70
5½ O.D.	139.7	300	166.6	229	53	2-M12 x 70
5	141.3	300	168.1	229.5	53	2-M12 x 70
6½ O.D.	165.1	300	189.6	249	53	2-M12 x 82
6	168.3	300	196.3	257	53	2-M12 x 82
8	216.3	300	244.8	322	63.5	2-M16 x 89
8	219.1	300	252.4	326	63	2-M16 x 89
10	273.0	300	315.0	404.0	68	2-M22 x 140
12	323.9	300	368.0	473.0	68	2-M22 x 140



SDG-19
Flexible Quick Coupling



NOTE: Refer to UL/FM/LPCB certificates for more details.

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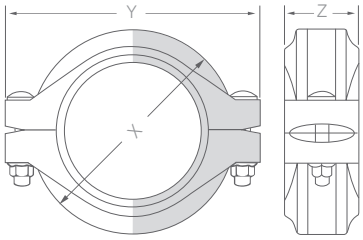
Grooved Fittings

Flexible Coupling - Heavy Duty:

SDG-27:

Nominal Size	Pipe O.D.	Maximum Working Pressure	Dimensions			Bolt/Nut No. - Size
Inch	mm	psi	X mm	Y mm	Z mm	mm
2½	73.0	750	100.0	150.0	45.0	2-M12 x 76
3 O.D.	76.1	750	102.0	154.0	45.0	2-M12 x 76
4	114.3	750	151.0	214.0	50.0	2-M16 x 85
5 O.D.	139.7	750	178.0	247.0	52.0	2-M20 x 115
5	141.3	750	180.0	248.0	51.0	2-M20 x 115
6½ O.D.	165.1	750	205.0	278.0	51.0	2-M20 x 115
6	168.3	750	208.0	284.0	51.0	2-M20 x 115
8	219.1	750	268.0	354.0	61.0	2-M22 x 140
10	273.0	500	326.7	420.7	66.0	2-M22 x 125
12	323.9	500	385.2	477.0	66.0	2-M22 x 140
18	457.2	500	524.8	606.0	82.0	3-M22 x 140





SDG-27

Flexible Coupling - Heavy Duty



SHIELD Flexible Coupling SDG-27 is a high pressure flexible coupling can be used in different applications where high pressure service is required.

NOTE: Refer to UL/FM/LPCB certificates for more details.

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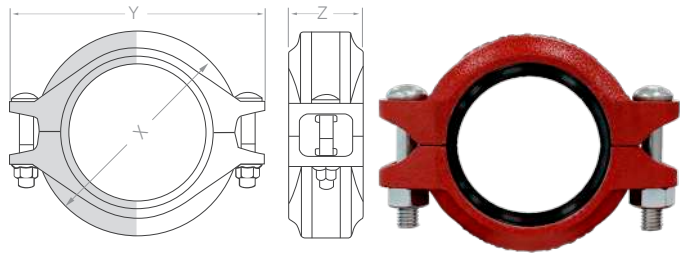
Grooved Fittings

Flexible Coupling - Standard:

SDG-25:

Nominal Size	Pipe O.D.	Maximum Working Pressure	Dimensions			Bolt/Nut No. - Size
			X	Y	Z	
Inch	mm	psi	mm	mm	mm	mm
1	33.7	500	55.0	92.0	42.0	2-M10 x 57
1¼	42.4	500	65.0	104.0	44.0	2-M10 x 57
1½	48.3	500	70.0	110.0	44.0	2-M10 x 57
2	60.3	500	83.0	125.0	44.0	2-M10 x 57
2½	73.0	500	96.0	143.0	45.0	2-M10 x 57
3 O.D.	76.1	500	100.0	145.0	45.0	2-M10 x 57
3	88.9	500	115.0	160.0	45.0	2-M12 x 70
4¼ O.D.	108.0	500	138.0	190.0	50.0	2-M12 x 70
4	114.3	500	145.0	198.0	50.0	2-M12 x 70
5¼ O.D.	133.0	300	162.0	225.0	51.0	2-M16 x 85
5½ O.D.	139.7	500	169.0	230.0	52.0	2-M16 x 85
5	141.3	500	168.8	232.0	50.0	2-M16 x 85
6¼ O.D.	159.0	300	190.0	253.5	51.0	2-M16 x 85
6½ O.D.	165.1	500	196.0	260.0	51.0	2-M16 x 85
6	168.3	500	200.0	265.0	52.0	2-M16 x 85
-	216.3	300	254.0	320.0	59.0	2-M16 x 85
8	219.1	500	262.0	342.0	60.0	2-M20 x 115
-	267.4	300	308.5	403.0	64.0	2-M20 x 115
10	273.0	500	337.0	406.0	65.0	2-M22 x 140
-	318.5	300	363.0	460.0	63.0	2-M22 x 140
12	323.9	500	373.0	458.0	63.5	2-M22 x 140
14	355.6	300	402.0	493.0	72.0	3-M22 x 140
-	377.0	225	428.0	511.0	72.0	3-M22 x 140
16	406.4	300	458.0	547.0	72.0	3-M22 x 140
-	426.0	225	476.0	562.0	73.0	3-M22 x 140
18	457.2	300	505.0	606.0	78.0	3-M22 x 140
18	480.0	300	528.9	623.0	78.0	3-M22 x 10
20	508.0	300	558.0	660.0	78.0	4-M22 x 140
20	530.0	225	585.0	680.0	76.0	4-M22 x 10
24	609.6	300	662.0	774.0	78.0	4-1 x 140
30	762.0	225	849.0	1007.4	130.4	6-11/2 x 53/4
32	812.8	225	899.8	1058.4	131.8	6-11/2 x 53/4

SHIELD Flexible Couplings allow controlled angular movement of the pipe to assist alignment and installation. The advantage of flexibility must be considered in the design or hanger and support spacing.



SDG-25
Flexible Coupling - Standard

NOTE: Refer to UL/FM/LPCB certificates for more details.

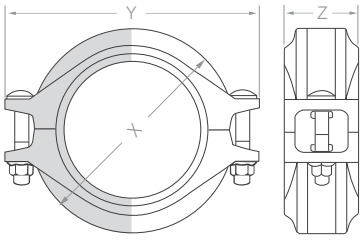
SHIELD reserves the right to change the contents without notice.

Grooved Fittings

Flexible Coupling - Light:

SDG-21:

Nominal Size	Pipe O.D.	Maximum Working Pressure	Dimensions			Bolt/Nut No. - Size
Inch	mm	psi	X mm	Y mm	Z mm	mm
2	60.3	300	81.2	125.0	44.5	2-M10 x 57
2½	76.1	300	96.5	138.0	44.5	2-M10 x 57
3	88.9	300	112.2	159.0	45.5	2-M10 x 57
4	102.0	365	129.0	186.0	48.0	2-M12 x 70
4	114.3	300	139	182.0	50	2-M10 X 57
5½ O.D.	139.7	450	168.0	228.0	51.0	2-M16 x 85
6½ O.D.	165.1	300	192.0	244.0	51.0	2-M12 x 76
6	168.3	300	200.0	266.0	52.0	2-M16 x 85
10	273.0	300	320.0	398.0	63.0	2-M20 x 15
10	273.0	300	320.0	398.0	64.0	2-M20 x 115



SDG-21

Flexible Coupling - Light



SHIELD SDG-21 is designed for a maximum working pressure of 300psi. The flexibility benefits of this coupling can be used in applications where high pressure is not required.

SHIELD reserves the right to change the contents without notice.

Grooved Fittings

LISTED FM APPROVED

Rigid & Flexible Coupling - Installation Instruction:



Pipe Preparation

- Check pipe end for proper groove dimensions and to assure that pipe end is free of indentations and projections that would prevent proper sealing.



Lubricate Gasket

- Check gasket to ensure it's compatible for the intended service.
- Apply thin lubricant to the outside and sealing lips of the gasket.



Gasket Installation

- Slip the gasket over one pipe, making sure the gasket lip does not over-hang the pipe end.



Alignment

- After aligning two pipe ends together, pull the gasket into position, centering between the grooves on each pipe.
- The gasket should not extend into the groove on either pipe.



Housing Installation

- Remove one bolt & nut and loosen the other nut. Place one housing over the gasket, making sure the housing keys fit into the pipe grooves.
- Swing the other housing over the gasket and into the grooves on both pipes.
- Re-insert the bolt and connect two housings.



Tighten Nuts

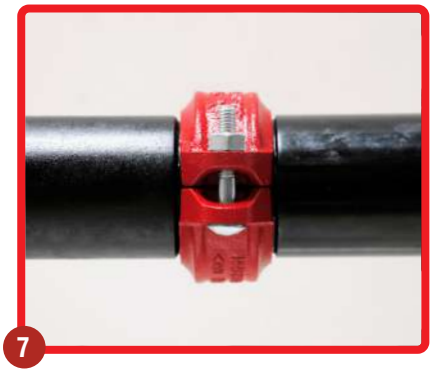
- Firstly hand tighten nuts and make sure oval neck bolt completely fits into bolt hole.
- Then securely tighten nuts alternatively and equally to the specified bolt torque by using torque wrench or spanner.

NOTE: Refer to UL/FM/LPCB certificates for more details.

SHIELD reserves the right to change the contents without notice.

Grooved Fittings

Rigid & Flexible Coupling - Installation Instruction:



7

Assembly Completed - Rigid Coupling

- For Rigid Coupling, keep the gaps at bolt pads evenly spaced. Gaskets can't be seen visually.



8

Assembly Completed - Flexible Coupling

- For Flexible Coupling, two housings should be iron to iron connected. Gaskets can't be seen visually.

Specified Bolt Torque:

ANSI Bolts

Bolt Size	Dimensions	
Inch	Lbs/ft.	N.m
⅜	30/45	40-60
½	80/100	110-135
⅝	100/130	135-175
¾	130/180	175-245
⅞	180/240	245-325

CAUTION

- Proper torquing of bolts is required to obtain specified performance.
- Over torquing the bolts may result in damage to the bolt and/or casting which could result in pipe joint separation.
- Under torquing the bolts may result in lower pressure retention capabilities, lower bend load capabilities, joint leakage and pipe joint separation. Pipe joint separation may result in significant property damage and serious injury.

NOTE: Refer to UL/FM/LPCB certificates for more details.

SHIELD reserves the right to change the contents without notice.

Grooved Fittings

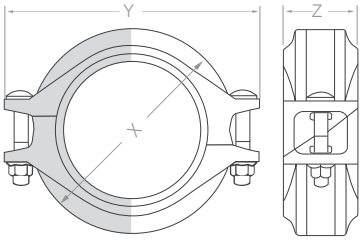
UL LISTED FM APPROVED

Angle Pad:

SDG-24:

Nominal Size	Pipe O.D.	Maximum Working Pressure	Dimensions			Bolt/Nut No. - Size
Inch	mm	psi	X mm	Y mm	Z mm	mm
1¼	42.4	500	64.0	99.0	46.5	2-M10 x 57
1½	48.3	500	70.0	105.0	46.5	2-M10 x 57
2	60.3	500	85.0	121.0	46.5	2-M10 x 57
2½	73.0	500	99.0	134.0	47.5	2-M10 x 63
3 O.D.	76.1	500	102.0	137.0	47.5	2-M10 x 63
3	88.9	500	115.0	150.0	47.5	2-M10 x 63
4	114.3	500	142.0	180.0	50.0	2-M10 x 70
5½ O.D.	139.7	500	171.0	214.0	52.5	2-M12 x 76
6½ O.D.	165.1	500	198.0	242.0	52.5	2-M12 x 76
6	168.3	500	201.0	245.0	52.5	2-M12 x 76
8	219.1	500	258.0	331.0	63.5	2-M20 x 115
10	273.0	500	321.0	406.0	64.5	2-M22 x 140
12	323.9	350	376.0	450.0	66.5	2-M22 x 160





SDG-24
Angle Pad



NOTE: Refer to UL/FM/LPCB certificates for more details.

SHIELD reserves the right to change the contents without notice.

Grooved Fittings

Angle Pad - Installation Instruction:



Pipe Preparation

- Check pipe end for proper groove dimensions and to assure that pipe end is free of indentations and projections that would prevent proper sealing.



Lubricate Gasket

- Check gasket to ensure it's compatible for the intended service.
- Apply thin lubricant to the outside and sealing lips of the gasket.



Gasket Installation

- Slip the gasket over one pipe, making sure the gasket lip does not over-hang the pipe end.



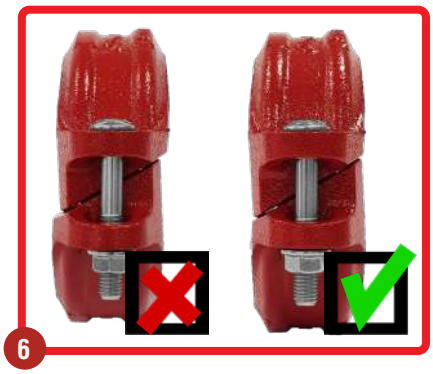
Alignment

- Bring together and align the two pipe ends to be joined. Ensure proper alignment and slide the gasket into position, properly centering it between the grooved portions of each pipe.. No part of the gasket should protrude into the groove of either pipe.



Insert Bolts and Nuts

- Insert the bolts and nuts and tighten the nuts evenly by alternating sides until metal-to metal contact to ensure a better joint.



Contact

- Firstly hand tighten nuts and make sure oval neck bolt completely fits into bolt hole.
- Then securely tighten nuts alternatively and equally to the specified bolt torque by using torque wrench or spanner.

Note:

- It is important to keep hands away from coupling openings during tightening.
- No partially assembling for coupling is allowed which might cause drop hazards.
- Visual inspection of each joint is critical. Improperly assembled joints must be correct. Tighten the nuts by another one quarter to one half turn to make sure the bolts and nuts are snug and secure.
- Never exceed torque. Excessive tightening of nuts may cause a bolt or joint failure.
- Refer to UL/FM certificates for more details.

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SHIELD™
Trusted Worldwide

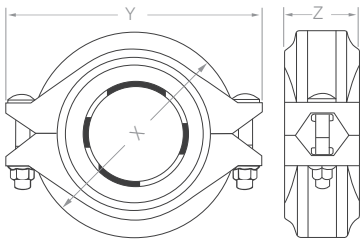
Grooved Fittings

Reducing Coupling:

SDG-30:

Nominal Size	Pipe O.D.	Maximum Working Pressure	Dimensions			Bolt/Nut No. - Size
			X	Y	Z	
Inch	mm	psi	mm	mm	mm	mm
2 x 1	60.3 x 33.7	360	89.0	125.2	44.0	2-M10C x 57
2 x 1½	60.3 x 48.3	360	89.0	125.0	44.0	2-M10 x 57
2½ x 1	73.0 x 33.7	300	100.0	138.0	45.0	2-M10 x 57
2½ x 2	73.0 x 60.3	360	100.0	138.0	45.0	2-M10 x 57
2½ x 2½	76.1 x 73.0	300	102.5	145.0	45.0	2-M10C x 57
3 O.D. x 1	76.1 x 33.7	300	102.0	140.0	45.0	2-M10 x 57
3 O.D. x 1½	76.1 x 48.3	300	102.0	140.0	45.0	2-M10 x 57
3 O.D. x 2	76.1 x 60.3	300	102.0	144.0	45.0	2-M10 x 57
3 x 1	88.9 x 33.7	300	115.0	168.0	46.0	2-M12 x 70
3 x 2	88.9 x 60.3	360	115.0	168.0	46.0	2-M12 x 70
3 x 2½	88.9 x 73.0	360	115.0	168.0	46.0	2-M12 x 70
3 x 3 O.D.	88.9 x 76.1	300	115.0	172.0	46.0	2-M12 x 70
4 x 1	114.3 x 33.7	300	144.0	198.0	50.0	2-M12 x 70
4 x 2	114.3 x 60.3	360	144.0	198.0	50.0	2-M12 x 70
4 x 2½	114.3 x 73.0	360	144.0	198.0	50.0	2-M12 x 70
4 x 3 O.D.	114.3 x 76.1	300	144.0	202.0	50.0	2-M12 x 70
4 x 3	114.3 x 88.9	360	148.0	198.0	50.0	2-M12 x 70
6½ O.D. x 3	165.1 x 88.9	300	200.0	260.0	51.0	2-M20 x 115
6½ O.D. x 4	165.1 x 114.3	300	197.0	260.0	51.0	2-M16 x 85
6 x 3	168.3 x 88.9	300	200.0	268.0	51.0	2-M16 x 85
6 x 4	168.3 x 114.3	360	202.5	268.0	52.5	2-M16 x 85
6 x 5	168.3 x 141.3	360	210.25	274.83	51.9	2-M22 x 115
6 x 6½ O.D.	168.3 x 165.1	300	204.0	268.0	52.5	2-M16 x 85
8 x 6½ O.D.	219.1 x 165.1	300	257.0	335.0	60.0	2-M20 x 115
8 x 6	219.1 x 168.3	360	260.0	338.0	60.0	2-M20 x 115
8 x 8	219.1 x 168.3	300	263.4	342.0	60.5	2-M22 x 140
10 x 10	273.0 x 267.4	300	324.5	412.0	64.0	2-M22 x 140





SDG-30

Reducing Coupling



NOTE: Refer to UL/FM/LPCB certificates for more

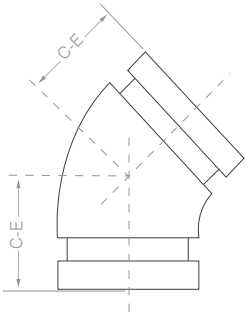
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Grooved Fittings

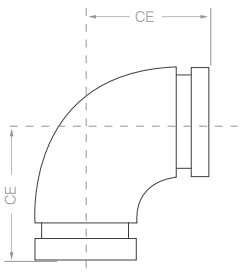
Elbows - Long & Short Radius 90° & 45°:

SDG-100, SGD-200 & SDG-105:

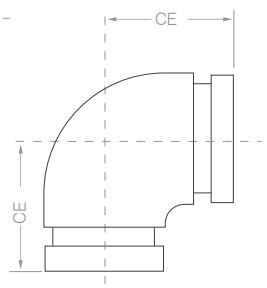
Nominal Size	Pipe O.D.	SDG-100 90° Elbow		SDG-200 45° Elbow		SDG-105 90° Elbow	
		Maximum Working Pressure	CE	Maximum Working Pressure	CE	Maximum Working Pressure	CE
Inch	mm	psi	mm	psi	mm	psi	mm
1	33.7	500	57.0	500	44.5	-	-
1¼	42.4	500	70.0	500	44.5	-	-
1½	48.3	500	70.0	500	44.5	-	-
2	60.3	500	82.5	500	51.0	300	70.0
2½	73.0	500	95.0	500	57.0	300	76.0
3 O.D.	76.1	500	95.0	500	57.0	300	76.0
3	88.9	500	108.0	500	63.5	300	85.5
4¼ O.D.	108.0	500	127	500	76.0	500	101.0
4	114.3	500	127.0	500	76.0	365	101.0
5¼ O.D.	133.0	500	122.0	500	82.5	-	-
5½ O.D.	139.7	500	140.0	500	82.5	300	124.0
5	141.3	500	140.0	500	82.5	300	-
6¼ O.D.	159.0	500	165.0	500	89.0	300	140.0
6½ O.D.	165.1	500	165.0	500	89.0	365	140.0
6	168.3	500	165.0	500	89.0	300	140.0
-	216.3	-	-	300	108.0	300	175.0
8	219.1	500	197.0	500	108.0	300	175.0
-	267.4	300	228.5	300	120.5	-	-
10	273.0	500	228.5	500	120.5	-	-
-	318.5	300	254.0	300	133.0	-	-
12	323.9	500	254.0	500	133.0	-	-
14	355.6	300	280.0	300	152.0	-	-
-	377.0	300	279.0	300	122.0	-	-
16	406.4	300	305.0	300	184.0	-	-
-	426.0	300	305.0	-	-	-	-
18	457.2	300	394.0	300	203.0	-	-
-	480.0	300	335.0	-	-	-	-
20	508.0	300	438.0	300	229.0	-	-
24	609.6	300	508.0	300	280.0	-	-



SDG-200
45° Long Radius Elbow



SDG-100
90° Long Radius Elbow



SDG-105
90° Short Radius Elbow



NOTE: Refer to UL/FM/LPCB certificates for more details.

