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HIGH PRESSURE FORGED STEEL FITTINGS SOCKET WELD TYPE

Member of CISQ Federation



CERTIFIED MANAGEMENT SYSTEM
ISO 9001

Member of CISQ Federation



CERTIFIED MANAGEMENT SYSTEM
ISO 9001

STEEL FITTINGS FOR HIGH PRESSURE SERVICE

A. TYPE

Forged fittings production includes the following range:

90° and 45° Elbows Tees Crosses	Couplings Red. Couplings Half Couplings	Bosses Caps
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B. DIMENSIONS

Sockets dimensions are in accordance with **ASME B16.11 e BS3799**.
Socket weld fittings are supplied in accordance with classes 3000 - 6000 - 9000.
The relation between fitting class and the pipe schedule is as follows:

Class	3000	Schedule	80 / XS
Class	6000	Schedule	160
Class	3000	Schedule	XXS

C. MATERIAL

ASTM A105	Carbon Steel Forgings.
ASTM A182	Forged or Rolled Alloy-Steel Forged Fittings.
ASTM A350	Carbon and Low-Alloy Steel Forgings.
ASTM B564	Nickel Alloy Forgings.

D. MARKING

ASME	B16.11	Forged Fittings Socket-Welding and Threaded.
BSI	BS.3799	Steel Pipe Fittings threaded and socket-welding.
MSS	SP25	Standard Marking System.
ASTM		A 105-A182-A350-B564

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STEEL FITTINGS FOR HIGH PRESSURE SERVICE

E. DOCUMENTS & CERTIFICATES

EN 10204 3.1

F. SURFACE AND PROTECTIVE TREATMENTS

Carbon Steel fittings	Phosphatizing treatment - Oil treatment
Alloy and low alloy fittings	Oil treatment
Stainless Steel fittings	Pickling treatment

ARC zinc-coated	According to ASTM B633
Hot dip Galvanizing	according to ASTM A153

G. PACKING

H. ORDER INSTRUCTIONS

In order to achieve a better service, customers are kindly requested to clearly indicate the following information in the order as per set below:

Parameter name	Value (examples)
Quantity	N°25
Type of product	90° ELBOWS
Dimension	1.1/2"
Class designation	3000
Threading normative and type	Socket weld (SW)
Material type and grade	ASTM A182 - Gr. F316L
Dimension normative	ASME B16.11
Normative for protective coating	ASTM A153 - Hot dip Galvanizing
Type of certification	EN 10204 3.1
request for specific certification by external Bodies	

I. USEFUL INFORMATION

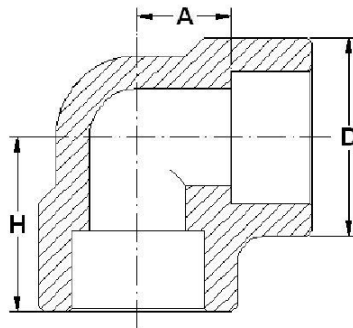
MAINTENANCE

- Keep supplied pieces in the IML original packing
- Do not store pieces in damp areas
- Do not store pieces in contact with water

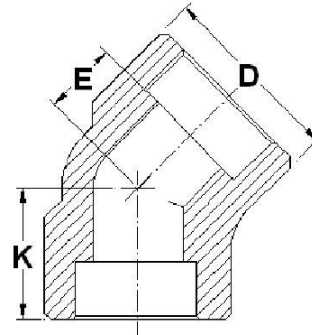
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STEEL FITTINGS FOR HIGH PRESSURE SERVICE