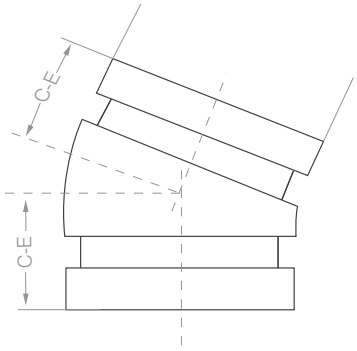
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Grooved Fittings

Long Radius Elbow 22.5° & 11.25°:

SDG-225 & SDG-112:

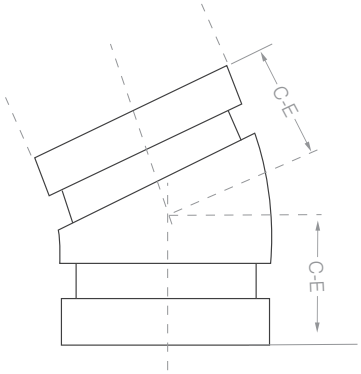
Nominal Size Inch	Pipe O.D. mm	Maximum Working Pressure psi	SDG-225 22.5° Elbow CE mm	SDG-112 11.25° Elbow CE mm
1¼	42.4	500	45.0	35.0
1½	48.3	500	45.0	35.0
2	60.3	500	48.0	35.0
2½	73.0	500	51.0	38.0
3 O.D.	76.1	500	51.0	38.0
3	88.9	500	57.0	38.0
4¼ O.D.	108.0	500	73.0	44.0
4	114.3	500	73.0	44.0
5½ O.D.	139.7	500	73.0	51.0
6¼ O.D.	159.0	500	79.0	51.0
6½ O.D.	165.1	500	79.0	51.0
6	168.3	500	79.0	51.0
8	219.1	500	98.0	51.0



SDG-112
11.25° Long Radius Elbow







SDG-225
22.5° Long Radius Elbow

NOTE: Refer to UL/FM/LPCB certificates for more details.

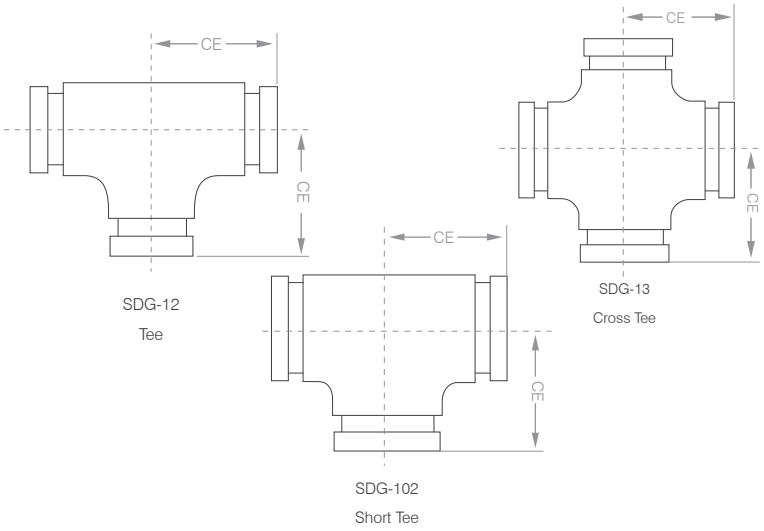
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Grooved Fittings

Tee, Cross Tee & Short Tee:

SDG-12, SDG-13 & SDG-102:

Nominal Size	Pipe O.D.	Maximum Working Pressure	SDG-12 Tee	SDG-13 Cross Tee	SDG-102 Tee (Short)	
			CE	CE	Maximum Working Pressure	CE
Inch	mm	psi	mm	mm	psi	mm
1	33.7	500	57.0	-	-	-
1¼	42.4	500	70.0	70.0	-	-
1½	48.3	500	70.0	70.0	-	-
2	60.3	500	82.5	70.0	300	70.0
2½	73.0	500	95.0	76.0	300	76.0
3 O.D.	76.1	500	95.0	76.0	300	76.0
3	88.9	500	108.0	85.5	300	85.5
4¼ O.D.	108.0	500	127.0	101.0	500	101.0
4	114.3	500	127.0	101.0	300	101.0
5¼ O.D.	133.0	500	122.0	-	-	-
5½ O.D.	139.7	500	140.0	124.0	300	124.0
5	141.3	500	140.0	124.0	-	-
6¼ O.D.	159.0	500	165.0	140.0	300	140.0
6½ O.D.	165.1	500	165.0	140.0	300	140.0
6	168.3	500	165.0	140.0	300	140.0
8	219.1	500	197.0	175.0	300	175.0
10½ O.D.	267.4	500	229.0	-	-	-
10	273.0	500	229.0	229.0	-	-
12½ O.D.	318.5	500	254.0	-	-	-
12	323.9	500	254.0	254.0	-	-
14	355.6	300	280.0	279.0	-	-
14¾ O.D.	377.0	300	279.0	279.0	-	-
16	406.4	300	305.0	305.0	-	-
16¾ O.D.	426.0	300	285.0	-	-	-
18	457.2	300	342.0	343.0	-	-
18 O.D.	480.0	300	335.0	-	-	-
20	508.0	300	381.0	381.0	-	-
24	609.6	300	432.0	432.0	-	-





NOTE:

- Refer to UL/FM certificates for more details.
- Reducing cross (grooved, threaded) are also available, contact SHIELD for further details.

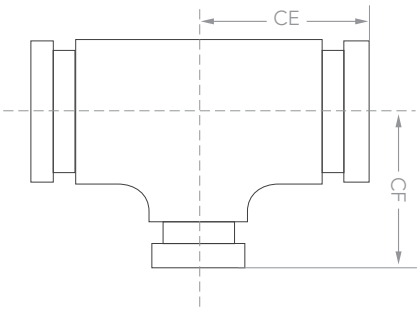
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Grooved Fittings

Reducing Tee:

SDG-53:

Nominal Size Inch	Pipe O.D. mm	Maximum Working Pressure psi	SDG-53 Dimensions CE mm	SDG-53 Dimensions CF mm
2 x 1	60.3 x 33.7	500	70.0	70.0
2 x 1½	60.3 x 48.3	500	70.0	70.0
2½ x 1½	73.0 x 48.3	500	76.0	76.0
2½ x 2	73.0 x 60.3	500	69.0	76.0
3 O.D. x 1¼	76.1 x 42.4	500	76.0	76.0
3 O.D. x 1½	76.1 x 48.3	500	76.0	76.0
3 O.D. x 2	76.1 x 60.3	500	69.0	76.0
3 x 1	88.9 x 33.7	500	108.0	108.0
3 x 1¼	88.9 x 42.4	500	85.5	85.5
3 x 1½	88.9 x 48.3	500	85.5	85.5
3 x 2	88.9 x 60.3	500	85.5	85.5
3 x 2½	88.9 x 73.0	500	85.5	85.5
3 x 3 O.D.	88.9 x 76.1	500	85.5	85.5
4¼ O.D. x 2	108.0 x 60.3	500	101.0	101.0
4¼ O.D. x 3	108.0 x 88.9	500	101.0	101.0
4 x 1	114.3 x 33.7	500	101.0	101.0
4 x 1½	114.3 x 48.3	500	101.0	101.0
4 x 2	114.3 x 60.3	500	101.0	101.0
4 x 2½	114.3 x 73.0	500	101.0	101.0
4 x 3 O.D.	114.3 x 76.1	500	101.0	101.0
4 x 3	114.3 x 88.9	500	101.0	101.0
5 x 1½	139.7 x 48.3	500	124.0	124.0
5¼ O.D. x 2	133.0 x 60.3	500	124.0	124.0
5¼ O.D. x 3 O.D.	133.0 x 76.1	500	124.0	124.0
5¼ O.D. x 4¼ O.D.	133.0 x 108.0	500	124.0	124.0
5¼ O.D. x 4	133.0 x 114.3	500	124.0	124.0
5½ O.D. x 1½	139.7 x 48.3	500	124.0	124.0
5½ O.D. x 2	139.7 x 60.3	500	124.0	124.0
5½ O.D. x 3 O.D.	139.7 x 76.1	500	124.0	124.0
5½ O.D. x 3	139.7 x 88.9	500	124.0	124.0
5½ O.D. x 4	139.7 x 114.3	500	124.0	124.0
5 x 2	141.3 x 60.3	500	124.0	124.0
5 x 3	141.3 x 88.9	500	124.0	124.0
5 x 4	141.3 x 114.3	500	124.0	124.0
6¼ O.D. x 2	159.0 x 60.3	500	140.0	140.0
6¼ O.D. x 3 O.D.	159.0 x 76.1	500	140.0	140.0
6¼ O.D. x 3	159.0 x 88.9	500	140.0	140.0
6¼ O.D. x 4¼ O.D.	159.0 x 108.0	500	140.0	140.0
6¼ O.D. x 4	159.0 x 114.3	500	140.0	140.0
6¼ O.D. x 5¼ O.D.	159.0 x 133.0	500	140.0	140.0



SDG-53

Reducing Tee



NOTE:
- Refer to UL/FM certificates for more details.

SHIELD reserves the right to change the contents without notice.

Grooved Fittings

Reducing Tee:

SDG-53:

Nominal Size Inch	Pipe O.D. mm	Maximum Working Pressure psi	SDG-53 Dimensions CE mm	SDG-53 Dimensions CF mm
6½ O.D. x 2	165.1 x 60.3	300	140.0	140.0
6½ O.D. x 3 O.D.	165.1 x 76.1	300	140.0	140.0
6½ O.D. x 3	165.1 x 88.9	300	140.0	140.0
6½ O.D. x 4	165.1 x 114.3	300	140.0	140.0
6½ O.D. x 5¼ O.D.	165.1 x 133.0	300	140.0	140.0
6½ O.D. x 5½ O.D.	165.1 x 139.7	300	140.0	140.0
6 x 2	168.3 x 60.3	500	140.0	140.0
6 x 2½	168.3 x 73.0	500	140.0	140.0
6 x 3 O.D.	168.3 x 76.1	500	140.0	140.0
6 x 3	168.3 x 88.9	500	140.0	140.0
6 x 4	168.3 x 114.3	500	140.0	140.0
6 x 5½ O.D.	168.3 x 139.7	300	140.0	140.0
6 x 5	168.3 x 141.3	300	140.0	140.0
8 O.D.x 4	216.3 x 114.3	300	175.0	175.0
8 O.D. x 6½ O.D.	216.3 x 165.1	300	175.0	175.0
8 x 2	219.1 x 60.3	500	175.0	175.0
8 x 2½	219.1 x 73.0	300	175.0	175.0
8 x 3 O.D.	219.1 x 76.1	300	175.0	175.0
8 x 3	219.1 x 88.9	500	175.0	175.0
8 x 4¼ O.D.	219.1 x 108.0	500	175.0	175.0
8 x 4	219.1 x 114.3	500	175.0	175.0
8 x 5¼ O.D.	219.1 x 133.0	300	175.0	175.0
8 x 5½ O.D.	219.1 x 139.7	300	175.0	175.0
8 x 6¼ O.D.	219.1 x 159.0	300	175.0	175.0
8 x 6½ O.D.	219.1 x 165.1	300	175.0	175.0
8 x 6	219.1 x 168.3	500	175.0	175.0
10 x 4	273.0 x 114.3	500	228.6	228.6
10 x 6¼ O.D.	273.0 x 159.0	500	229.0	229.0
10 x 6½ O.D.	273.0 x 165.1	300	229.0	229.0
10 x 6	273.0 x 168.3	300	229.0	229.0
10 x 8	273.0 x 219.1	300	229.0	229.0
12 x 2½	323.8 x 73	300	254.0	254.0
12 x 3	323.8 x 88.9	300	254.0	254.0
12 x 6½ O.D.	323.9 x 165.1	300	254.0	254.0
12 x 6	323.9 x 168.3	300	254.0	254.0
12 x 8	323.9 x 219.1	300	254.0	254.0
12 x 10	323.9 x 273.0	300	254.0	254.0
14 x 6	355.6 x 168.3	300	279.0	238.0
14 x 8	355.6 x 219.1	300	280.0	280.0

Nominal Size Inch	Pipe O.D. mm	Maximum Working Pressure psi	SDG-53 Dimensions CE mm	SDG-53 Dimensions CF mm
14 x 10	355.6 x 273.0	300	279.0	257.0
14 x 12	355.6 x 323.9	300	279.0	270.0
14 O.D. x 5¼ O.D.	377.0 x 133.0	300	240.0	265.0
14 O.D. x 6¼ O.D.	377.0 x 159.0	300	240.0	265.0
14 O.D. x 8	377.0 x 219.1	300	240.0	265.0
14 O.D. x 10	377.0 x 273.0	300	240.0	265.0
14 O.D. x 12	377.0 x 323.9	300	240.0	265.0
16 x 6	406.4 x 168.3	300	305.0	264.0
16 x 8	406.4 x 219.1	300	305.0	273.0
16 x 10	406.4 x 273.0	300	305.0	283.0
16 x 12	406.4 x 323.9	300	305.0	295.0
16 x 8	426.0 x 219.1	300	260.0	285.0
16 x 10	426.0 x 273.0	300	260.0	285.0
16 x 12	426.0 x 323.9	300	260.0	285.0
18 x 6	457.2 x 168.3	300	343.0	298.0
18 x 8	457.2 x 219.1	300	343.0	298.0
18 x 10	457.2 x 273.0	300	343.0	308.0
18 x 12	457.2 x 323.9	300	343.0	321.0
18 x 14	457.2 x 355.6	300	343.0	330.0
18 x 16	457.2 x 406.4	300	343.0	330.0
19 O.D. x 12	480.0 x 323.9	300	335.0	335.0
19 O.D. x 14	480.0 x 377.0	300	335.0	335.0
20 x 6	508.0 x 168.3	300	381.0	324.0
20 x 8	508.0 x 219.1	300	381.0	324.0
20 x 10	508.0 x 273.0	300	381.0	333.0
20 x 12	508.0 x 323.9	300	381.0	346.0
20 x 14	508.0 x 355.6	300	381.0	356.0
20 x 16	508.0 x 406.4	300	381.0	356.0
20 x 18	508.0 x 457.2	300	381.0	368.0
24 x 6	609.6 x 168.3	300	432.0	384.0
24 x 8	609.6 x 219.1	300	432.0	384.0
24 x 10	609.6 x 273.0	300	432.0	384.0
24 x 12	609.6 x 323.9	300	432.0	397.0
24 x 14	609.6 x 355.6	300	432.0	406.0
24 x 16	609.6 x 406.4	300	432.0	406.0
24 x 18	609.6 x 457.2	300	432.0	419.0
24 x 20	609.6 x 508.0	300	432.0	432.0

NOTE:

- Refer to UL/FM certificates for more details.

SHIELD reserves the right to change the contents without notice.

LISTED

Reducing Tee Threaded Outlet:

SDG-53TH:

Nominal Size Inch	Pipe O.D. mm	Maximum Working Pressure psi	SDG-53TH Dimensions	
			CE mm	CF mm
50 x 25 2 x 1	60.3 x 33.7 2.375 x 1.315	500 3.45	70 2.75	70 2.75
50 x 32 2 x 1 1/4	60.3 x 42.4 2.375 x 1.660	500 3.45	70 2.75	70 2.75
50 x 40 2 x 1 1/2	60.3 x 48.3 2.375 x 1.900	500 3.45	70 2.75	70 2.75
50 x 50 x 50 2 x 2 x 2 1/2	60.3 x 60.3 x 76.1 2.375 x 2.375 x 3.000	300 2.07	66 2.59	79 2.99
50 x 50 x 80 2 x 2 x 3	60.3 x 60.3 x 88.9 2.375 x 2.375 x 3.500	300 2.07	70 2.755	80 3.149
65 x 25 2 1/2 x 1	73.0 x 33.7 2.875 x 1.315	500 3.45	76 3.00	76 3.00
65 x 40 2 1/2 x 1 1/2	73.0 x 48.3 2.875 x 1.900	300 2.07	76 3.00	76 3.00
65 x 32 2 1/2 x 1 1/4	73.0 x 42.4 2.875 x 1.660	500 3.45	76 3.00	76 3.00
65 x 25 2 1/2 x 1	76.1 x 33.7 3.000 x 1.315	500 3.45	76 3.00	76 3.00
65 x 32 2 1/2 x 1 1/4	76.1 x 42.4 3.000 x 1.660	500 3.45	76 3.00	76 3.00
65 x 40 2 1/2 x 1 1/2	76.1 x 48.3 3.000 x 1.900	500 3.45	76 3.00	76 3.00
65 x 50 2 1/2 x 2	76.1 x 48.3 3.000 x 1.900	500 3.45	76 3.00	76 3.00
80 x 25 3 x 1	88.9 x 33.7 3.500 x 1.315	500 3.45	85.5 3.37	85.5 3.37
80 x 32 3 x 1 1/4	88.9 x 42.4 3.500 x 1.660	500 3.45	85.5 3.37	85.5 3.37
80 x 40 3 x 1 1/2	88.9 x 48.3 3.500 x 1.900	500 3.45	85.5 3.37	85.5 3.37
80 x 50 3 x 2	88.9 x 48.3 3.500 x 2.375	500 3.45	85.5 3.37	85.5 3.37
80 x 65 3 x 2 1/2	88.9 x 76.1 3.500 x 3.000	500 3.45	85.5 3.37	85.5 3.37
100 x 65 4 x 2 1/2	108.0 x 76.1 4.250 x 3.000	300 2.07	100 3.94	96 3.78
100 x 80 4 x 3	108.0 x 88.9 4.250 x 3.500	300 2.07	100 3.94	96 3.78
100 x 65 4 x 2 1/2	114.3 x 76.1 4.500 x 3.000	300 2.07	100 3.94	96 3.78
100 x 80 4 x 3	114.3 x 88.9 4.500 x 3.500	300 2.07	100 3.94	96 3.78
200 x 50 8 x 2	219.1 x 60.3 8.625 x 2.375	300 2.07	175 6.89	175 6.89
200 x 65 8 x 2 1/2	219.1 x 76.1 8.625 x 3.000	300 2.07	175 6.89	175 6.89
200 x 80 8 x 3	219 x 88.9 8.625 x 3.500	300 2.07	175 6.89	175 6.89



NOTE:

- Refer to UL certificates for more details.

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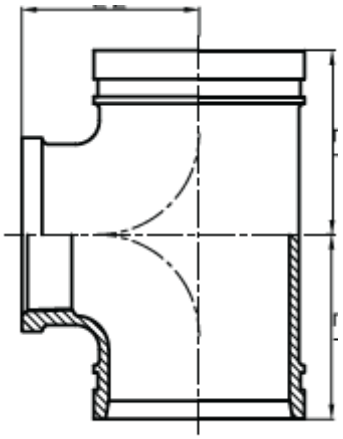
Grooved Fittings

UL LISTED

Reducing Tee Threaded Outlet:

SDG-53TH:

Nominal Size Inch	Pipe O.D. mm	Maximum Working Pressure psi	SDG-53TH Dimensions CE mm	CF mm
65 x 50 2 1/2 x 2	73.0 x 60.3 2.875 x 2.375	500 3.00	76 3.00	76 3.00
100 x 25 4 x 1	114.3 x 33.7 4.500 x 1.315	300 2.07	76 2.99	88 3.47
100 x 32 4 x 1 1/4	114.3 x 42.4 4.500 x 1.660	300 2.07	76 2.99	88 3.47
100 x 40 4 x 1 1/2	114.3 x 48.3 4.500 x 1.900	300 2.07	85 3.35	91 3.58
100 x 50 4 x 2	108.0 x 60.3 4.250 x 2.375	300 2.07	85 3.35	91 3.58
100 x 50 4 x 2	114.3 x 60.3 4.500 x 2.375	300 2.07	85 3.35	91 3.58
125 x 50 5 x 2	133.0 x 60.3 5.250 x 2.375	300 2.07	86 3.39	106 4.17
125 x 65 5 x 2 1/2	133.0 x 76.1 5.250 x 3.000	300 2.07	102 4.02	111 4.37
125 x 80 5 x 3	133.0 x 88.9 5.250 x 3.500	300 2.07	102 4.02	111 4.37
125 x 25 5 x 1	139.7 x 33.7 5.500 x 1.315	300 2.07	78 3.07	103 4.06
125 x 32 5 x 1 1/4	139.7 x 42.4 5.500 x 1.660	300 2.07	78 3.07	103 4.06
125 x 40 5 x 1 1/2	139.7 x 48.3 5.500 x 1.900	300 2.07	86 3.39	106 4.17
125 x 50 5 x 2	139.7 x 60.3 5.500 x 2.375	300 2.07	86 3.39	106 4.17
125 x 65 5 x 2 1/2	139.7 x 76.1 5.500 x 3.000	300 2.07	102 4.02	111 4.37
125 x 80 5 x 3	139.7 x 88.9 5.500 x 3.500	300 2.07	102 2.07	111 4.37
150 x 60 6 x 2	159.0 x 60.3 6.250 x 2.375	300 2.07	92 3.62	124 4.88
150 x 65 6 x 2 1/2	159.0 x 76.1 6.250 x 3.000	300 2.07	107 4.21	129 5.08
150 x 80 6 x 3	159.0 x 88.9 6.25 x 3.500	300 2.07	107 4.21	129 5.08
150 x 25 6 x 1	165.1 x 33.7 6.500 x 1.315	300 2.07	83 3.27	121 4.76
150 x 32 6 x 1 1/4	165.1 x 42.4 6.500 x 1.660	300 2.07	83 3.27	121 4.76
150 x 40 6 x 1 1/2	165.1 x 48.3 6.500 x 1.900	300 2.07	92 3.62	124 4.88
150 x 50 6 x 2	165.1 x 60.3 6.500 x 2.375	300 2.07	92 3.62	124 4.88
150 x 65 6 x 2 1/2	165.1 x 76.1 6.500 x 3.000	300 2.07	107 4.21	129 5.08
150 x 80 6 x 3	165.1 x 88.9 6.500 x 3.500	300 2.07	107 4.21	129 5.08
150 x 50 6 x 2	168.3 x 60.3 6.625 x 2.375	300 2.07	92 3.62	124 4.88
150 x 65 6 x 2 1/2	168.3 x 76.1 6.625 x 3.000	300 2.07	107 4.21	129 5.08
150 x 80 6 x 3	168 .3 x 88.9 6.625 x 3.500	300 2.07	107 4.21	129 5.08
200 x 100 8 x 4	219.1 x 114.3 8.625 x 4.500	300 2.07	175 6.89	175 6.89



Factory Mutual System

NOTE:
- Refer to UL certificates for more details.

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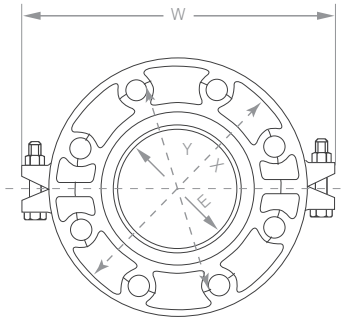
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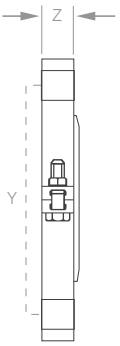
Grooved Fittings

Grooved Flange:

SDG-15 - PN16:

Nominal Size Inch	Pipe O.D. mm	Maximum Working Pressure psi	Grooved Flange Dimension						
			W mm	Z mm	X mm	Y mm	E mm	Nut/Bolt No - Size mm	
1½	48.3	300	195.0	18.5	150.0	110.0	45.4	2-M10 x 50	4-M16
2	60.3	300	220.0	18.5	165.0	125.0	57.5	2-M10 x 50	4-M16
3 O.D.	76.1	300	235.0	18.5	185.0	145.0	72.7	2-M10 x 50	4-M16
3	88.9	300	255.0	18.5	195.0	160.0	85.5	2-M10 x 50	8-M16
4¼ O.D.	108.0	300	279.0	18.5	220.0	180.0	104.5	2-M10 x 50	8-M16
4	114.3	300	279.0	18.5	224.0	180.0	110.5	2-M10 x 50	8-M16
5¼ O.D.	133.0	300	312.0	21.5	250.0	210.0	129.2	2-M12 x 65	8-M16
5½ O.D.	139.7	300	320.0	23.0	250.0	210.0	135.5	2-M12 x 65	8-M16
6¼ O.D.	159.0	300	346.0	21.5	280.0	240.0	154.8	2-M12 x 65	8-M20
6½ O.D.	165.1	300	346.0	21.5	280.0	240.0	160.8	2-M12 x 65	8-M20
6	168.3	300	346.0	24.0	280.0	240.0	164.3	2-M12 x 65	8-M20
8	216.3	300	414.3	25.0	340.0	295.0	212.1	2-M10 x 70	12-M20
8	219.1	300	414.3	30.0	340.0	295.0	214.9	2-M10 x 70	12-M20
10	267.4	300	481.2	27.0	405.0	355.0	263.2	2-M10 x 70	12-M24
10	273.0	300	480.0	25.5	405.0	355.0	268.9	2-M10 x 70	12-M24
12	318.5	300	530.5	27.0	460.0	410.0	313.5	2-M10 x 70	12-M24
12	323.9	300	530.5	25.5	460.0	410.0	318.9	2-M10 x 70	12-M24
14	355.6	300	580.0	30.0	520.0	470.0	350.6	-	16-M24





SDG-15
Grooved Flange

SDG-15 - PN25:

Nominal Size Inch	Pipe O.D. mm	Maximum Working Pressure psi	Grooved Flange Dimension						
			W mm	Z mm	X mm	Y mm	E mm	Nut/Bolt No - Size mm	
6½ O.D.	165.1	362	365.0	21.5	300.0	250.0	160.8	2-M12X65	8-M24

SDG-15 - ANSI 300:

Nominal Size Inch	Pipe O.D. mm	Maximum Working Pressure psi	Grooved Flange Dimension					Bolt / Nut	
			W mm	Z mm	X mm	Y mm	E mm	No - Size mm	
2½	73.0	500	244	24.6	190.0	149.2	69.1	2-M12x65	
3	88.9	500	274	28.0	210.0	168.3	84.9	2-M12x65	
4	114.3	500	310	31.5	255.0	200.0	110.1	2-M12x65	
6	168.3	500	388	35.5	320.0	269.9	163.9	2-M12x65	
8	219.1	500	470.4	41.0	380.0	330.2	214.9	2-1/2x75	



NOTE: Refer to UL/FM/LPCB certificates for more details.

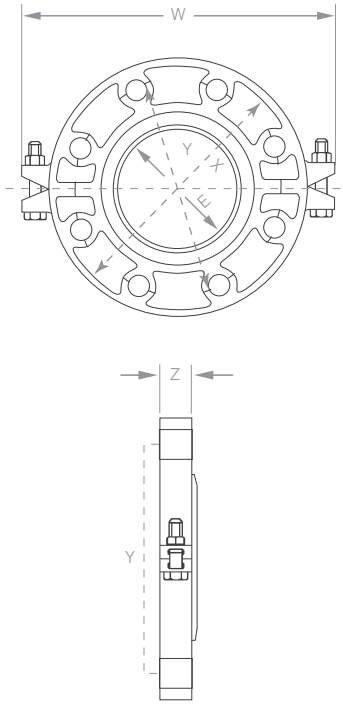
SHIELD reserves the right to change the contents without notice.

Grooved Fittings

Grooved Flange:

SDG-15 - ANSI 125/150:

Nominal Size Inch	Pipe O.D. mm	Maximum Working Pressure psi	Grooved Flange Dimension W mm	Z mm	X mm	Y mm	E mm	Nut/Bolt No - Size mm	
2	60.3	300	206.0	19.0	152.0	121.0	57.5	2-M10 x 50	4⅝
2½	73.0	300	230.0	19.0	178.0	140.0	69.8	2-M10 x 50	4⅝
3 O.D.	76.1	300	230.0	19.0	178.0	140.0	72.7	2-M10 x 50	4⅝
3	88.9	300	246.0	19.0	191.0	152.0	85.5	2-M10 x 50	4⅝
4	114.3	300	280.0	19.0	229.0	191.0	110.5	2-M12 x 55	8⅝
5	141.3	300	320.0	22.0	254.0	216.0	137.4	2-M12 x 65	8¾
8	219.1	300	414.3	30.0	341.4	298.5	214.9	2-M10 x 70	8¾
10	273.0	300	481.2	30.3	405.6	362.0	268.9	2-M10 x 70	12-⅞
12	323.9	300	553.3	30.4	482.6	431.8	318.9	2-M10 x 70	12-⅞
14	355.6	300	590.0	37.0	535.0	476.3	350.6	-	12-1



SDG-15
Grooved Flange

SDG-15 - BS Table 'E':

Nominal Size Inch	Pipe O.D. mm	Maximum Working Pressure psi	Grooved Flange Dimension W mm	Z mm	X mm	Y mm	E mm	Nut/Bolt No - Size mm	
2	60.3	300	211.0	18.5	150.0	114.0	57.5	2-M10 x 50	4-M16
3	88.9	300	241.0	18.5	185.0	146.0	85.5	2-M10 x 50	4-M16
4	114.3	300	270.0	18.5	216.0	178.0	110.5	2-M10 x 50	8-M16
6½ O.D.	165.1	300	346.0	21.5	280.0	235.0	160.8	2-M12 x 65	8-M20
8	219.1	300	408.0	24.0	335.0	292.0	214.9	2⅜ x 70	8-M20



NOTE: Refer to UL/FM/LPCB certificates for more details.

SHIELD reserves the right to change the contents without notice.

Grooved Fittings

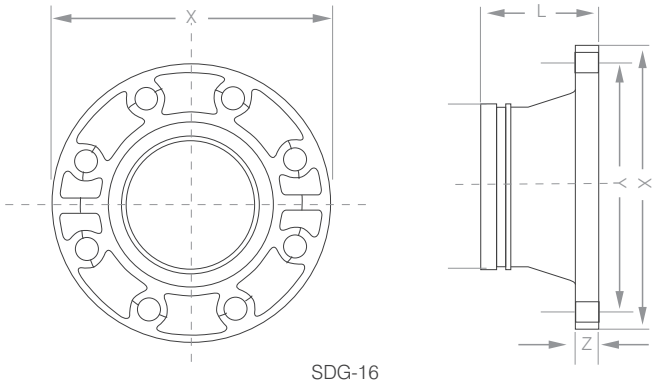
Adaptor Flange:

SDG-16 - PN16:

Nominal Size Inch	Pipe O.D. mm	Maximum Working Pressure psi	Adaptor Flange Dimensions L mm	X mm	Y mm	Z mm	Bolt/Nut No - Size mm
1	33.7	300	60.5	115.0	85.0	16.0	4-M12
1¼	42.4	300	60.5	140.0	100.0	16.0	4-M16
1½	48.3	300	60.5	150.0	110.0	16.0	4-M16
2	57.0	300	65.0	165.0	125.0	16.0	5-M16
2	60.3	500	65.0	165.0	125.0	16.0	4-M16
2½	73.0	500	65.0	185.0	145.0	15.0	5-M16
3 O.D.	76.1	500	65.0	185.0	145.0	16.0	4-M16
3	88.9	500	65.0	200.0	160.0	16.0	8-M16
4¼ O.D.	108.0	300	70.0	220.0	180.0	16.0	8-M16
4	114.3	500	70.0	220.0	180.0	16.0	8-M16
5¼ O.D.	133.0	300	70.0	250.0	210.0	18.0	8-M16
5½ O.D.	139.7	300	70.0	250.0	210.0	18.0	8-M16
6¼ O.D.	159.0	500	70.0	285.0	240.0	18.0	8-M20
6½ O.D.	165.1	500	70.0	285.0	240.0	18.0	8-M20
6	168.3	500	70.0	285.0	240.0	18.0	8-M20
8	216.3	300	80.0	340.0	295.0	18.0	12-M20
8	219.1	500	80.0	340.0	295.0	19.0	12-M20
10	273.0	300	85.0	405.0	355.0	21.0	12-M24
12	323.9	300	90.0	460.0	410.0	24.0	12-M24
14	377.0	225	100.0	520.0	470.0	25.0	16-M24
16	426.0	225	110.0	580.0	525.0	27.0	16-M27
18	480.0	225	115.0	640.0	585.0	20.0	20-M27

SDG-16 - PN25:

Nominal Size Inch	Pipe O.D. mm	Maximum Working Pressure psi	Adaptor Flange Dimensions L mm	X mm	Y mm	Z mm	Bolt/Nut No - Size mm
3 O.D.	76.1	362	65.0	185.0	145.0	16.0	8-M16
3	88.9	362	65.0	200.0	160.0	16.0	8-M16
4¼ O.D.	108.0	362	70.0	230.0	190.0	18.0	8-M20
4	114.3	362	70.0	235.0	190.0	16.0	8-M20
5	139.7	365	70.0	270.0	220.0	16.0	8-M24
6¼ O.D.	159.0	362	70.0	300.0	250.0	20.0	8-M24
6½ O.D.	165.1	362	70.0	300.0	250.0	18.0	8-M24
8	219.1	362	80.0	360.0	310.0	19.0	12-M24
10	273.0	362	85.0	425.0	370.0	22.0	12-M27
12	323.9	362	88.0	485.0	430.0	23.5	16-M27
14	355.6	362	100.0	555.0	490.0	26.0	16-M30
16	406.4	362	110.0	620.0	550.0	28.0	16-M33



SDG-16

Adaptor Flange



NOTE: Refer to UL/FM/LPCB certificates for more details.

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Grooved Fittings

Adaptor Flange:

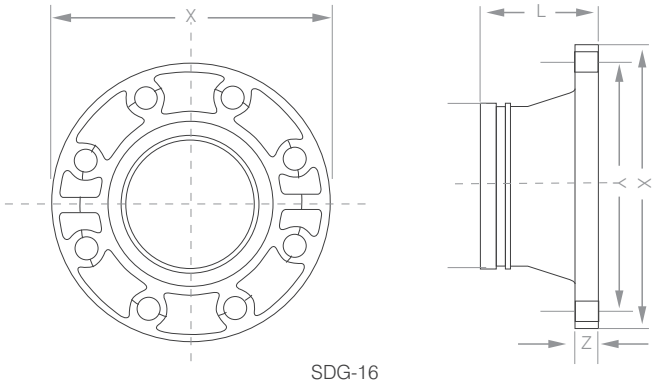
SDG-16 - ANSI 125/150:

Nominal Size	Pipe O.D.	Maximum Working Pressure	Adaptor Flange Dimensions				
Inch	mm	psi	L mm	X mm	Y mm	Z mm	Bolt/Nut No - Size mm
2	60.3	300	65.0	152.0	120.5	16.0	4-⅝
4	114.3	300	70.0	229.0	190.5	16.0	8-⅝
8	219.1	300	75.0	340.0	298.5	19.0	8-¾
10	273.0	300	85.0	406.0	362.0	21.0	12-⅞
14	355.6	300	127.0	535.0	476.3	33.0	12-1
16	406.4	300	127.0	597.0	539.8	34.5	16-1
18	457.2	300	140.0	642.0	577.8	37.5	16-1⅛
20	508.0	300	152.0	700.0	635.0	41.0	20-1⅛
24	609.6	300	152.0	815.0	749.3	45.0	20-1¼

SDG-16 - BS Table E:

Nominal Size	Pipe O.D.	Maximum Working Pressure	Adaptor Flange Dimensions				
Inch	mm	psi	L mm	X mm	Y mm	Z mm	Bolt/Nut No - Size mm
2	60.3	300	65.0	152.0	114.0	16.0	4-M16
3 O.D	76.1	300	70.0	165.0	127.0	16.0	4-M16
3	88.9	300	70.0	184.0	146.0	16.0	4-M16
4	114.3	225	70.0	216.0	178.0	16.0	8-M16
6 O.D.	165.1	225	70.0	280.0	235.0	21.0	8-M20
8	219.1	300	102.0	337.0	292.0	19.0	8-M20
10	273.0	300	85.0	405.0	356.0	25.0	12-M20
12	323.9	200	102.0	457.0	406.0	25.5	12-⅞
14	355.6	200	127.0	527.0	470.0	32.0	12-⅞
16	406.4	200	127.0	578.0	521.0	32.0	12-⅞
18	457.2	200	140.0	641.0	584.0	36.0	16-⅞





SDG-16

Adaptor Flange

NOTE: Refer to UL/FM/LPCB certificates for more details.

SHIELD reserves the right to change the contents without notice.

Grooved Fittings

Grooved Flange - Installation Instruction:



Pipe Preparation

- Check pipe end for proper groove dimensions and to assure that pipe end is free of indentations and projections that would prevent proper sealing.



Lubricate Gasket

- Check gasket to ensure it's compatible for the intended service.
- Apply thin lubricant to the outside and sealing lips of the gasket.



Gasket Installation

- Slip the gasket over one pipe, making sure the gasket lip does not over-hang the pipe end.



Housing Installation

- Remove bolts and nuts, place two housings over the gasket, making sure the housing keys fit into the pipe grooves.
- Re-insert the bolts and hand tighten the nuts.



Tighten Nuts

- Securely tighten nuts alternatively and equally to the specified bolt torque by using spanner.



Connect Mating Flange

- Align flange bolt holes with mating flange (or valve) bolt holes.
- Insert a standard flange bolt through bolt hole and hand tighten a nut.
- Insert another bolt opposite the first and hand tighten a nut. Continue this until all bolt holes are fitted.
- Tighten nuts evenly to specified bolt torque, so flange faces remain parallel. Assembly completed.

NOTE: Refer to UL/FM/LPCB certificates for more details.

SHIELD reserves the right to change the contents without notice.

Grooved Fittings

Specified Bolt Torque:

Metric Bolts

Bolt Size	Dimensions	
Inch	Lbs/ft.	N.m
M10	30/45	40-60
M12	80/100	110-135
M16	-	-
M20	-	-
M22	-	-
M24	-	-



CAUTION

- Proper torquing of bolts is required to obtain specified performance.
- Over torquing the bolts may result in damage to the bolt and/or casting which could result in pipe joint separation.
- Under torquing the bolts may result in lower pressure retention capabilities, lower bend load capabilities, joint leakage and pipe joint separation. Pipe joint separation may result in significant property damage and serious injury.

NOTE: Refer to UL/FM/LPCB certificates for more details.

SHIELD reserves the right to change the contents without notice.

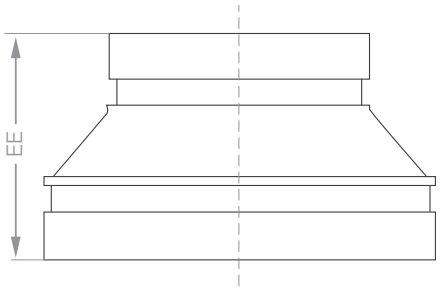
SHIELD™
Trusted Worldwide

Grooved Fittings

Concentric Reducer - Grooved & Threaded:

SDG-35 & SDG-37:

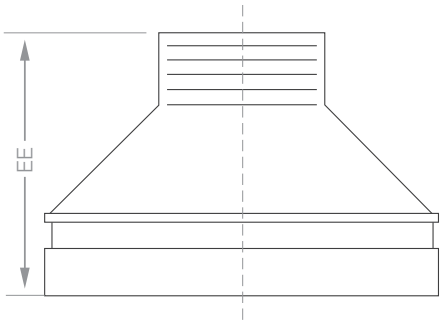
Nominal Size Inch	Pipe O.D. mm	Maximum Working Pressure psi/Mpa	SDG-35 Grooved Dimensions EE mm	SDG-37 Threaded Dimensions EE mm
1¼ x 1	42.4 x 33.7	500	64	64
1½ x 1	48.3 x 33.7	500	64	64
1½ x 1¼	48.3 x 42.4	500	64	-
2 x ½	60.3 x 21.3	500	-	64
2 x ¾	60.3 x 26.9	500	-	64
2 x 1	60.3 x 33.7	500	64	64
2 x 1¼	60.3 x 42.4	500	64	64
2 x 1½	60.3 x 48.3	500	64	64
2½ x 1	73.0 x 33.7	500	64	64
2½ x 1¼	73.0 x 42.4	500	64	64
2½ x 1½	73.0 x 48.3	500	64	64
2½ x 2	73.0 x 60.3	500	64	64
3 O.D. x ½	76.1 x 21.3	500	-	64
3 O.D. x ¾	76.1 x 26.9	500	-	64
3 O.D. x 1	76.1 x 33.7	500	64	64
3 O.D. x 1¼	76.1 x 42.4	500	64	64
3 O.D. x 1½	76.1 x 48.3	500	64	64
3 O.D. x 2	76.1 x 60.3	500	64	64
3 x ½	88.9 x 21.3	500	-	64
3 x ¾	88.9 x 26.9	500	-	64
3 x 1	88.9 x 33.7	500	64	64
3 x 1¼	88.9 x 42.4	500	64	64
3 x 1½	88.9 x 48.3	500	64	64
3 x 2	88.9 x 60.3	500	64	64
3 x 2½	88.9 x 73.0	500	64	64
3 x 3 O.D.	88.9 x 76.1	500	64	64
4¼ O.D. x 1	108.0 x 33.7	500	-	76
4¼ O.D. x 1¼	108.0 x 42.4	500	-	76
4¼ O.D. x 1½	108.0 x 48.3	500	-	76
4¼ O.D. x 2	108.0 x 60.3	500	76	76
4¼ O.D. x 2½	108.0 x 73.0	500	76	-
4¼ O.D. x 3 O.D.	108.0 x 76.1	500	76	76
4¼ O.D. x 3	108.0 x 88.9	500	76	76
4 x ½	114.3 x 21.3	500	-	76
4 x ¾	114.3 x 26.9	500	-	76
4 x 1	114.3 x 33.7	500	-	76
4 x 1¼	114.3 x 42.4	500	76	76
4 x 1½	114.3 x 48.3	500	76	76
4 x 2	114.3 x 60.3	500	76	76
4 x 2½	114.3 x 73.0	500	76	76
4 x 3 O.D.	114.3 x 76.1	500	76	76
4 x 3	114.3 x 88.9	500	76	76
5¼ O.D. x 1½	133.0 x 48.3	500	-	89
5¼ O.D. x 2	133.0 x 60.3	500	-	89



SDG-35

Grooved Concentric Reducer





SDG-37

Threaded Concentric Reducer



NOTE: Refer to UL/FM/LPCB certificates for more details.