90° ELBOW



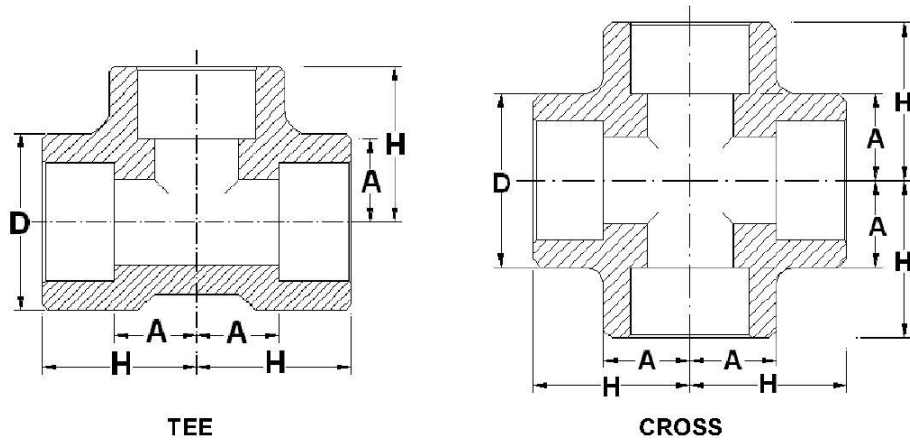
45° ELBOW

CLASS DESIGN.	NOMINAL SIZE		1/4"	3/8"	1/2"	3/4"	1"	1.1/4"	1.1/2"	2"	2.1/2"	3"	4"	
3000	D	MM	26	26	33	38	46	56	62	76	92	110	146	
		INCH	1.02	1.02	1.30	1.50	1.81	2.20	2.44	2.99	3.62	4.33	5.75	
	H	MM	25	25	29	34	38	45	51	60	76	85	106	
		INCH	0.98	0.98	1.14	1.34	1.50	1.77	2.01	2.36	2.99	3.35	4.17	
	A	MM	11	14	16	19	22	27	32	38	54	57	67	
		INCH	0.43	0.55	0.63	0.75	0.87	1.06	1.26	1.50	2.12	2.24	2.64	
	K	MM	18	20	23	26	29	33	37	43	52	62	76	
		INCH	0.71	0.79	0.91	1.02	1.14	1.30	1.46	1.69	2.05	2.44	2.99	
	E	MM	8	9	11	13	15	17	21	26	29	32	41	
		INCH	0.31	0.35	0.43	0.51	0.59	0.67	0.83	1.02	1.14	1.26	1.51	
	6000	D	MM	26	33	38	46	56	62	76	84	102	121	
			INCH	1.02	1.30	1.50	1.81	2.20	2.44	2.99	3.31	4.02	4.76	
H		MM	25	29	34	38	45	51	60	63	82	95		
		INCH	0.98	1.14	1.34	1.50	1.77	2.01	2.362	2.48	3.23	3.74		
A		MM	14	16	19	22	27	32	38	41	57	64		
		INCH	0.55	0.63	0.75	0.87	1.06	1.26	1.50	1.61	2.24	2.52		
K		MM	20	23	26	29	33	37	43	47	56	66		
		INCH	0.79	0.91	1.02	1.14	1.30	1.46	1.69	1.85	2.20	2.60		
E		MM	8	11	13	15	17	21	26	29	32	41		
		INCH	0.31	0.43	0.51	0.59	0.67	0.83	1.02	1.14	1.26	1.61		