SHIELD reserves the right to change the contents without notice.

Grooved Fittings

Concentric Reducer - Grooved & Threaded:

SDG-35 & SDG-37:

Nominal Size Inch	Pipe O.D. mm	Maximum Working Pressure psi/Mpa	SDG-35 Grooved Dimensions EE mm	SDG-37 Threaded Dimensions EE mm
1 x 1/2	33.7 x 21.3	500	-	63.5
5¼ O.D. x 3 O.D.	133.0 x 76.1	500	-	89
5¼ O.D. x 3	133.0 x 88.9	500	-	89
5¼ O.D. x 4¼ O.D.	133.0 x 108.0	500	89	-
5¼ O.D. x 4	133.0 x 114.3	500	89	-
5½ O.D. x 1	139.7 x 33.7	500	-	89
5½ O.D. x 1¼	139.7 x 42.4	500	-	89
5½ O.D. x 1½	139.7 x 48.3	500	-	89
5½ O.D. x 2	139.7 x 60.3	500	89	89
5½ O.D. x 3 O.D.	139.7 x 76.1	500	89	89
5½ O.D. x 3	139.7 x 88.9	500	89	89
5½ O.D. x 4	139.7 x 114.3	500	89	89
5 x 2½	141.3 x 73.0	500	89	-
5 x 3	141.3 x 88.9	500	89	-
5 x 4	141.3 x 114.3	500	89	89
6¼ O.D. x ¾	159.0 x 26.9	500	-	102
6¼ O.D. x 1	159.0 x 33.7	500	-	102
6¼ O.D. x 1¼	159.0 x 42.4	500	-	102
6¼ O.D. x 1½	159.0 x 48.3	500	-	102
6¼ O.D. x 2	159.0 x 60.3	500	102	102
6¼ O.D. x 3 O.D.	159.0 x 76.1	500	102	102
6¼ O.D. x 3	159.0 x 88.9	500	102	102
6¼ O.D. x 4¼ O.D.	159.0 x 108	500	102	-
6¼ O.D. x 4	159.0 x 114.3	500	102	102
6¼ O.D. x 5¼ O.D.	159.0 x 133.0	500	102	-
6½ O.D. x ½	165.1 x 21.3	500	-	102
6½ O.D. x ¾	165.1 x 26.9	500	-	102
6½ O.D. x 1	165.1 x 33.7	500	-	102
6½ O.D. x 1¼	165.1 x 42.4	500	-	102
6½ O.D. x 1½	165.1 x 48.3	500	-	102
6½ O.D. x 2	165.1 x 60.3	500	102	102
6½ O.D. x 3 O.D.	165.1 x 76.1	500	102	102
6½ O.D. x 3	165.1 x 88.9	500	102	102
6½ O.D. x 4¼ O.D.	165.1 x 108.0	500	102	-
6½ O.D. x 4	165.1 x 114.3	500	102	102
6½ O.D. x 5½ O.D.	165.1 x 139.7	500	102	-
6½ O.D. x 5	165.1 x 141.3	500	102	-
6 x 1	168.3 x 33.7	500	-	102
6 x 2	168.3 x 60.3	500	102	102
6 x 2½	168.3 x 73.0	500	102	-
6 x 3 O.D.	168.3 x 76.1	500	102	-
6 x 3	168.3 x 88.9	500	102	-
6 x 4	168.3 x 114.3	500	102	-
6 x 5½ O.D.	168.3 x 139.7	500	102	-
6 x 5	168.3 x 141.3	500	102	-
8 O.D. x 4	216.3 x 114.3	300	127	-
8 O.D. x 6½ O.D.	216.3 x 165.1	300	127	-
8 x 2½	219.1 x 73.0	500	127	-
8 x 3 O.D.	219.1 x 76.1	500	-	127
8 x 3	219.1 x 88.9	500	127	127
8 x 4¼ O.D.	219.1 x 108.0	500	127	-
8 x 4	219.1 x 114.3	500	127	127
8 x 5½ O.D.	219.1 x 139.7	500	127	-
8 x 5	219.1 x 141.3	500	127	-
8 x 6¼ O.D.	219.1 x 159.0	300	127	-
8 x 6½ O.D.	219.1 x 165.1	300	127	-
8 x 6	219.1 x 168.3	500	127	-
10 x 6¼ O.D.	273.0 x 159.0	300	152	-
10 x 6½ O.D.	273.0 x 165.1	300	152	-
10 x 6	273.0 x 168.3	300	152	-
10 x 8	273.0 x 219.1	300	152	-
12 x 6	323.9 x 273.0	500	178	-
12 x 8	323.9 x 219.1	500	178	-
12 x 10	323.9 x 273.0	500	178	-
14 O.D. x 5¼	377.0 x 133.0	300	127	-
14 O.D. x 6¼ O.D.	377.0 x 159.0	300	127	-
14 x 6	355.6 x 168.3	300	330	-
14 x 8	355.6 x 219.1	300	203	-
14 x 8	377.0 x 219.1	300	127	-
14 x 10	355.6 x 273.0	300	203	-
14 x 10	377.0 x 273.0	300	127	-
14 x 12	355.6 x 323.9	300	203	-
14 x 12	377.0 x 323.9	300	127	-
16 x 8	406.4 x 219.1	300	356	-
16 x 10	406.4 x 273.0	300	356	-
16 x 12	406.4 x 323.9	300	356	-
16 x 14	406.4 x 355.6	300	356	-
18 x 6	457.2 x 168.3	300	381	-
18 x 10	457.2 x 273.0	300	381	-
18 x 12	457.2 x 323.9	300	381	-
18 x 14	457.2 x 355.6	300	381	-
18 x 16	457.2 x 406.4	300	381	-
20 x 8	530.0 x 219.1	300	135	-
20 x 12	508.0 x 323.9	300	381	-
20 x 14	508.0 x 355.6	300	381	-
20 x 14	530.0 x 377.0	300	135	-
20 x 16	508.0 x 406.4	300	381	-
20 x 16	530.0 x 426.0	300	135	-
20 x 18	508.0 x 457.2	300	381	-
24 x 16	609.6 x 406.4	300	381	-
24 x 18	609.6 x 457.2	300	508	-
24 x 20	609.6 x 508.0	300	580	-

NOTE: Refer to UL/FM/LPCB certificates for more details.

SHIELD reserves the right to change the contents without notice.

Grooved Fittings

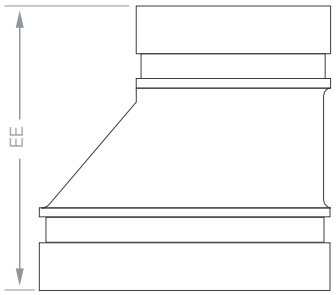
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Eccentric Reducer - Grooved:

SDG-33:

Nominal Size Inch	Pipe O.D. mm	Maximum Working Pressure psi/Mpa	Eccentric Reducer EE mm
1½ x 1¼	48.3 x 42.4	500	89.0
2 x 1½	60.3 x 48.3	500	89.0
3 x 2	88.9 x 60.3	500	89.0
4¼ O.D. x 3 O.D.	108.0 x 76.1	500	102.0
4¼ O.D. x 3	108.0 x 88.9	500	102.0
4 x 2	114.3 x 60.3	500	102.0
4 x 3 O.D.	114.3 x 76.1	300	102.0
4 x 3	114.3 x 88.9	500	102.0
5½ O.D. x 4	139.7 x 114.3	300	127.0
6¼ O.D. x 4¼ O.D.	159.0 x 108.0	300	140.0
6¼ O.D. x 4	159.0 x 114.3	300	140.0
6½ O.D. x 3	165.1 x 88.9	300	140.0
6½ O.D. x 4	165.1 x 114.3	300	140.0
6½ O.D. x 5½ O.D.	165.1 x 139.7	300	140.0
6 x 3	168.3 x 88.9	300	140.0
6 x 4	168.3 x 114.3	300	140.0
6 x 5½ O.D.	168.3 x 139.7	300	140.0
8 x 4	216.3 x 114.3	300	215.0
8 x 4	219.1 x 114.3	300	215.0
8 x 4¼ O.D.	219.1 x 159.0	300	215.0
8 x 6½ O.D.	219.1 x 165.1	300	215.0
8 x 6	216.3 x 165.1	300	215.0
8 x 6	219.1 x 168.3	365	215.0
10 x 8	273.0 x 219.1	365	215.0
14 x 6	355.6 x 168.3	300	330.0
14 x 8	355.6 x 219.1	300	330.0
14 x 10	355.6 x 273.0	300	330.0
14 x 12	355.6 x 323.9	300	330.0
16 x 8	406.4 x 219.1	300	356.0
16 x 10	406.4 x 273.0	300	356.0
16 x 12	406.4 x 323.9	300	356.0
16 x 14	406.4 x 355.6	300	356.0
18 x 6	457.2 x 168.3	300	381.0
18 x 10	457.2 x 273.0	300	381.0
18 x 12	457.2 x 323.9	300	381.0
18 x 14	457.2 x 355.6	300	381.0
18 x 16	457.2 x 406.4	300	381.0
20 x 12	508.0 x 323.9	300	508.0
20 x 14	508.0 x 355.6	300	508.0
20 x 16	508.0 x 406.4	300	508.0
20 x 18	508.0 x 457.2	300	508.0
24 x 16	609.6 x 406.4	300	508.0
24 x 18	609.6 x 457.2	300	508.0
24 x 20	609.6 x 508.0	300	508.0

NOTE: Refer to UL/FM/LPCB certificates for more details.



SDG-33
Eccentric Reducer



SHIELD reserves the right to change the contents without notice.

Grooved Fittings

Mechanical Tee - Threaded Outlet:

SDG-42:

Nominal Size	Pipe O.D.	Maximum Working Pressure	Hole Diameter +1.6	Dimensions				Bolt/Nut No - Size
				Y	Z	V	W	
Inch	mm	psi	mm	mm	mm	mm	mm	mm
1 x ⅜	33.7 x 17.2	300.0	23.5	86.0	46.0	24.5	23.0	M8 x 30
1 x ½	33.7 x 21.3	300.0	23.5	86.0	46.0	24.5	23.0	M8 x 30
1 x ¾	33.7 x 26.9	300.0	23.5	86.0	52.0	39.5	23.0	M8 x 30
1 x 1	33.7 x 33.7	300.0	23.5	86.0	57.0	43.5	23.0	M8 x 30
1¼ x ⅜	42.4 x 17.2	300.0	30	95.5	53.0	31.0	28.0	M10 x 35
1¼ x ½	42.4 x 21.3	300.0	30	95.5	57.0	31.0	28.0	M10 x 35
1¼ x ¾	42.4 x 26.9	300.0	30	95.5	57.0	43.0	28.0	M10 x 35
1¼ x 1	42.4 x 33.7	300.0	30	95.5	57.0	51.4	28.0	M10 x 35
1½ x ⅜	48.3 x 17.2	300.0	30	101.5	53.0	32.5	31.0	M10 x 35
1½ x ½	48.3 x 21.3	300.0	30	101.5	57.0	34.0	31.0	M10 x 35
1½ x ¾	48.3 x 26.9	300.0	30	101.5	57.0	46.0	31.0	M10 x 35
1½ x 1	48.3 x 33.7	300.0	30	101.5	57.0	54.5	31.0	M10 x 35
2 x ⅜	60.3 x 17.2	300.0	38	116.0	68.0	42.5	38.0	M10 x 57
2 x ½	60.3 x 21.3	300.0	38	116.0	68.0	59.0	38.0	M10 x 57
2 x ¾	60.3 x 26.9	300.0	38	116.0	68.0	60.0	38.0	M10 x 57
2 x 1	60.3 x 33.7	400.0	38	116.0	68.0	60.0	38.0	M10 x 57
2 x 1¼	60.3 x 42.4	400.0	45	116.0	76.0	65.0	38.0	M10 x 57
2 x 1½	60.3 x 48.3	400.0	45	116.0	76.0	65.0	38.0	M10 x 57
2½ x ½	73.0 x 21.3	300.0	38	137.0	71.0	68.0	44.5	M12 x 70
2½ x ¾	73.0 x 26.9	300.0	38	137.0	71.0	68.0	44.5	M12 x 70
2½ x 1	73.0 x 33.7	400.0	38	137.0	71.0	70.0	44.5	M12 x 70
2½ x 1¼	73.0 x 42.4	400.0	51	137.0	84.5	73.0	44.5	M12 x 70
2½ x 1½	73.0 x 48.3	400.0	51	137.0	84.5	73.0	44.5	M12 x 70
3 O.D. x ½	76.1 x 21.3	300.0	38	137.0	71.0	60.0	47.5	M12 x 70
3 O.D. x ¾	76.1 x 26.9	300.0	38	137.0	71.0	67.0	47.5	M12 x 70
3 O.D. x 1	76.1 x 33.7	300.0	38	137.0	71.0	75.0	47.5	M12 x 70
3 O.D. x 1¼	76.1 x 42.4	300.0	51	137.0	84.5	75.0	47.5	M12 x 70
3 O.D. x 1½	76.1 x 48.3	300.0	51	137.0	84.5	75.0	47.5	M12 x 70
3 x ½	88.9 x 21.3	400.0	38	152.0	72.5	70.0	54.5	M12 x 76
3 x ¾	88.9 x 26.9	400.0	38	152.0	72.5	70.0	54.5	M12 x 76
3 x 1	88.9 x 33.7	500.0	38	152.0	72.5	80.0	54.5	M12 x 76
3 x 1¼	88.9 x 42.4	500.0	51	152.0	85.5	80.0	54.5	M12 x 76
3 x 1½	88.9 x 48.3	400.0	51	152.0	85.5	80.0	54.5	M12 x 76
3 x 2	88.9 x 60.3	300.0	64	152.0	98.0	80.0	54.5	M12 x 76
4¼ O.D. x ½	108.1 x 21.3	300.0	38	172.0	78.5	87.0	62.5	M12 x 76
4¼ O.D. x ¾	108.1 x 26.9	300.0	38	172.0	78.5	87.0	62.5	M12 x 76
4¼ O.D. x 1	108.1 x 33.7	300.0	38	172.0	78.5	87.0	62.5	M12 x 76
4¼ O.D. x 1¼	108.1 x 42.4	300.0	51	172.0	89.0	87.0	62.5	M12 x 76
4¼ O.D. x 1½	108.0 x 48.3	300.0	51	172.0	89.0	87.0	62.5	M12 x 76
4¼ O.D. x 2	108.0 x 60.3	300.0	64	172.0	106.5	92.0	62.5	M12 x 76
4 x ½	114.3 x 21.3	400.0	38	188.0	78.5	93.5	66.0	M12 x 76

NOTE: Refer to UL/FM/LPCB certificates for more details.

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Grooved Fittings

Mechanical Tee - Threaded Outlet:

SDG-42:

Nominal Size	Pipe O.D.	Maximum Working Pressure	Hole Diameter +1.6	Dimensions				Bolt/Nut No - Size
				Y	Z	V	W	
Inch	mm	psi	mm	mm	mm	mm	mm	mm
4 x ¾	114.3 x 26.9	400.0	38	188.0	78.5	93.5	66.0	M12 x 76
4 x 1	114.3 x 33.7	400.0	38	188.0	78.5	93.0	66.0	M12 x 76
4 x 1¼	114.3 x 42.4	400.0	51	188.0	89.0	95.0	66.0	M12 x 76
4 x 1½	114.3 x 48.3	400.0	51	188.0	89.0	97.0	66.0	M12 x 76
4 x 2	114.3 x 60.3	300.0	64	188.0	104.5	100.0	66.0	M12 x 76
4 x 2½	114.3 x 73.0	400.0	70	188.0	104.5	102.0	66.0	M12 x 765
4 x 3 O.D.	114.3 x 76.1	300.0	70	188.0	104.5	102.0	66.0	M12 x 76
4 x 3	114.3 x 88.9	400.0	89	188.0	128.0	102.0	66.0	M12 x 76
5¼ O.D. x 1¼	133.0 x 42.4	300.0	51	209.0	93.0	105.0	77.0	M16 x 85
5¼ O.D. x 1½	133.0 x 48.3	300.0	51	209.0	93.0	105.0	77.0	M16 x 85
5¼ O.D. x 2	133.0 x 60.3	300.0	64	209.0	112.5	110.0	77.0	M16 x 85
5½ O.D. x ½	139.7 x 21.3	300.0	38	221.5	78.0	110.0	79.5	M16 x 85
5½ O.D. x ¾	139.7 x 26.9	300.0	38	221.5	78.0	110.0	79.5	M16 x 85
5½ O.D. x 1	139.7 x 33.7	300.0	38	221.5	78.0	110.0	79.5	M16 x 85
5½ O.D. x 1¼	139.7 x 42.4	300.0	51	221.5	95.0	112.0	79.5	M16 x 85
5½ O.D. x 1½	139.7 x 48.3	300.0	51	221.5	95.0	112.0	79.5	M16 x 85
5½ O.D. x 2	139.7 x 60.3	300.0	64	221.5	112.5	115.0	79.5	M16 x 85
5½ O.D. x 3 O.D.	139.7 x 76.1	300.0	70	221.5	112.5	115.0	79.5	M16 x 85
5½ O.D. x 3	139.7 x 88.9	300.0	89	221.5	132.0	120.0	79.5	M16 x 85
5½ O.D. x 4	139.7 x 114.3	300.0	114	221.5	156.0	125.0	79.5	M16 x 85
6¼ O.D. x ½	159.0 x 21.3	300.0	38	244.0	78.0	116.0	89.0	M16 x 108
6¼ O.D. x 1	159.0 x 33.7	300.0	38	244.0	78.0	116.0	89.0	M16 x 108
6¼ O.D. x 1¼	159.0 x 42.4	300.0	51	244.0	93.0	118.0	89.0	M16 x 108
6¼ O.D. x 1½	159.0 x 48.3	300.0	51	244.0	93.0	118.0	89.0	M16 x 108
6¼ O.D. x 2	159.0 x 60.3	300.0	64	244.0	112.5	125.0	89.0	M16 x 108
6¼ O.D. x 3 O.D.	159.0 x 76.1	300.0	70	244.0	112.5	125.0	89.0	M16 x 108
6¼ O.D. x 3	159.0 x 88.9	300.0	89	244.0	133.0	125.0	89.0	M16 x 108
6¼ O.D. x 4	159.0 x 114.3	300.0	114	244.0	156.5	130.0	89.0	M16 x 108
6½ O.D. x ½	165.1 x 21.3	300.0	38	244.0	78.0	110.0	92.0	M16 x 108
6½ O.D. x ¾	165.1 x 26.9	300.0	38	244.0	78.0	110.0	92.0	M16 x 108
6½ O.D. x 1	165.1 x 33.7	300.0	38	244.0	78.0	118.0	92.0	M16 x 108
6½ O.D. x 1¼	165.1 x 42.4	300.0	51	244.0	93.0	118.0	92.0	M16 x 108
6½ O.D. x 1½	165.1 x 48.3	300.0	51	244.0	93.0	118.0	92.0	M16 x 108
6½ O.D. x 2	165.1 x 60.3	300.0	64	244.0	112.5	127.5	92.0	M16 x 108
6½ O.D. x 3 O.D.	165.1 x 76.1	300.0	70	244.0	112.5	128.5	92.0	M16 x 108
6½ O.D. x 3	165.1 x 88.9	300.0	89	244.0	132.0	128.5	92.0	M16 x 108
6½ x 4	165.1 x 114.3	225.0	114	244.0	154.0	135.0	92.0	M16 x 108
6 x 1¼	168.3 x 42.4	300.0	51	247.0	95.0	122.0	95.5	M16 x 108
6 x 1½	168.3 x 48.3	400.0	51	247.0	95.0	122.0	95.5	M16 x 108
6 x 2	168.3 x 60.3	300.0	64	247.0	112.5	132.0	95.5	M16 x 108
6 x 2½	168.3 x 73.0	400.0	70	247.0	112.5	132.0	95.5	M16 x 108

NOTE: Refer to UL/FM/LPCB certificates for more details.

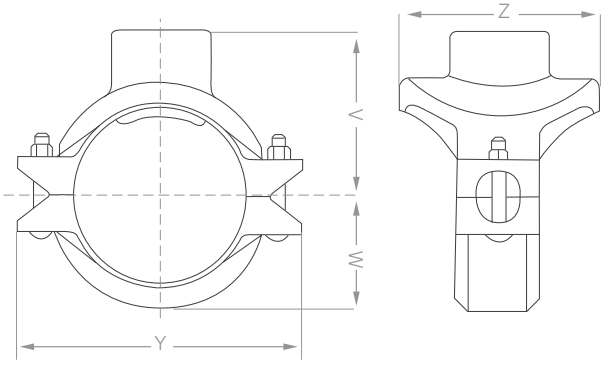
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Grooved Fittings

Mechanical Tee - Threaded Outlet:

SDG-42:

Nominal Size	Pipe O.D.	Maximum Working Pressure	Hole Diameter +1.6	Dimensions				Bolt/Nut No - Size
				Y	Z	V	W	
Inch	mm	psi	mm	mm	mm	mm	mm	mm
6 x 3 O.D.	168.3 x 76.1	300.0	70	247.0	112.5	132.0	95.5	M16 x 108
6 x 3	168.3 x 88.9	300.0	89	247.0	132.0	140.0	95.5	M16 x 108
6 x 4	168.3 x 114.3	400.0	114	247.0	160.0	140.0	95.5	M16 x 108
8 x 1	219.1 x 33.7	300.0	38	320.0	79.5	150.0	121	M20 x 115
8 x 1¼	219.1 x 42.4	300.0	51	320.0	96.5	150.0	121	M20 x 115
8 x 1½	219.1 x 48.3	300.0	51	320.0	96.5	150.0	121	M20 x 115
8 x 2	219.1 x 60.3	400.0	64	320.0	117.0	160.0	121	M20 x 115
8 x 2½	219.1 x 73.0	300.0	70	320.0	118.0	160.0	121	M20 x 115
8 x 3 O.D.	219.1 x 76.1	300.0	70	320.0	118.0	160.0	121	M20 x 115
8 x 3	219.1 x 88.9	300.0	89	320.0	136.5	160.0	121	M20 x 115
8 x 4	219.1 x 114.3	300.0	114	320.0	164.0	160.0	121	M20 x 115
10 x 1½	273.0 x 48.3	300.0	51	376.0	95.5	180.0	121	M20 x 115
10 x 2	273.0 x 60.3	300.0	64	376.0	118.0	185.0	121	M20 x 115
10 x 3 O.D.	273.0 x 76.1	300.0	70	376.0	118.0	190.0	121	M20 x 115
10 x 3	273.0 x 88.9	300.0	300.0	376.0	136.5	190.0	153	M20 x 115
10 x 4	273.0 x 114.3	300.0	300.0	376.0	164.0	190.0	153	M20 x 115
10 x 2½	273.0 x 76.1	300	70	376.0	118.0	190.0	153	M20 x 115
10 x 3	273.0 x 88.9	300	89	376.0	136.5	190.0	153	M20 x 115
10 x 4	273.0 x 114.3	300	114	376.0	164.0	190.0	153	M20 x 115



SDG-42

Mechanical Tee - Threaded

Bolt Size	Recommended Bolt Torque N - m
⅜	40 ~ 60
½	110 ~ 135
⅝	135 ~ 175
¾	175 ~ 245
⅞	245 ~ 325

The mechanical tee and cross features a gap between the bolt pads. Do not attempt to bring bolt pads together, which would result in metal to metal when tightening bolts and nuts. Note that excessive torque may cause joint failure - the following table provides recommended bolt fastening torque.

SHIELD Mechanical Tees allow a direct branch connection to be made on a pipe run where sufficient space allows a hole to be cut. Material: Ductile Iron ASTM A536. Gasket Standard EPDM. Threads are available to BSPT or NPT and can be supplied in red coating or hot dipped galvanized.

NOTE: Refer to UL/FM/LPCB certificates for more details.

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Grooved Fittings

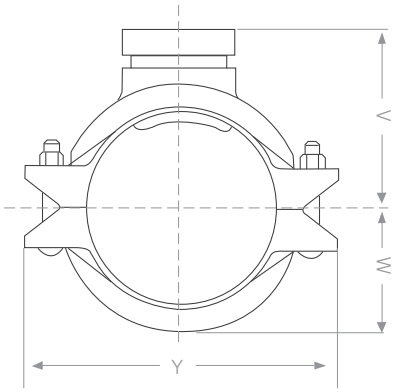
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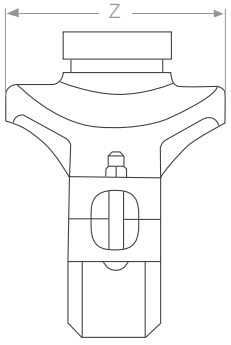
LPCB
LPS 1219: Issue 3
Cert/LPCB ref: 988Da Issue 1

Mechanical Tee - Grooved Outlet:

SDG-44:

Nominal Size	Pipe O.D.	Maximum Working Pressure	Hole Diameter +1.6	Dimensions				Bolt/Nut No - Size
				Y	Z	V	W	
Inch	mm	psi	mm	mm	mm	mm	mm	mm
2 x 1¼	60.3 x 42.4	400.0	45.0	116.0	76.0	69.5	37.5	M10 x 57
2 x 1½	60.3 x 48.3	400.0	45.0	116.0	76.0	69.5	37.5	M10 x 57
2½ x 1	73.0 x 33.7	300.0	38.0	137.0	71.0	78.0	44.5	M12 x 70
2½ x 1¼	73.0 x 42.4	400.0	51.0	137.0	86.0	76.0	44.5	M12 x 70
2½ x 1½	73.0 x 48.3	400.0	51.0	137.0	84.5	76.0	44.5	M12 x 70
3 O.D. x 1	76.1 x 33.7	300.0	38.0	137.0	71.0	78.0	47.5	M12 x 70
3 O.D. x 1¼	76.1 x 42.4	300.0	51.0	137.0	84.5	78.0	47.5	M12 x 70
3 O.D. x 1½	76.1 x 48.3	300.0	51.0	137.0	84.5	78.0	47.5	M12 x 70
3 x 1	88.9 x 33.7	300.0	38.0	152.0	72.5	84.5	54.5	M12 x 76
3 x 1¼	88.9 x 42.4	400.0	51.0	152.0	85.5	84.5	54.5	M12 x 76
3 x 1½	88.9 x 48.3	400.0	51.0	152.0	85.5	84.5	54.5	M12 x 76
3 x 2	88.9 x 60.3	300.0	64.0	152.0	98.0	84.5	54.5	M12 x 76
4 x 1	114.3 x 33.7	300.0	38.0	188.0	78.4	102.0	66.0	M12 x 76
4 x 1¼	114.3 x 42.4	400.0	51.0	188.0	89.0	102.0	66.0	M12 x 76
4 x 1½	114.3 x 48.3	400.0	51.0	188.0	89.0	102.0	66.0	M12 x 76
4 x 2	114.3 x 60.3	300.0	64.0	188.0	104.5	102.0	66.0	M12 x 76
4 x 2½	114.3 x 73.0	400.0	70.0	188.0	104.5	100.5	66.0	M12 x 76
4 x 3 O.D.	114.3 x 76.1	300.0	70.0	188.0	104.5	102.0	66.0	M12 x 76
4 x 3	114.3 x 88.9	400.0	89.0	188.0	128.0	102.0	66.0	M12 x 76
5½ O.D. x 1¼	139.7 x 42.4	300.0	51.0	221.5	95.0	116.0	80.0	M16 x 85
5½ O.D. x 1½	139.7 x 48.3	300.0	51.0	221.5	95.0	116.0	80.0	M16 x 85
5½ O.D. x 2	139.7 x 60.3	300.0	64.0	221.5	112.5	118.0	80.0	M16 x 85
5½ O.D. x 3 O.D.	139.7 x 76.1	300.0	70.0	221.5	112.5	118.0	80.0	M16 x 85
5½ O.D. x 3	139.7 x 88.9	300.0	89.0	221.5	132.0	118.0	80.0	M16 x 85
5½ O.D. x 4	139.7 x 114.3	300.0	114.0	221.5	156.0	121.0	80.0	M16 x 85
6¼ O.D. x 2	159.0 x 60.3	300.0	64.0	244.0	112.5	125.0	92.0	M16 x 108
6¼ O.D. x 4¼ O.D.	159.0 x 108.0	300.0	114.0	244.0	154.0	134.0	92.0	M16 x 108
6¼ O.D. x 4	159.0 x 114.3	300.0	114.0	244.0	156.0	130.0	92.0	M16 x 108
6½ O.D. x 2	165.1 x 60.3	300.0	64.0	244.0	112.5	127.0	95.5	M16 x 108
6½ O.D. x 3 O.D.	165.1 x 76.1	300.0	70.0	244.0	112.5	127.0	95.5	M16 x 108
6½ O.D x 3	165.1 x 88.9	300.0	89.0	244.0	132.0	130.0	95.5	M16 x 108
6½ O.D x 4	165.1 x 114.3	300.0	114.0	244.0	154.0	135.0	95.5	M16 x 108
6 x 1½	168.3 x 48.3	400.0	51.0	247.0	95.0	128.0	95.5	M16 x 108
6 x 2	168.3 x 60.3	300.0	64.0	247.0	112.5	134.0	95.5	M16 x 108
6 x 2½	168.3 x 73.0	400.0	70.0	247.0	112.5	135.0	95.5	M16 x 108
6 x 3 O.D.	168.3 x 76.1	300.0	70.0	247.0	112.5	135.0	95.5	M16 x 108
6 x 3	168.3 x 88.9	400.0	89.0	247.0	132.0	136.5	95.5	M16 x 108
6 x 4	168.3 x 114.3	400.0	114.0	247.0	160.0	138.0	95.5	M16 x 108
8 x 1	216.3 x 33.7	300.0	38.0	315.0	79.5	154.0	125.0	M20 x 115
8 x 2	219.1 x 60.3	400.0	64.0	320.0	118.0	158.0	121.0	M20 x 115
8½ O.D. x 3 O.D.	216.3 x 76.1	300.0	70.0	315.0	117.0	157.0	119.5	M20 x 115
8 x 2½	219.1 x 73.0	400.0	70.0	320.0	118.0	158.0	121.0	M20 x 115
8 x 3 O.D.	219.1 x 76.1	300.0	70.0	320.0	118.0	158.0	121.0	M20 x 115
8 x 3	216.3 x 88.9	300	89.0	320.0	136.5	161.0	121.0	M20 x 115
8 x 3	219.1 x 88.9	300.0	89.0	320.0	136.5	161.0	121.0	M20 x 115
8 x 4¼ O.D.	219.1 x 108.0	300.0	114.0	320.0	162.0	161.0	121.0	M20 x 115
8 x 4	219.1 x 114.3	300.0	114.0	320.0	162.0	161.0	121.0	M20 x 115
10 x 3 O.D.	273.0 x 76.1	300.0	70.0	376.0	118.0	189.0	152.0	M20 x 115
10 x 3	273.0 x 88.9	300.0	89.0	376.0	136.5	189.0	152.0	M20 x 115
10 x 4	273.0 x 108	300.0	114.0	376.0	164.0	189.0	152.0	M20 x 115
10 x 4	273.0 x 114.3	300.0	114.0	376.0	164.0	189.0	152.0	M20 x 115





SDG-44

Mechanical Tee - Grooved Outlet

NOTE: Refer to UL/FM/LPCB certificates for more details.



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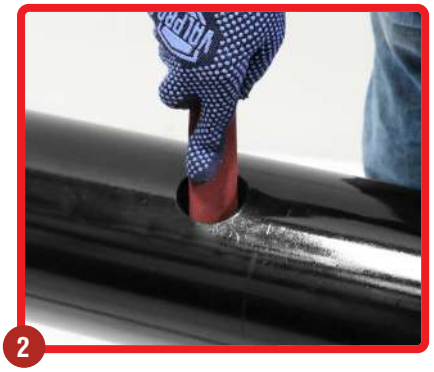
Grooved Fittings

Threaded & Grooved Mechanical Tee - Installation Instruction:



Pipe Preparation

- Clean the gasket sealing surface within 16mm of the hole.
- Visually inspect the sealing surface for defects that may prevent proper sealing of the gasket.
- Don't drill the hole on weld line.



Remove Burrs

- If any burrs or slug exists at the pipe hole, please remove them before assembly, to protect the gasket and avoid leakage.



Gasket Installation

- Insert the gasket into outlet housing making sure the tab in the gasket line up with the tab recesses in the housing.
- Align outlet housing over the pipe hole making sure that the locating collar is in the pipe hole.



Alignment

- Align the strap around the pipe, insert the bolts and tighten the nuts finger tight.



Tighten Nuts

- Alternatively and evenly tighten the nuts to the specified bolt torque.



Assembly Completed

- There should be even gaps on two sides between upper and lower housings.

ANSI Bolts

Bolt Size	Dimensions	
Inch	Lbs/ft.	N.m
⅜	30/45	40-60
½	80/100	110-135
⅝	-	-
¾	-	-
⅞	-	-

CAUTION

- Proper torquing of bolts is required to obtain specified performance.
- Over torquing the bolts may result in damage to the bolt and/or casting which could result in pipe joint separation.
- Under torquing the bolts may result in lower pressure retention capabilities, lower bend load capabilities, joint leakage and pipe joint separation. Pipe joint separation may result in significant property damage and serious injury.

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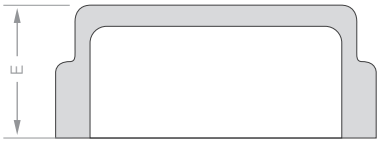
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Grooved Fittings

Cap:

SDG-14:

Nominal Size Inch	Pipe O.D. mm	Maximum Working Pressure psi/Mpa	Cap Dimension E mm
1	33.7	500	22.1
1¼	42.4	500	23.5
1½	48.3	500	23.5
2	60.3	500	23.5
2½	73.0	500	23.5
3 O.D.	76.1	500	23.5
3	88.9	500	24.0
4¼ O.D.	108.0	500	27.0
4	114.3	500	27.0
5¼ O.D.	133.0	500	25.5
5½ O.D.	139.7	500	25.5
5	141.3	500	25.5
6¼ O.D.	159.0	500	24.0
6½ O.D.	165.1	500	27.0
6	168.3	500	24.5
8 O.D.	216.3	500	30.0
8	219.1	500	30.0
10	273.0	500	32.0
12	318.5	500	32.0
12	323.9	500	32.0
14	355.6	300	105.0
16	406.4	300	178.0
18	457.2	300	203.0
20	508.0	300	229.0
24	609.6	300	267.0



SDG-14
Cap



Concentric Cap:

SDG-14TH:

Nominal Size Inch	Pipe O.D. mm	Maximum Working Pressure psi/Mpa	Cap Dimension E mm
2 x 1	60.3 x 33.7	500	23.5
3 O.D. x 1	76.1 x 33.7	500	24.5
3 O.D. x 1½	76.1 x 48.3	500	23.5
3 O.D. x 2	76.1 x 60.3	500	24.0
3 x ½	88.9 x 21.3	500	25.4
3 x 1	88.9 x 33.7	500	24.0
3 x 1½	88.9 x 48.3	500	23.5
3 x 2	88.9 x 60.3	500	23.5
4 x ½	114.3 x 21.3	500	27.0
4 x 1	114.3 x 33.7	500	27.0
4 x 1½	114.3 x 48.3	500	25.4
4 x 2	114.3 x 60.3	500	25.4
5½ O.D. x 2	139.7 x 60.3	500	25.4
6½ O.D. x ½	165.1 x 21.3	500	27.0
6½ O.D. x 1	165.1 x 33.7	500	27.0
6½ O.D. x 2	165.1 x 60.3	500	27.0
6 x 1	159 x 33.7	500	27.0
6 x 1	168.3 x 33.7	500	27.0
6 x 1½	168.3x48.3	500	25.4
6 x 1½	168.3 x 21.3	500	25.4
6 x 2	168.3 x 60.3	500	27.0
8 x 1	216.3 x 33.7	500	30.0
8 x 1	219.1 x 33.7	500	30.0



SDG-14TH
Concentric Cap

NOTE: Refer to UL/FM/LPCB certificates for more

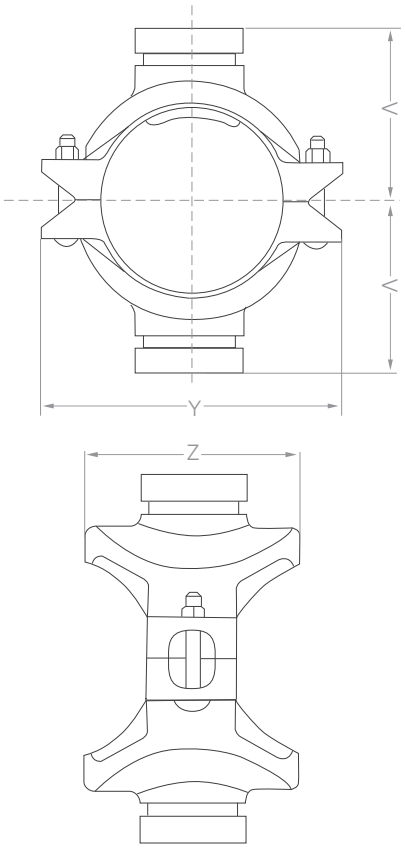
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Grooved Fittings

Mechanical Cross - Grooved:

SDG-49:

Nominal Size Inch	Pipe O.D. mm	Hole Diameter +1.6 mm	Maximum Working Pressure psi/Mpa	Dimensions Y mm	Z mm	V mm	Bolt/Nut No - Size Inch
2 x 1½	60.3 x 48.3	45.0	300.0	116.0	76.0	69.5	M10 x 75
2 x 1¼	60.3 x 42.4	45.0	300.0	116.0	76.0	69.5	M10 x 75
2½ x 1¼	73.0 x 42.4	51.0	300.0	144.0	86.0	76.0	M12 x 70
3 O.D. x 1	76.1 x 33.7	38.0	300.0	137.0	71.0	78.0	M12 x 70
3 O.D. x 1¼	76.1 x 42.4	51.0	300.0	137.0	84.5	78.0	M12 x 70
3 x 1	88.9 x 33.7	38.0	300.0	152.0	72.5	84.5	M12 x 76
3 x 1¼	88.9 x 42.4	51.0	300.0	152.0	85.5	84.5	M12 x 76
3 x 1½	88.9 x 48.3	51.0	300.0	152.0	85.5	84.5	M12 x 76
3 x 2	88.9 x 60.3	64.0	300.0	152.0	98.0	84.5	M12 x 76
4 x 1	114.3 x 33.7	38.0	300.0	188.0	78.4	102.0	M12 x 76
4 x 1½	114.3 x 76.1	70.0	300.0	188.0	104.5	102.0	M12 x 76
4 x 1½	114.3 x 48.3	51.0	300.0	188.0	89.0	102.0	M12 x 76
4 x 1¼	114.3 x 42.4	54.0	300.0	188.0	89.0	102.0	M12 x 76
4 x 2	114.3 x 60.3	64.0	300.0	188.0	104.5	102.0	M12 x 76
4 x 3	114.3 x 88.9	89.0	300.0	188.0	128.0	102.0	M12 x 76
5½ O.D. x 2	139.7 x 60.3	64.0	300.0	221.5	112.5	118.0	M16 x 85
5½ O.D. x 3 O.D.	139.7 x 76.1	70.0	300.0	221.5	112.5	118.0	M16 x 85
5 x 3	139.7 x 88.9	89.0	300.0	221.5	132.0	118.0	M16 x 85
5 x 4	139.7 x 114.3	114.0	300.0	221.5	156.0	121.0	M16 x 85
6 x 2	165.1 x 60.3	64.0	300.0	244.0	112.5	127.0	M16 x 108
6½ O.D. x 3 O.D.	165.1 x 76.1	70.0	300.0	244.0	112.5	127.0	M16 x 108
6½ O.D. x 3	165.1 x 88.9	89.0	300.0	244.0	132.0	130.0	M16 x 108
6 x 1½	168.3 x 48.3	51.0	300.0	247.0	95.0	128.0	M16 x 108
6 x 1½	165.1 x 48.3	51.0	300.0	244.0	93.0	128.5	M16 x 108
6 x 2	168.3 x 60.3	64.0	300.0	247.0	112.5	134.0	M16 x 108
6 x 2½	168.3 x 73.0	70.0	300.0	247.0	112.5	135.0	M16 x 108
6 x 2½	168.3 x 76.1	70.0	300.0	247.0	112.5	135.0	M16 x 108
6 x 3	168.3 x 88.9	89.0	300.0	247.0	132.0	135.0	M16 x 108
6 x 4	159 x 109	114.0	300.0	244.0	154.0	134.0	M16 x 108
6 x 4	159 x 114.3	114.0	300.0	244.0	156.0	130.0	M16 x 108
6 x 4	165.1 x 114.3	114.0	300.0	244.0	154.0	135.0	M16 x 108
6 x 4	168.3 x 114.3	114.0	300.0	247.0	160.0	138.0	M16 x 108
8 x 2	219.1 x 60.3	64.0	300.0	320.0	118.0	158.0	M20 x 115
8 x 3 O.D.	219.1 x 76.1	70.0	300.0	320.0	118.0	158.0	M20 x 115
8 x 3	219.1 x 88.9	89.0	300.0	320.0	136.5	161.0	M20 x 115
8 x 4	219.1 x 108	114.0	300.0	320.0	136.5	161.0	M20 x 115
8 x 4	219.1 x 114.3	114.0	300.0	320.0	162.0	161.0	M20 x 115
10 x 3 O.D.	273.0 x 76.1	70.0	300.0	376.0	118.0	187.0	M20 x 115
10 x 3	273.0 x 88.9	89.0	300.0	376.0	136.5	187.0	M20 x 115
10 x 4	273 x 108	114.0	300.0	376.0	164.0	189.0	M20 x 115
10 x 4	273.0 x 114.3	114.0	300.0	376.0	164.0	189.0	M20 x 115



SDG-49

Mechanical Cross - Grooved



NOTE: Refer to UL/FM/LPCB certificates for more details.