DIMENSIONS IN INCHES
WEIGHTS:SEE APPENDIX PAGE 3

IN ACCORDANCE WITH ANSI-ASME B16.11/BS 3799
CLASS 9000 FITTINGS WILL BE SUPPLIED ON REQUEST

STEEL FITTINGS FOR HIGH PRESSURE SERVICE

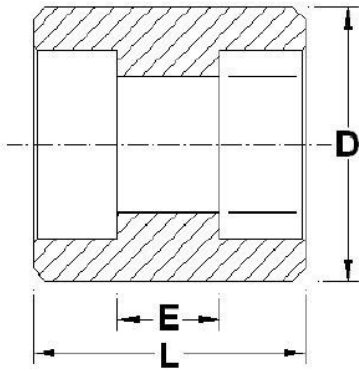


CLASS DESIGN.	NOMINAL SIZE												
		1/4"	3/8"	1/2"	3/4"	1"	1.1/4"	1.1/2"	2"	2.1/2"	3"	4"	
3 0 0 0	D	MM	26	26	33	38	46	56	62	76	92	110	146
		INCH	1.02	1.02	1.30	1.50	1.81	2.20	2.44	2.99	3.62	4.33	5.75
	H	MM	25	25	29	34	38	45	51	60	76	85	106
		INCH	0.98	0.98	1.14	1.34	1.50	1.77	2.01	2.36	2.99	3.35	4.17
	A	MM	11	14	16	19	22	27	32	38	54	57	67
		INCH	0.43	0.55	0.63	0.75	0.87	1.06	1.26	1.50	2.12	2.24	2.64
6 0 0 0	D	MM	26	33	38	46	56	62	76	84	102	121	
		INCH	1.02	1.30	1.50	1.81	2.20	2.44	2.99	3.30	4.02	4.76	
	H	MM	25	29	34	38	45	51	60	63	82	95	
		INCH	0.98	1.14	1.34	1.50	1.77	2.01	2.36	2.48	3.23	3.74	
	A	MM	14	16	19	22	27	32	38	41	57	64	
		INCH	0.55	0.63	0.75	0.87	1.06	1.26	1.50	1.61	2.24	2.52	

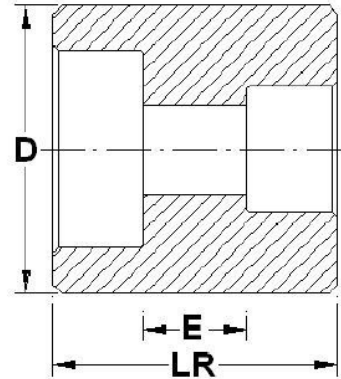
DIMENSIONS IN INCHES
WEIGHTS: SEE APPENDIX PAGE 3

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COUPLING



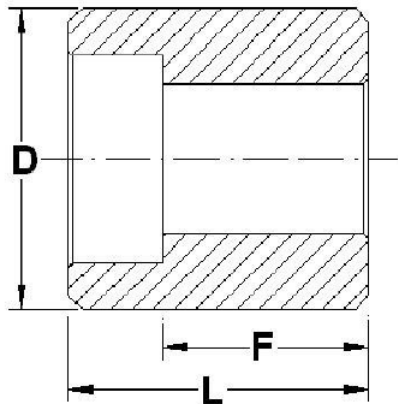
REDUCING COUPLING

CLASS DESIGN	NOMINAL SIZE		1/4"	3/8"	1/2"	3/4"	1"	1.1/4"	1.1/2"	2"	2.1/2"	3"	4"	
3000	D	mm	18	22	26	32	38	46	55	62	76	92	110	138
		INCH	0.71	0.87	1.02	1.26	1.5	1.81	2.16	2.44	2.99	3.62	4.33	5.43
6000	D	mm				35	42	51	60	68	84	95	115	
		INCH				1.38	1.65	2.01	2.36	2.68	3.31	3.74	4.53	
3000	E	mm	6.5	6.5	6.5	11	11	15	16	17	19	19	19	19
		INCH	0.26	0.26	0.26	0.43	0.43	0.59	0.63	0.67	0.75	0.75	0.75	0.75
	L	mm	26.5	26.5	26.5	31	37	41	42	43	51	51	51	57
		INCH	1.04	1.04	1.04	1.22	1.46	1.61	1.65	1.69	2.01	2.01	2.01	2.24
	1/8"	mm		26.5	26.5									
		INCH		1.04	1.04									
	1/4"	mm			26.5	30	34							
		INCH			1.04	1.18	1.34							
	3/8"	mm				30	34	38						
		INCH				1.18	1.34	1.5						
	1/2"	mm					34	41	39	36	48			
		INCH					1.34	1.61	1.53	1.42	1.89			
	3/4"	mm						41	42	39	48			
		INCH						1.61	1.65	1.53	1.89			
	1"	mm							42	39	48			
		INCH							1.65	1.53	1.89			
1.1/4"	mm								39	48				
	INCH								1.53	1.89				
1.1/2"	mm									48				
	INCH									1.89				
2"	mm													
	INCH													

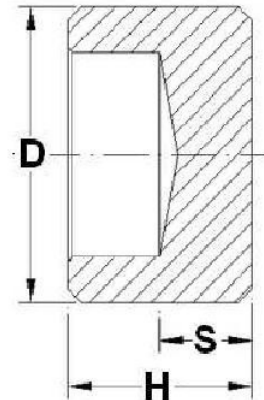
DIMENSIONS IN INCHES
WEIGHTS: SEE APPENDIX PAGE 3