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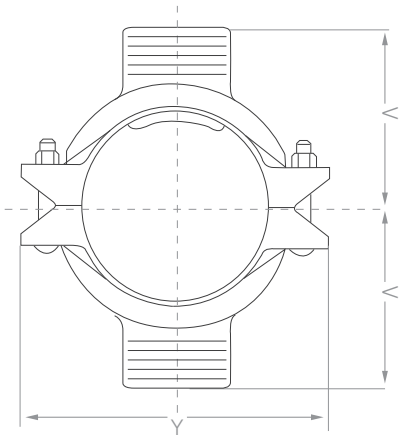
Grooved Fittings

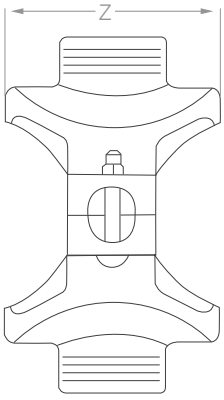
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Mechanical Cross - Threaded:

SDG-47:

Nominal Size	Pipe O.D.	Hole Diameter +1.6	Maximum Working Pressure	Dimensions			Bolt/Nut No - Size
				Y	Z	V	
Inch	mm	mm	psi/Mpa	mm	mm	mm	Inch
2½ x ¾	73.0 x 26.9	38.0	300.0	137.0	71.0	68.0	M12 x 70
2½ x 1	73.0 x 33.7	38.0	300.0	137.0	71.0	70.0	M12 x 70
2½ x 1¼	73.0 x 42.4	51.0	300.0	137.0	84.5	73.0	M12 x 70
3 O.D. x ½	76.1 x 21.3	38.0	300.0	137.0	71.0	61.5	M12 x 70
3 O.D. x ¾	76.1 x 26.9	38.0	300.0	137.0	71.0	75.0	M12 x 70
3 O.D. x 1	76.1 x 33.7	38.0	300.0	137.0	71.0	75.0	M12 x 70
3 O.D. x 1¼	76.1 x 42.4	51.0	300.0	137.0	84.5	75.0	M12 x 70
3 x ½	88.9 x 21.3	38.0	300.0	152.0	72.5	71.5	M12 x 76
3 x ¾	88.9 x 26.9	38.0	300.0	152.0	72.5	71.5	M12 x 76
3 x 1	88.9 x 33.7	38.0	300.0	152.0	72.5	80.0	M12 x 76
3 x 1¼	88.9 x 42.4	51.0	300.0	152.0	85.5	80.0	M12 x 76
3 x 1½	88.9 x 48.3	51.0	300.0	152.0	85.5	80.0	M12 x 76
4¼ O.D. x 1¼	108.1 x 42.4	51.0	300.0	172.0	89.0	87.0	M12 x 76
4¼ O.D. x 1½	108.0 x 48.3	51.0	300.0	172.0	89.0	87.0	M12 x 76
4¼ O.D. x 2	108.0 x 60.3	64.0	300.0	172.0	106.5	92.0	M12 x 76
4 x ½	114.3 x 21.3	38.0	300.0	188.0	78.5	93.5	M12 x 76
4 x ¾	114.3 x 26.9	38.0	300.0	188.0	78.5	93.5	M12 x 76
4 x 1	114.3 x 33.7	38.0	300.0	188.0	78.5	93.0	M12 x 76
4 x 1¼	114.3 x 42.4	51.0	300.0	188.0	89.0	95.0	M12 x 76
4 x 1½	114.3 x 48.3	51.0	300.0	188.0	89.0	97.0	M12 x 76
4 x 2	114.3 x 60.3	64.0	300.0	188.0	104.5	100.0	M12 x 76
5¼ O.D. x 2	133.0 x 60.3	64.0	300.0	209.0	112.5	110.0	M16 x 85
5½ O.D. x 1	139.7 x 33.7	38.0	300.0	221.5	78.0	110.0	M16 x 85
5½ O.D. x 1¼	139.7 x 42.4	51.0	300.0	221.5	95.0	112.0	M16 x 85
5½ O.D. x 1½	139.7 x 48.3	51.0	300.0	221.5	95.0	112.0	M16 x 85
5½ O.D. x 2	139.7 x 60.3	64.0	300.0	221.5	112.5	115.0	M16 x 85
5½ O.D. x 3 O.D.	139.7 x 76.1	70.0	300.0	221.5	112.5	115.0	M16 x 85
6¼ O.D. x 1¼	159.0 x 42.4	51.0	300.0	244.0	93.0	118.0	M16 x 108
6¼ O.D. x 1½	159.0 x 48.3	51.0	300.0	244.0	93.0	118.0	M16 x 108
6¼ O.D. x 2	159.0 x 60.3	64.0	300.0	244.0	112.5	125.0	M16 x 108
6¼ O.D. x 3 O.D.	159.0 x 76.1	70.0	300.0	244.0	112.5	125.0	M16 x 108
6½ O.D. x ½	165.1 x 21.3	38.0	300.0	244.0	78.0	110.0	M16 x 108
6½ O.D. x ¾	165.1 x 26.9	38.0	300.0	244.0	78.0	110.0	M16 x 108
6½ O.D. x 1	165.1 x 33.7	38.0	300.0	244.0	78.0	118.0	M16 x 108
6½ O.D. x 1¼	165.1 x 42.4	51.0	300.0	244.0	93.0	118.0	M16 x 108
6½ O.D. x 1½	165.1 x 48.3	51.0	300.0	244.0	93.0	118.0	M16 x 108
6½ O.D. x 2	165.1 x 60.3	64.0	300.0	244.0	112.5	127.5	M16 x 108
6½ O.D. x 2½	165.1 x 76.1	70.0	300.0	244.0	112.5	128.5	M16 x 108
6½ O.D. x 3	165.1 x 88.9	89.0	300.0	244.0	132.0	128.5	M16 x 108
6 x 1¼	168.3 x 42.4	51.0	300.0	247.0	95.0	122.0	M16 x 108
6 x 1½	168.3 x 48.3	51.0	300.0	247.0	95.0	122.0	M16 x 108





SDG-47

Mechanical Cross - Threaded

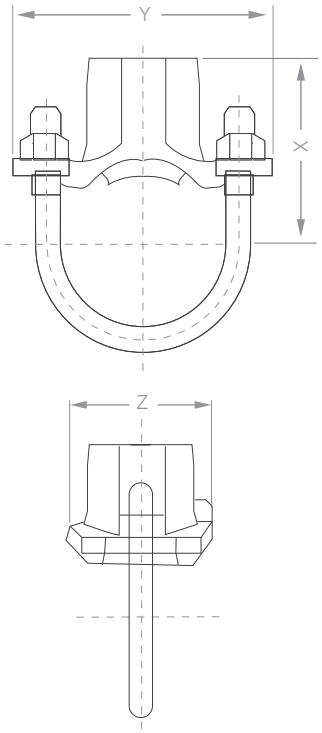


NOTE: Refer to UL/FM/LPCB certificates for more details.

SHIELD reserves the right to change the contents without notice.

Grooved Fittings

Nominal Size Inch	Pipe O.D. mm	Hole Diameter +1.6 mm	Maximum Working Pressure psi/Mpa	Dimensions Y mm	Dimensions Z mm	Dimensions V mm	Bolt/Nut No - Size Inch
6 x 2	168.3 x 60.3	64.0	300.0	247.0	112.5	132.0	M16 x 108
6 x 2½	168.3 x 73.0	70.0	300.0	247.0	112.5	132.0	M16 x 108
6 x 3	168.3 x 88.9	89.0	300.0	247.0	132.0	140.0	M16 x 108
8 x 1	219.0 x 33.7	38.0	300.0	320.0	79.5	150.0	M20 x 115
8 x 1¼	219.1 x 42.4	51.0	300.0	320.0	96.5	150.0	M20 x 115
8 x 1½	219.1 x 48.3	51.0	300.0	320.0	96.5	150.0	M20 x 115
8 x 2	219.1 x 60.3	64.0	300.0	320.0	117.0	160.0	M20 x 115
8 x 3 O.D.	219.1 x 76.1	70.0	300.0	320.0	118.0	158.5	M20 x 115
8 x 3	219.1 x 88.9	89.0	300.0	320.0	136.5	160.0	M20 x 115
8 x 4	219.1 x 114.3	114.0	300.0	320.0	164.0	160.0	M20 x 115
10 x 1½	273.0 x 48.3	51.0	300.0	376.0	95.5	180.0	M20 x 115
10 x 2	273.0 x 60.3	64.0	300.0	376.0	118.0	185.0	M20 x 115
10 x 3 O.D.	273.0 x 76.1	70.0	300.0	376.0	118.0	190.0	M20 x 115
10 x 3	273.0 x 88.9	89.0	300.0	376.0	136.5	190.0	M20 x 115
10 x 4	273.0 x 114.3	114.0	300.0	376.0	164.0	190.0	M20 x 115



SDG-40

U Bolt Mechanical Tee - Threaded

Mechanical Tee - Threaded U-Bolt:

SDG-40:

Nominal Size Inch	Pipe O.D. mm	Maximum Working Pressure psi	Hole Diameter +1.6,0/+0.063,0 mm	Dimensions X mm	Dimensions Y mm	Dimensions Z mm	U-Bolt Size mm
1¼ x ½	42.4 x 21.3	300	30.0	54.4	88.9	57.2	M10 x 73
1¼ x ¾	42.4 x 26.9	300	30.0	54.4	88.9	57.2	M10 x 73
1¼ x 1	42.4 x 33.7	300	30.0	57.7	88.9	57.2	M10 x 73
1½ x ½	48.3 x 21.3	300	30.0	57.7	88.9	57.2	M10 x 73
1½ x ¾	48.3 x 26.9	300	30.0	57.7	88.9	57.2	M10 x 73
1½ x 1	48.3 x 33.7	300	30.0	60.8	88.9	57.2	M10 x 73
2 x ½	60.3 x 21.3	300	30.0	63.3	95.3	57.2	M10 x 90
2 x ¾	60.3 x 26.9	300	30.0	63.3	95.3	57.2	M10 x 90
2 x 1	60.3 x 33.7	300	30.0	66.6	95.3	57.2	M10 x 90
2 x 1¼	60.3 x 42.4	300	45.0	66.6	120.0	76.0	½ x 52
2½ x ½	73.0 x 21.3	300	30.0	69.9	108.0	57.2	M10 x 105
2½ x ¾	73.0 x 26.9	300	30.0	69.9	108.0	57.2	M10 x 105
2½ x 1	73.0 x 33.7	300	30.0	73.2	108.0	57.2	M10 x 105
3 O.D. x ½	76.1 x 21.3	300	30.0	69.9	108.0	57.2	M10 x 105
3 O.D. x ¾	76.1 x 26.9	300	30.0	69.9	108.0	57.2	M10 x 105
3 O.D. x 1	76.1 x 33.7	300	30.0	73.2	108.0	58.0	M10 x 105
3 x 1	88.9 x 33.7	300	38.0	79.0	145.0	73.0	½ x 58
4 x 1	114.3 x 33.7	300	30.0	89.0	185.0	72.0	½ x 70
4 x 1¼	114.3 x 42.4	300	51.0	95.0	185.0	85.0	½ x 70
4 x 1½	114.3 x 48.3	300	51.0	95.0	185.0	85.0	½ x 70
6 x 1	168.3 x 33.7	300	38.0	124.0	254.0	75.0	⅝ x 102
6 x 1	168.3 x 42.4	300	51.0	120.0	254.0	88.0	⅝ x 102
6 x 1	168.3 x 48.3	300	57.0	120.0	254.0	88.0	M16 x 102



NOTE: Refer to UL/FM/LPCB certificates for more

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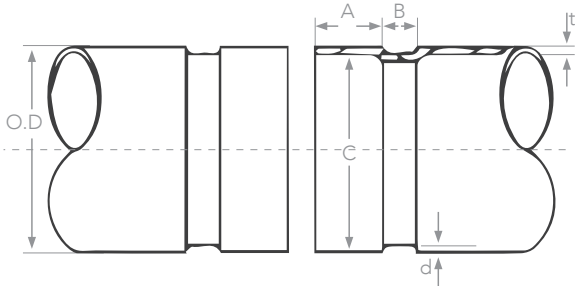
Grooved Fittings

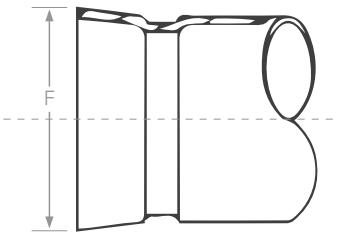
Groove Specifications - Technical Data:

Groove Dimensions:

Nominal Size	Pipe O.D.			Gasket Seat 'A'	Groove Diameter 'C'		Grooved Width 'B'		Grooved Depth 'd'	Minimum Pipe Wall Thickness 't'		Max. 'F' Flare Diameter
Inch	Actual	Tolerance		(±) 0.030	Max.	Tolerance	Roll Groove (±) 0.030	Cut Groove (±) 0.031		Roll Groove	Cut Groove	Roll Groove
1¼	1.660	0.02	0.023	0.625	1.535	-0.015	0.281	0.312	0.063	0.071	0.140	1.70
1½	1.900	0.017	0.02	0.625	1.775	-0.015	0.281	0.312	0.063	0.071	0.145	1.94
2	2.375	0.024	0.024	0.625	2.250	-0.015	0.344	0.312	0.063	0.071	0.154	2.44
2½	2.875	0.029	0.029	0.625	2.720	-0.018	0.344	0.312	0.078	0.091	0.188	2.96
3 O.D.	3.000	0.030	0.030	0.625	2.845	-0.018	0.344	0.312	0.078	0.091	0.188	3.05
3	3.500	0.035	0.031	0.625	3.344	-0.018	0.344	0.312	0.078	0.091	0.188	3.56
4	4.500	0.045	0.031	0.625	4.334	-0.020	0.344	0.375	0.083	0.091	0.203	4.57
5½	5.500	0.056	0.031	0.625	5.334	-0.020	0.344	0.375	0.083	0.114	0.203	5.57
5	5.563	0.056	0.031	0.625	5.395	-0.022	0.344	0.375	0.084	0.114	0.203	5.65
6	6.625	0.063	0.031	0.625	6.083	-0.022	0.344	0.375	0.085	0.114	0.219	6.33
8	8.625	0.063	0.031	0.750	8.441	-0.025	0.469	0.438	0.092	0.114	0.238	8.72
10	10.750	0.063	0.031	0.750	10.562	-0.027	0.469	0.500	0.094	0.142	0.250	10.84
12	12.750	0.063	0.031	0.750	12.531	-0.030	0.469	0.500	0.109	0.158	0.279	12.84
14	14.000	0.063	0.031	0.938	13.781	-0.030	0.469	0.500	0.109	0.158	0.281	14.16
16	16.000	0.063	0.031	0.938	16.553	-0.030	0.469	0.500	0.109	0.177	0.312	16.87
18	18.000	0.060	0.030	1.000	17.781	-0.03	0.469	0.500	0.109	0.177	0.312	18.16
20	20.000	0.060	0.030	1.000	19.781	-0.03	0.469	0.500	0.109	0.188	0.312	20.16







Groove Specifications

Factory Mutual System

NOTE: Refer to UL/FM/LPCB certificates for more details.

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SHIELD™
Trusted Worldwide

Grooved Fittings

Durable, Flexible & Easy to Handle



Our mission is to deliver value to our customers through product development, manufacturing excellence, and supply chain management.



SHIELD™
Trusted Worldwide

Pipe Support
& Accessories

for Strong Foundation of Piping System



Factory Mutual System

UL® LISTED

With the help of SHIELD Pipe Support system the load from a pipe to the supporting structures is transferred. The pipe support provides 4 main functions to the system which are to anchor, guide, absorb shock, and support a specified load.

Pipe Support

Description:

SHIELD Pipe Support & Accessories feature a complete range of Hangers, Clamps, Rubber Support Insert, Bolt, Nut, Washer, Threaded Rod, U-Bolt, in a wide variety of configurations in sizes from ½" to 24".

SHIELD pipe support and accessories are UL listed and FM approved for water line and fire protection applications.

SHIELD Pipe Support & Accessories feature a complete range of Hangers, Clamps, Rubber Support Insert, Bolt, Nut, Washer, Threaded Rod, U-Bolt, in a wide variety of configurations in sizes from ½" to 24".

SHIELD pipe support and accessories are UL listed and FM approved for water line and fire protection applications.



Material	Available Sizes	Standards	Finish
▸ Mild Steel/Low Carbon Steel	▸ ½" to 24"	▸ ASTM ▸ ANSI ▸ MSS-SP 69, 58 ▸ WW-H-171E ▸ A-A-1192 ▸ ISO 10683	▸ Pre-Galvanized ▸ Electro Galvanized ▸ Hot Dipped ▸ Galvanized

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Pipe Support

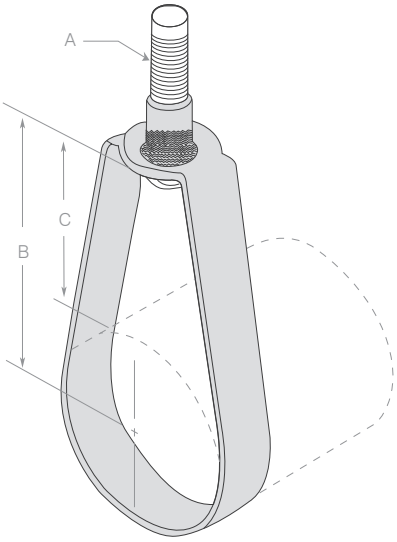
Swivel Ring Hanger:

Features:

Designed for the suspension of non-insulated stationary pipe lines. To use as pipe support in-line with NFPA 13 requirements. The insert nut allows a vertical adjustment after installation, is tapped to NFPA reduced rod size standards.
Federal Specification WW-H-171E & A-A-1192 (Type 10)
Manufacturers Standardization Society MSS SP-69 & SP-58 (Type 10)
UL Listed/FM Approved.

Material & Finish:

Pre-Galvanized coil adheres to **ASTM A653 G90**
Low Carbon Steel - Electro Galvanized to **ASTM B633**
Low Carbon Steel - Hot dipped galvanized to **ASTM A123**
Low Carbon Steel - Zinc Flake Coating to **ISO 10683**





SD-HB

Swivel Ring Hanger

SD-HB:

Pipe Size	Rod Size	Dimensions		Swivel Nut	Test Load
Inch	A Metric	B mm	C mm	Metric	Lb-f.
3/4	M10	48.5	35.15	M10	750
1	M10	65.8	49.1	M10	750
1¼	M10	77.8	56.7	M10	750
1½	M10	82	57.85	M10	750
2	M10	98	67.85	M10	940
2½	M10	117.6	81.1	M10	1060
3	M10	130	85.55	M10	1250
4	M10	164.5	107.35	M10	1500
5	M12	204	133.35	M12	2000
6	M12	245	160.85	M12	2650
8	M12	306	196.45	M12	4050

NOTE:
- Swivel Nut is coming along with hanger.
- Swivel Nut is available for 10mm and 12mm Rod size
- Swivel Hanger is also available in SS material upon request.
- Refer to UL/FM certificates for more information.

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Pipe Support

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Clevis Hanger:

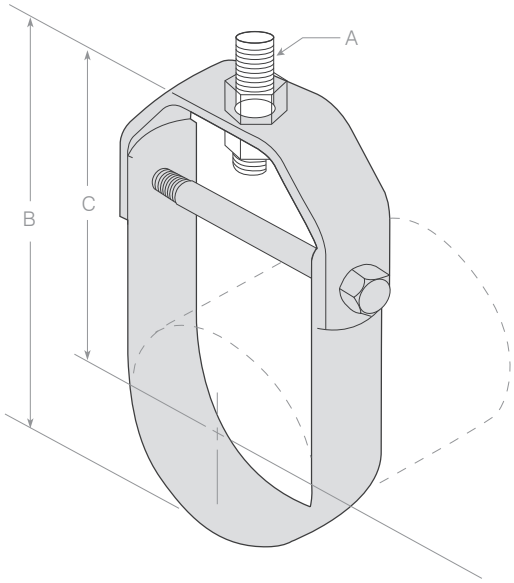
Features:

Designed for the suspension of non-insulated stationary pipe lines. To use as pipe support-line with NFPA 13 requirements.
Federal Specification WW-H-171E & A-A-1192A (Type 1)
Manufacturers Standardization Society MSS SP-69 & SP-58 (Type 1)
UL Listed/FM Approved.



Material & Finish:

Pre-Galvanized coil adheres to **ASTM A653 G90**
Low Carbon Steel - Electro Galvanized to **ASTM B633**
Low Carbon Steel - Hot dipped galvanized to **ASTM A123**
Low Carbon Steel - Zinc Flake Coating to **ISO 10683**



SD-HC:

SD-HC

Pipe Size	Rod Size	Dimensions		Cross Bolt	Test Load
Inch	A Metric	B mm	C mm	Metric	Lb-f.
1	M10	76.0	59.3	M8	750
1¼	M10	88.0	66.9	M8	750
1½	M10	93.0	68.8	M8	750
2	M10	112.5	82.3	M8	750
2½	M12	140.5	104.0	M10	940
3	M12	167.0	123.0	M10	1060
4	M12	205.0	147.8	M10	1500
5	M16*	235.0	164.3	M12	2000
6	M16	285.3	201.1	M12	2650
8	M16	328.0	218.4	M12	4050

NOTE:
- Use of an upper locknut ensures proper performance.
- When an over-sized clevis is used, a pipe spacer should be placed over the clevis bolt to prevent the lower U-strap from moving inward.
- Clevis Hanger is also available in SS material upon request.
- Refer to UL/FM certificates for more information.
- * M12 also available upon request for 5".

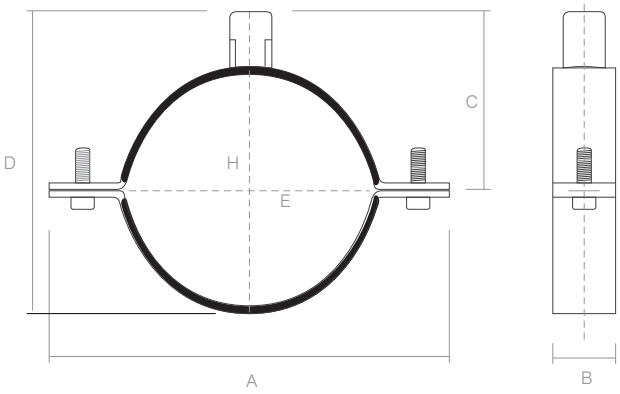
SHIELD reserves the right to change the contents without notice.

Pipe Support

Pipe Clamp with Lining:

Features:

- Designed for Horizontal, vertical and suspended installations
- Suitable for Steel, copper and PVC pipes
- Welded Nut M8/M10 with option of M10/M12
- Connection thread with M8/M10 dual-tapped boss
- Side Screw: 6 x 20 – Phillip head with vicer
- High rigidity due to reinforcing rib
- With highly elastic vibration control lining, vibration control tested



SD-GE-RLC

Pipe Clamp with Lining

Approval:

Manufacturers Standardization Society ANSI/MSS SP-69 & SP-58 (Type 12)
Federal Specification WW-H-171E & A-A-1192A (Type 25)

Material:

Mild Steel & EPDM Rubber

Finishing:

Electro galvanized as per **ASTM B633 Standards**

SD-GE-RLC:

Size	Pipe O.D.	Dimensions						Max. Load
Inch	mm	H mm	E mm	A mm	B mm	C mm	D mm	Kg
⅜	17.1	15	19	59	20	23	30	450
½	21.3	20	25	66	20	26	37	450
¾	26.7	26	30	72	20	29	43	450
1	33.4	32	36	79	20	33	50	450
1¼	42.2	38	43	86	20	36	57	450
1½	48.3	47	51	92	20	39	63	450
1½ - 54	54.0	53	58	98	20	42	69	450
2	60.3	60	64	104	20	45	75	450
2 - 63	63.0	63	66	108	20	47	72	450
2 - 70	70.0	68	72	114	20	50	85	450
2½	73.0	74	80	119	20	53	90	600
2½ - 83	83.0	81	86	127	20	57	98	600
3	88.9	87	92	134	20	60	105	600
3½	101.6	99	105	144	20	65	115	600
3½ - 110	110.0	107	112	164	20	70	125	600
4	114.3	113	118	159	20	73	130	600
4 - 125	125.0	125	130	169	20	78	140	600
4 - 133	133.0	131	137	177	20	82	148	600
5	141.3	138	142	184	20	85	155	600
5 - 150	150.0	148	153	194	20	90	165	600
5 - 160	160.0	159	166	204	25	95	175	600
6	168.3	168	172	212	25	99	183	600
6 - 210	210.0	200	212	244	25	115	215	600
8	219.1	215	220	264	25	125	235	950
10	273.0	269	274	294	25	140	265	950
12	323.8	313	318	367	25	177	339	1200

NOTE:

- Measurements are subject to 5% tolerance.
- Other Sizes available on request.
- Hot Dipped Galvanized can be supplied upon request.
- Refer to UL/FM Certificate for more information.

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Pipe Support

Selection of Lines Pipe Hangers for Different Types of Pipes:

Size	Copper	Steel (SCH 40)		UPVC/PE	ABS
Inch	mm	Inch	mm	mm	
⅜	15, 18	-	16	-	-
½	22	½	22	20	DN15 (21.4)
¾	24, 28	¾	28	25	DN20 (26.8)
1	35	1	35	32, 38	DN25 (33.6)
1¼	42	1¼	42	40, 43	DN32 (42.3)
1½	-	1½	48	45	DN40 (48.3)
1½ - 54	54	-	-	54	-
2	64	2	60	60	DN50 (60.4)
2 - 63	-	-	-	-	-
2 - 70	67, 70	-	-	70	-
2½	76	2½	75	75	DN65 (75.4)
2½ - 83	80	-	-	83	-
3	-	3	90	90	-
3½	102, 105	-	-	102	DN80 (88.9)
3½ - 110	108	-	-	110	-
4	-	4	115	115	DN100 (114.3)
4 - 125	125	-	-	125	-
4 - 133	-	-	-	135	-
5	-	5	140	140	DN125 (21.4)
5 - 150	-	-	-	152	-
5 - 160	159	-	-	160	-
6	167	6	168	-	DN150 (168.3)
6 - 210	206	-	-	200	-
8	-	8	219	220, 225	DN200 (225.0)
10	-	-	-	250	DN225 (250.4)
12	-	-	-	-	



NOTE:
- Measurements are subject to 5% tolerance.
- Other Sizes available on request.
- Hot Dipped Galvanized can be supplied upon request.

SHIELD reserves the right to change the contents without notice.

Pipe Support



Pipe Clamp:

Features:

- Designed for Horizontal, vertical and suspended installations
- Welded Nut M8/M10 with option of M10/M12
- High - Strength round welded connecting nuts
- The two locking screws allow adjustment
- Can be used as a pipe anchor point
- Suitable for installations without vibration control requirements

Approval:

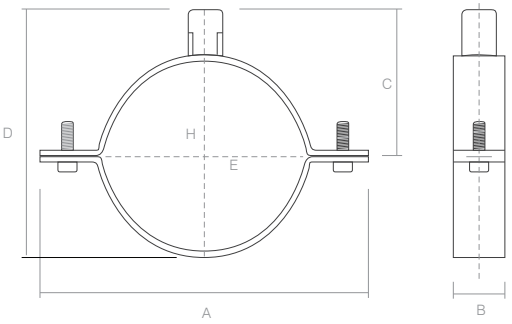
Manufacturers Standardization Society **ANSI/MSS SP-69 & SP-58 (Type 12)**
Federal Specification WW-H-171E & A-A-1192A (Type 25)

Material:

Mild Steel

Finishing:

Electro galvanized as per **ASTM B633 Standards**



SD-GE-PPC

SD-GE-PPC:

Size	Pipe O.D.	Dimensions						Max. Load
Inch	mm	H mm	E mm	A mm	B mm	C mm	D mm	Kg
⅜	17.1	15	19	59	20	23	30	450
½	21.3	20	25	66	20	26	37	450
¾	26.7	26	30	72	20	29	43	450
1	33.4	32	36	79	20	33	50	450
1¼	42.2	38	43	86	20	36	57	450
1½	48.3	47	51	92	20	39	63	450
1½ - 54	54.0	53	58	98	20	42	69	450
2	60.3	60	64	104	20	45	75	450
2 - 63	63.0	63	66	108	20	47	72	450
2 - 70	70.0	68	72	114	20	50	85	450
2½	73.0	74	80	119	20	53	90	600
2½ - 83	83.0	81	86	127	20	57	98	600
3	88.9	87	92	134	20	60	105	600
3½	101.6	99	105	144	20	65	115	600
3½ - 110	110.0	107	112	164	20	70	125	600
4	114.3	113	118	159	20	73	130	600
4 - 125	125.0	125	130	169	20	78	140	600
4 - 133	133.0	131	137	177	20	82	148	600
5	141.3	138	142	184	20	85	155	600
5 - 150	150.0	148	153	194	20	90	165	600
5 - 160	160.0	159	166	204	25	95	175	600
6	168.3	168	172	212	25	99	183	600
6 - 210	210.0	200	212	244	25	115	215	600
8	219.1	215	220	264	25	125	235	950
10	273.0	269	274	294	25	140	265	950
12	323.8	313	318	367	25	177	339	1200

NOTE:

- Measurements are subject to 5% tolerance.
- Other Sizes available on request.
- Hot Dipped Galvanized can be supplied upon request.
- Refer to UL Certificate for more information.

SHIELD reserves the right to change the contents without notice.

SHIELD™
Trusted Worldwide

Pipe Support

U Strap Hanger with Lining:

Features:

- Designed for mount plain or insulated pipes
- It can be used as a pipe anchor with Rubber Support Insert also
- Vibration and Sound Control tested & verified with highly elastic lining



Approval:

Manufacturers Standardization Society **ANSI/MSS SP-69 & SP-58 (Type 26)**
Federal Specification WW-H-171E & A-A-1192A (Type 26)

Material:

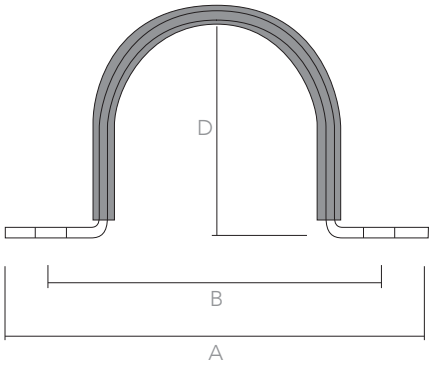
Mild Steel & EPDM Rubber

Finishing:

Electro galvanized as per **ASTM B633 Standards**

SD-GE-RUS:

Size	Pipe O.D.	Dimensions			Bolt Size	Max. Load
Inch	mm	A mm	B mm	Width mm	mm	Kg
½	21.3	76	51	20	M8	500
¾	26.7	82	57	20	M8	500
1	33.4	89	64	20	M8	500
1¼	42.2	96	71	20	M8	500
1½	48.3	102	77	20	M8	500
-	54.0	108	83	20	M8	500
2	60.3	114	89	20	M8	500
-	67.0	121	96	25	M8	500
2½	73.0	145	113	25	M8	600
-	82.0	152	120	25	M8	600
3	88.9	160	128	25	M8	600
3½	101.6	170	138	25	M8	600
-	110.0	178	146	25	M8	600
4	114.3	185	153	25	M8	600
-	126.0	196	164	30	M8	600
5	141.3	210	178	30	M10	600
-	148.0	218	186	30	M10	600
-	155.0	225	193	30	M10	600
6	168.3	237	205	30	M10	600
-	179.0	246	217	30	M10	600
-	190.0	260	228	30	M10	800
-	205.0	275	243	30	M10	800
8	219.1	289	257	30	M10	800
-	230.0	300	268	30	M10	800
-	241.0	332	291	30	M12	1250
-	263.0	354	313	30	M12	1250
10	273.0	364	323	30	M18	1250
-	295.0	386	345	40	M18	1250



SD-GE-RUS

U Strap Hanger with Lining

NOTE:

- Measurements are subject to 5% tolerance.
- Other Sizes available on request.
- Hot Dipped Galvanized can be supplied upon request.

SHIELD reserves the right to change the contents without notice.

Pipe Support

U Strap Hanger:

Features:

- Designed for mount plain or insulated pipes.
- U Strap Hangers can be used as a pipe anchor with rubber support inserts also.



Approval:

Manufacturers Standardization Society **ANSI/MSS SP-69 & SP-58 (Type 26)**
Federal Specification WW-H-171E & A-A-1192A (Type 26)

Material:

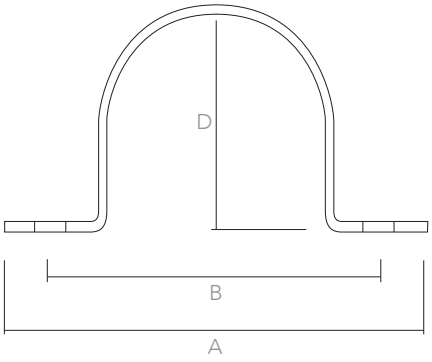
Mild Steel

Finishing:

Electro galvanized as per **ASTM B633 Standards**

SD-GE-US:

Size	Pipe O.D.	Dimensions			Bolt Size	Max. Load
Inch	mm	A mm	B mm	Width mm	mm	Kg
½	21.3	76	51	20	M8	500
¾	26.7	82	57	20	M8	500
1	33.4	89	64	20	M8	500
1¼	42.2	96	71	20	M8	500
1½	48.3	102	77	20	M8	500
-	54.0	108	83	20	M8	500
2	60.3	114	89	20	M8	500
-	67.0	121	96	25	M8	500
2½	73.0	145	113	25	M8	600
-	82.0	152	120	25	M8	600
3	88.9	160	128	25	M8	600
3½	101.6	170	138	25	M8	600
-	110.0	178	146	25	M8	600
4	114.3	185	153	25	M8	600
-	126.0	196	164	30	M8	600
5	141.3	210	178	30	M10	600
-	148.0	218	186	30	M10	600
-	155.0	225	193	30	M10	600
6	168.3	237	205	30	M10	600
-	179.0	246	217	30	M10	600
-	190.0	260	228	30	M10	800
-	205.0	275	243	30	M10	800
8	219.1	289	257	30	M10	800
-	230.0	300	268	30	M10	800
-	241.0	332	291	30	M12	1250
-	263.0	354	313	30	M12	1250
10	273.0	364	323	30	M18	1250
-	295.0	386	345	40	M18	1250



SD-GE-US

U Strap Hanger

NOTE:

- Measurements are subject to 5% tolerance.
- Other Sizes available on request.
- Hot Dipped Galvanized can be supplied upon request
- Refer to FM Certificate for more information..

SHIELD reserves the right to change the contents without notice.

Pipe Support

Riser Hanger or Clamp with Lining:

Features:

- Designed to act as a rigid support / guide for vertical pipes to control the suspension in pipeline.
- Equally usable in most of the pipe types.
- Strengthened bolts for high load capacity.
- Highly elastic lining for sound and vibrations control.

Approval:

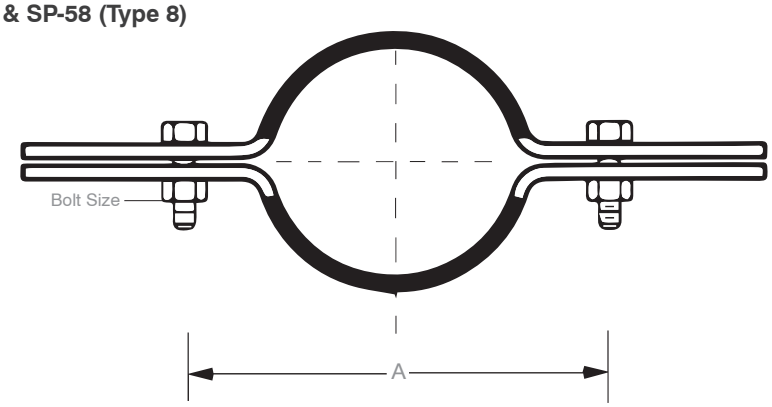
Manufacturers Standardization Society **ANSI/MSS SP-69 & SP-58 (Type 8)**
Federal Specification WW-H-171E & A-A-1192A (Type 8)

Material:

Mild Steel & EPDM Rubber

Finishing:

Electro galvanized as per **ASTM B633 Standards**



SD-GE-RRC

Riser Hanger/Clamp with Lining



SD-GE-RRC:

Size Inch	Pipe O.D. mm	A mm	Bolt Size mm	Max. Load Kg
½	21.3	57.0	M10	1250
¾	26.7	68.0	M10	1250
1	33.4	76.0	M10	1250
1¼	42.1	90.0	M10	1250
1½	48.2	110.0	M10	1250
2	60.3	130.0	M10	1850
2½	73.0	142.0	M12	1850
3	88.9	161.0	M12	2250
4	114.3	190.0	M12	3600
6	168.3	258.0	M16	4500
8	219.1	333.0	M16	4500
10	273.0	409.0	M16	5800
12	323.8	467.0	M20	7300

NOTE:

- Measurements are subject to 5% tolerance.
- Other Sizes available on request.
- Hot Dipped Galvanized can be supplied upon request.

SHIELD reserves the right to change the contents without notice.

Pipe Support

Riser Hanger or Clamp:

Features:

- Designed to act as a rigid support for vertical pipes to control the suspension in pipeline.
- Equally usable in most of the pipe types.
- Strengthened bolts for high load capacity.

Approval:

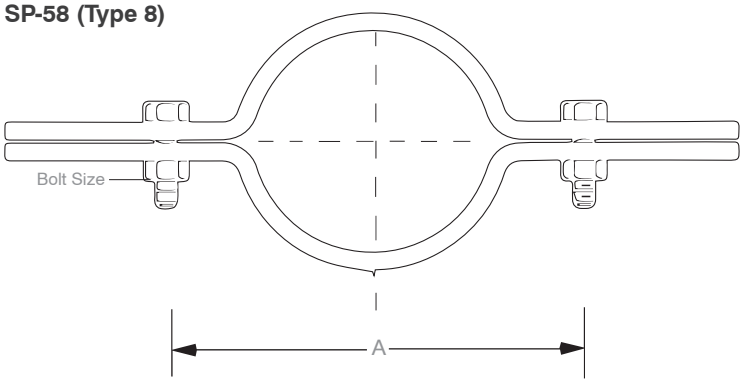
Manufacturers Standardization Society **ANSI/MSS SP-69 & SP-58 (Type 8)**
Federal Specification WW-H-171E & A-A-1192A (Type 8)

Material:

Mild Steel

Finishing:

Electro galvanized as per **ASTM B633 Standards**



SD-GE-PRC

Riser Hanger/Clamp



SD-GE-PRC:

Size Inch	Pipe O.D. mm	A mm	Bolt Size mm	Max. Load Kg
½	21.3	57.0	M10	1250
¾	26.7	68.0	M10	1250
1	33.4	76.0	M10	1250
1¼	42.1	90.0	M10	1250
1½	48.2	110.0	M10	1250
2	60.3	130.0	M10	1850
2½	73.0	142.0	M12	1850
3	88.9	161.0	M12	2250
4	114.3	190.0	M12	3600
6	168.3	258.0	M16	4500
8	219.1	333.0	M16	4500
10	273.0	409.0	M16	5800
12	323.8	467.0	M20	7300

NOTE:

- Measurements are subject to 5% tolerance.
- Other Sizes available on request.
- Hot Dipped Galvanized can be supplied upon request.
- Refer to FM Certificate for more information.

SHIELD reserves the right to change the contents without notice.

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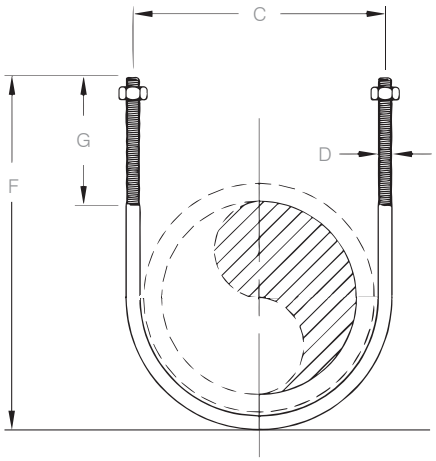
Pipe Support

UL LISTED

U Bolt:

Features:

- Designed to use as a support, anchor or guide for various types of pipes
- High load capacity due to one piece design
- Supplied with two Nuts & Washers
- Special U bolts with Longer Tangents and Threads can be furnished upon request



SD-UB

U Bolt

Approval:

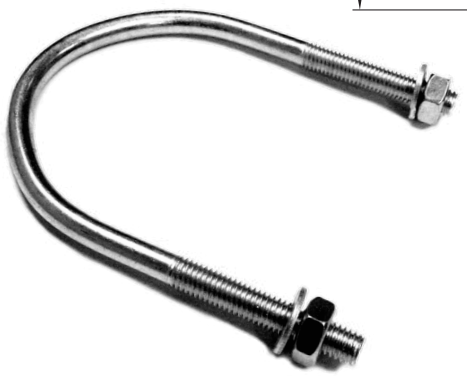
Manufacturers Standardization Society **ANSI/MSS SP-69 & SP-58 (Type 24)**
Federal Specification WW-H-171E & A-A-1192A (Type 24)

Material:

Mild Steel

Finishing:

Electro galvanized as per **ASTM B633 Standards**



SD-UB:

Size	Pipe O.D.	Dimensions			
Inch	mm	D mm	C mm	F mm	G mm
½	21.3	M10	31	35	35
¾	26.7	M10	39	40	38
1	33.4	M10	45	45	40
1¼	42.1	M10	54	55	45
1½	48.3	M10	60	55	45
2	60.3	M10	72	60	45
2½	73.0	M10	86	75	55
3	88.9	M10	102	80	55
4	114.3	M10	128	95	55
6	168.3	M12	184	130	70
8	219.1	M12	239	155	70
10	273.0	M16	273	370	100
12	323.8	M16	324	420	100
14	355.6	M16	356	455	100
16	406.4	M16	406	505	100
18	457.2	M24	457	555	100
20	508.0	M24	508	605	100
24	609.6	M24	610	710	100

NOTE:

- Measurements are subject to 5% tolerance.
- Other Sizes available on request.
- U Bolt sizes can be modified to match with Rubber support inserts.
- Alternate rod sizes for different pipe sizes are also available.
- Hot Dipped Galvanized can be supplied upon request.
- Refer to UL certificates for more information.

SHIELD reserves the right to change the contents without notice.

Pipe Support

Rubber Support Insert:

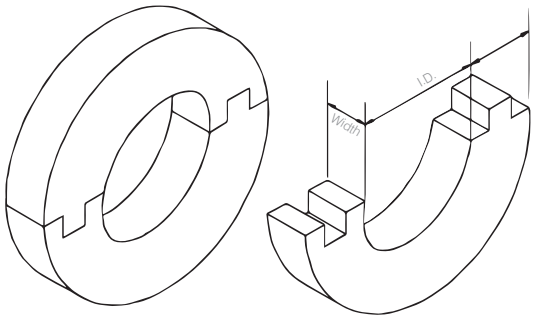
Features:

- Very high load bearing capacity
- Dimensionally accurate as each piece is moulded
- Tongue and Groove design for small sizes
- Unique DOVETAIL lock for higher sizes
- Excellent resistance to Deterioration / Distortion
- Available with steel reinforcements for higher sizes

Material:

EPDM Rubber





SD-RSI

Rubber Support Insert

SD-RSI:

Nominal Pipe Size		SCH40 Steel Pipe O.D.	Width of Rubber Support Insert	Part numbers for Rubber Support Insert Thickness							
Inch	mm	mm	mm	½" (13) Inch (mm)	¾" (19) Inch (mm)	1" (25) Inch (mm)	1¼" (32) Inch (mm)	1½" (38) Inch (mm)	2" (50) Inch (mm)	2½" (65) Inch (mm)	3" (75) Inch (mm)
½	15	21.3	25	SD-RSI13-01	SD-RSI19-01	SD-RSI25-01	SD-RSI32-01	SD-RSI38-01	SD-RSI50-01	SD-RSI65-01	SD-RSI75-01
¾	20	26.7	25	SD-RSI13-02	SD-RSI19-02	SD-RSI25-02	SD-RSI32-02	SD-RSI38-02	SD-RSI50-02	SD-RSI65-02	SD-RSI75-02
1	25	33.4	25	SD-RSI13-03	SD-RSI19-03	SD-RSI25-03	SD-RSI32-03	SD-RSI38-03	SD-RSI50-03	SD-RSI65-03	SD-RSI75-03
1¼	32	42.2	25	SD-RSI13-04	SD-RSI19-04	SD-RSI25-04	SD-RSI32-04	SD-RSI38-04	SD-RSI50-04	SD-RSI65-04	SD-RSI75-04
1½	40	48.3	25	SD-RSI13-05	SD-RSI19-05	SD-RSI25-05	SD-RSI32-05	SD-RSI38-05	SD-RSI50-05	SD-RSI65-05	SD-RSI75-05
2	50	60.3	25	SD-RSI13-06	SD-RSI19-06	SD-RSI25-06	SD-RSI32-06	SD-RSI38-06	SD-RSI50-06	SD-RSI65-06	SD-RSI75-06
2½	65	73.0	38	SD-RSI13-07	SD-RSI19-07	SD-RSI25-07	SD-RSI32-07	SD-RSI38-07	SD-RSI50-07	SD-RSI65-07	SD-RSI75-07
3	80	88.9	38	SD-RSI13-08	SD-RSI19-08	SD-RSI25-08	SD-RSI32-08	SD-RSI38-08	SD-RSI50-08	SD-RSI65-08	SD-RSI75-08
3½	90	101.6	38	SD-RSI13-09	SD-RSI19-09	SD-RSI25-09	SD-RSI32-09	SD-RSI38-09	SD-RSI50-09	SD-RSI65-09	SD-RSI75-09
4	100	114.3	38	SD-RSI13-10	SD-RSI19-10	SD-RSI25-10	SD-RSI32-10	SD-RSI38-10	SD-RSI50-10	SD-RSI65-10	SD-RSI75-10
5	125	141.3	38	SD-RSI13-11	SD-RSI19-11	SD-RSI25-11	SD-RSI32-11	SD-RSI38-11	SD-RSI50-11	SD-RSI65-11	SD-RSI75-11
6	150	168.3	50	SD-RSI13-12	SD-RSI19-12	SD-RSI25-12	SD-RSI32-12	SD-RSI38-12	SD-RSI50-12	SD-RSI65-12	SD-RSI75-12
8	200	219.1	50	SD-RSI13-13	SD-RSI19-13	SD-RSI25-13	SD-RSI32-13	SD-RSI38-13	SD-RSI50-13	SD-RSI65-13	SD-RSI75-13
10	250	273.0	50	SD-RSI13-14	SD-RSI19-14	SD-RSI25-14	SD-RSI32-14	SD-RSI38-14	SD-RSI50-14	SD-RSI65-14	SD-RSI75-14
12	300	323.8	50	SD-RSI13-15	SD-RSI19-15	SD-RSI25-15	SD-RSI32-15	SD-RSI38-15	SD-RSI50-15	SD-RSI65-15	SD-RSI75-15
14	350	355.6	50	SD-RSI13-16	SD-RSI19-16	SD-RSI25-16	SD-RSI32-16	SD-RSI38-16	SD-RSI50-16	SD-RSI65-16	SD-RSI75-16
16	400	406.4	50	SD-RSI13-17	SD-RSI19-17	SD-RSI25-17	SD-RSI32-17	SD-RSI38-17	SD-RSI50-17	SD-RSI65-17	SD-RSI75-17
18	450	457.2	50	SD-RSI13-18	SD-RSI19-18	SD-RSI25-18	SD-RSI32-18	SD-RSI38-18	SD-RSI50-18	SD-RSI65-18	SD-RSI75-18
20	500	508.0	50	SD-RSI13-19	SD-RSI19-19	SD-RSI25-19	SD-RSI32-19	SD-RSI38-19	SD-RSI50-19	SD-RSI65-19	SD-RS175-19
24	600	610.0	50	SD-RSI13-20	SD-RSI19-20	SD-RSI25-20	SD-RSI32-20	SD-RSI38-20	SD-RSI50-20	SD-RSI65-20	SD-RSI75-20

NOTE:

- Measurements are subject to 5% tolerance.
- Other Sizes available on request.
- Self extinguishing rubber Inserts also available on request.

SHIELD reserves the right to change the contents without notice.

Pipe Support

Threaded Rod:

Features:

- Designed for use as a Double end Studs with a nut on either side or as studs
- Right Handed
- Coarse Threads
- Commercial Nut Fit

Material:

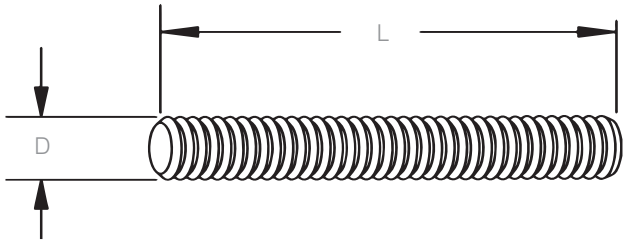
Mild Steel

Standard:

DIN 975 / DIN 976-1, steel - Property Class 4.8

Finishing:

Electro galvanized as per **ASTM B 633 Standards**

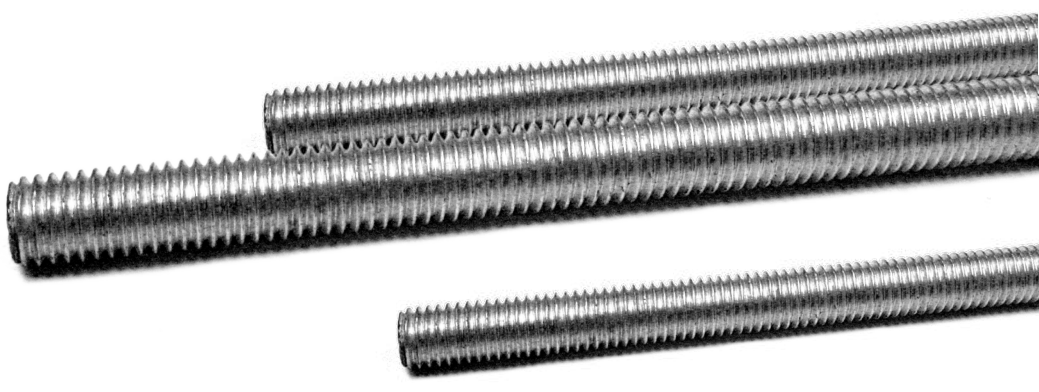


SD-TR

Threaded Rod

SD-TR:

Coarse & Fine Thread Length (L) = 1000mm, 2000mm & 3000mm											
Thread (D)	**mm**	**M4**	**M5**	**M6**	**M8**	**M10**	**M10**	**M12**	**M12**	**M14**	**M16**
Diameter	Inch	0.157	0.197	0.236	0.315	0.393	0.393	0.472	0.472	0.551	0.630
Pitch	mm	0.700	0.800	1.000	1.000	1.000	1.250	1.250	1.500	1.500	1.500
Thread (D)	**mm**	**M18**	**M20**	**M22**	**M24**	**M27**	**M30**	**M33**	**M36**	**M39**	**M42**
Diameter	Inch	0.709	0.787	0.866	0.945	1.063	1.181	1.299	1.417	1.535	1.654
Pitch	mm	1.500	1.500	1.500	2.000	2.000	2.000	2.000	3.000	3.000	3.000
Thread (D)	**mm**	**M45**	**M48**	**M52**	**M56**	**M60**	**M64**				
Diameter	Inch	1.771	1.890	2.047	2.205	2.362	2.520				
Pitch	mm	3.000	3.000	3.000	4.000	4.000	4.000				



NOTE:

- Measurements are subject to 5% tolerance.
- Other Sizes available on request.
- Left Handed is available upon request.
- Hot Dipped Galvanized can be supplied upon request.

SHIELD reserves the right to change the contents without notice.

Pipe Support

FM APPROVED

Beam Clamp (Non-Reversible):

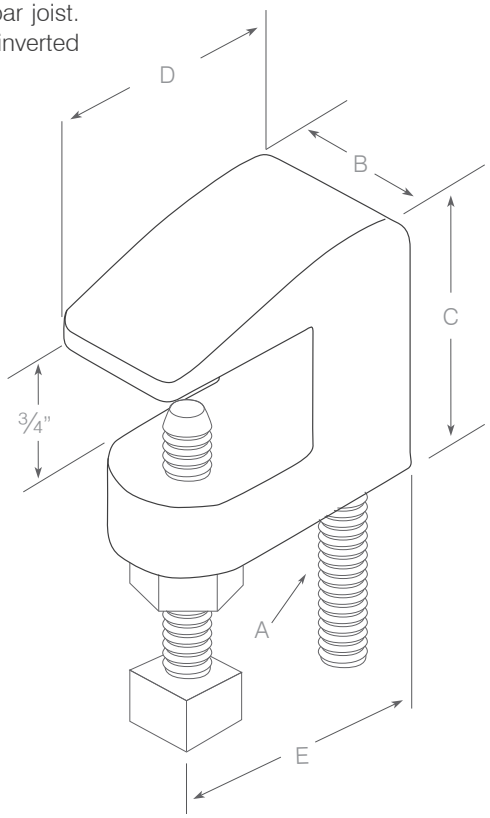
Features:
Beam Clamps are designed to clamp hanger rod to the beam's top flange or bar joist. Universal open U design allows for adjustments and permissible to use in an inverted position on the bottom flange of the beam also.

Approval:
Manufacturers Standardization Society **ANSI/MSS SP-69 (Type 19 & 23)**
Federal Specification WW-H171E (Type 23) & A-A-1192A (Type 19 & 23)
UL Listed/FM Approved.

Material:
Ductile Iron & Malleable Iron

Finishing:
Electro galvanized as per **ASTM B 633 Standards**

Models:
SD-CBC/CBCA 110 - ⅜ (10mm)
SD-CBC/CBCA 115 - ½ (12mm)
SD-CBC 210 - ⅜ (10mm)



SD-CBC

Beam Clamp (Non-Reversible)



SD-CBC:

Models	Rod Size	Dimensions				Max. Pipe Size	Max. Load
RD Inch	A Inch (mm)	B mm	C mm	D mm	E mm	Inch	Kg
SD-CBC/CBCA 110	⅜	21.00	40.00	49.0	42.00	4	250
SD-CBC/CBCA 115	½	25.00	42.50	52.0	49.00	8	750

NOTE:
- Measurements are subject to 5% tolerance.
- Other Sizes available on request.
- Left Handed is Available upon request.
- Hot Dipped Galvanized can be supplied upon request.

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Metal Washer

Standard:
DIN125

Material:
Carbon Steel/Alloy Steel

Finishing:
Electro galvanized as per **ASTM B633 Standards**



SD-W:

Nominal Washers	Nominal Thread	Inside Diameter (d) mm		Outside Diameter (d) mm		Thickness		
mm	mm	Min.	Max.	Min.	Max.	Nominal	Min.	Max.
1.7	1.6	1.7	1.84	3.70	4	0.3	0.25	0.35
1.8	1.7	1.8	1.94	4.20	4.5	0.3	0.25	0.35
2.2	2	2.2	2.34	4.70	5	0.3	0.25	0.35
2.5	2.3	2.5	2.64	5.70	6	0.5	0.45	0.55
2.7	2.5	2.7	2.84	5.70	6	0.5	0.45	0.55
2.8	2.6	2.8	2.94	6.64	7	0.5	0.45	0.55
3.2	3	3.2	3.38	6.64	7	0.5	0.45	0.55
3.7	3.5	3.7	3.88	7.64	8	0.5	0.7	0.55
4.3	4	4.3	4.48	8.64	9	0.8	0.9	0.9
5.3	5	5.3	5.48	9.64	10	1	1.4	1.1
6.4	6	6.4	6.62	11.57	12	1.6	1.4	1.8
7.4	7	7.4	7.62	13.57	14	1.6	1.4	1.8
8.4	8	8.4	8.62	15.57	16	1.6	1.8	1.8
10.5	10	10.5	10.77	19.48	20	2	2.3	2.2
13	12	13	13.27	23.48	24	2.5	2.3	2.7
15	14	15	15.57	27.48	28	2.5	2.7	2.7
17	16	17	17.27	29.48	30	3	2.7	3.3
19	18	19	19.33	33.38	34	3	2.7	3.3
21	20	21	21.33	36.38	37	3	2.7	3.3
23	22	23	23.33	38.38	39	3	3.7	3.3
25	24	25	25.33	43.38	44	4	3.7	4.3
27	26	27	27.33	49.38	50	4	3.7	4.3
28	27	28	28.33	49.38	50	4	3.7	4.3
29	28	29	29.33	49.38	50	4	3.7	4.3
31	30	31	31.39	55.26	56	4	4.4	4.3
33	32	33	33.62	58.80	60	5	4.4	5.6
34	33	34	34.62	58.80	60	5	4.4	5.6
36	35	36	36.62	64.80	66	5	4.4	5.6
37	36	37	37.62	64.80	66	5	4.4	5.6
39	38	39	39.62	70.80	72	6	5.4	6.6

NOTE:
- Measurements are subject to 5% tolerance.
- Other Sizes available on request.
- Hot Dipped Galvanized can be supplied upon request.

SHIELD reserves the right to change the contents without notice.

Pipe Support

Hex Nut

Standard:
DIN934

Material:
Carbon Steel/Alloy Steel

Finishing:
Electro galvanized as per **ASTM B633 Standards**



SD-HN:

Nominal Size	Thread Pitch	Thickness M mm		Width Across Flat S mm		Width Across Corners E mm
mm	mm	Min.	Max.	Min.	Max.	Min.
M4	0.7	2.9	3.2	6.78	7	7.66
M5	0.8	3.7	4	7.78	8	8.79
M6	1	4.7	5	9.78	10	11.05
M7	1	5.2	5.5	10.73	11	12.12
M8	1.25	6.14	6.5	12.73	13	14.38
M10	1.5	7.64	8	16.73	17	18.9
M12	1.75	9.64	10	18.67	19	21.1
M14	2	10.3	11	21.67	22	24.49
M16	2	12.3	13	23.67	24	26.75
M18	2.5	14.3	15	26.16	27	29.56
M20	2.5	14.9	16	29.16	30	32.95
M22	2.5	16.9	18	31	32	35.03
M24	3	17.7	19	35	36	39.55
M27	3	20.7	22	40	41	45.20
M30	3.5	22.7	24	45	46	50.85
M33	3.5	24.7	26	49	50	55.37
M36	4	27.4	29	53.8	55	60.79
M39	4	29.4	31	58.8	60	66.44

NOTE:
- Measurements are subject to 5% tolerance.
- Other Sizes available on request.
- Hot Dipped Galvanized can be supplied upon request.

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Pipe Support

Hex Bolt



Standard:
DIN933

Material:
Carbon Steel/Alloy Steel

Grade:
4.8, 6.8 & 8.8

Finishing:
Electro galvanized as per **ASTM B633 Standards**

SD-HBT:

Nominal Size mm	Thread Pitch mm	Head Height K mm		Width Across Flat S mm		Width Across Corners E mm
		Min.	Max.	Min.	Max.	Min.
M4	0.7	2.6	3	6.64	7	7.5
M5	0.8	3.26	3.74	7.64	8	8.63
M6	1	3.76	4.24	9.64	10	10.89
M7	1	4.56	5.04	10.57	11	11.94
M8	1.25	5.06	5.54	12.57	13	14.2
M10	1.5	6.11	6.69	16.57	17	18.72
M12	1.75	7.21	7.79	18.84	19	20.88
M14	2	8.51	9.09	21.16	22	23.91
M16	2	9.71	10.29	23.16	24	26.17
M18	2.5	11.15	11.85	26.15	27	29.56
M20	2.5	12.15	12.85	29.16	30	32.95
M22	2.5	13.65	14.35	31	32	35.03
M24	3	14.65	15.35	35	36	39.55
M27	3	16.65	17.35	40	41	45.2
M30	3.5	18.28	19.12	45	46	50.85
M33	3.5	20.58	21.42	49	50	55.37
M36	4	22.08	22.92	53.8	55	60.79
M39	4	24.58	25.42	58.8	60	66.4

NOTE:
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- Other Sizes available on request.
- Hot Dipped Galvanized can be supplied upon request.

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For further information on any aspect of the SHIELD range of Steel Pipes and Fittings please contact your nearest office.

United Kingdom
Unit 3, Endeavour Drive,
Basildon-Essex, SS14 3WF,
United Kingdom.
Email: shielduk@shieldglobal.com
Tel: +44 1708 377731
Fax: +44 1708 347637

Middle East & Africa
Jebel Ali Free Zone, Dubai, UAE
Email: shieldme@shieldglobal.com
Tel: +971 4 881 2070
Fax: +971 4 881 2198

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