IN ACCORDANCE WITH ANSI-ASME B16.11/BS 3799
CLASS 9000 FITTINGS WILL BE SUPPLIED ON REQUEST

STEEL FITTINGS FOR HIGH PRESSURE SERVICE



HALF COUPLING



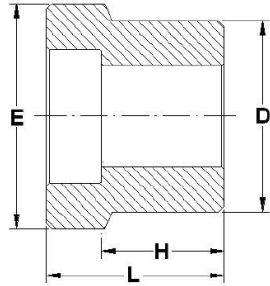
CAP

CLASS DESIGN.	NOMINAL SIZE		1/4"	3/8"	1/2"	3/4"	1"	1.1/4"	1.1/2"	2"	2.1/2"	3"	4"	
3 0 0 0	D	mm	22	26	32	38	46	55	62	76	92	110	138	
		INCH	0.87	1.02	1.26	1.5	1.81	2.16	2.44	2.99	3.62	4.33	5.43	
	F	mm	16	17.5	21	24	28	29	30	41	43	44.5	48	
		INCH	0.63	0.69	0.83	0.94	1.1	1.14	1.18	1.61	1.69	1.75	1.89	
	L	mm	26	27.5	31	37	41	42	43	57	59	60.5	67	
		INCH	1.02	1.08	1.22	1.46	1.61	1.65	1.69	2.24	2.32	2.38	2.64	
	S	mm	7	7	8	10	12	13	15	18	21	24		
		INCH	0.28	0.28	0.31	0.39	0.47	0.51	0.59	0.71	0.83	0.94		
	H	mm	17.5	17.5	20	25	27	28	30	36	37	40		
		INCH	0.69	0.69	0.79	0.98	1.06	1.1	1.18	1.42	1.46	1.57		
	6 0 0 0	D	mm			35	42	51	60	68	84	95	115	
			INCH			1.38	1.65	2.01	2.36	2.68	3.31	3.74	4.53	
F		mm			21	24	28	29	30	41	43	44.5		
		INCH			0.83	0.94	1.1	1.14	1.18	1.61	1.69	1.75		
L		mm			31	37	41	42	43	57	59	60.5		
		INCH			1.22	1.46	1.61	1.65	1.69	2.24	2.32	2.38		
S		mm			12	13	15	18	20	24	29	34		
		INCH			0.47	0.51	0.59	0.71	0.79	0.94	1.14	1.34		
H		mm			23.5	26	28	33	35	40	45	50		
		INCH			0.92	1.02	1.1	1.3	1.38	1.57	1.77	1.97		

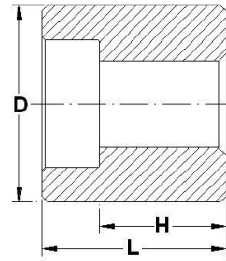
DIMENSIONS IN INCHES
WEIGHTS: SEE APPENDIX PAGE 3

IN ACCORDANCE WITH ANSI-ASME B16.11/BS 3799
CLASS 9000 FITTINGS WILL BE SUPPLIED ON REQUEST

STEEL FITTINGS FOR HIGH PRESSURE SERVICE



REDUCING INSERT TYPE 1



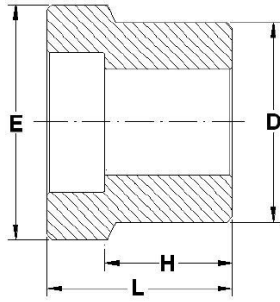
REDUCING INSERT TYPE 2

NOMINAL SIZE	RED. SIZE	CLASS DESIGNATION											
		3000					6000						
		TYPE	D	H	L	E	TYPE	D	H	L	E		
1/2"	1/8"	2	MM 21.33	MM	16	26		2	MM 21.33	MM	25	35	
				INCH	0.63	1.02				INCH	0.98	1.38	
	3/8"	1	MM	23	33	22	1	MM	30	40	24		
				INCH	0.91	1.3			0.87	INCH	1.18	1.57	0.94
		1	INCH 0.84	MM	24	34	26	1	MM	30	40	28	
				INCH	0.94	1.34	1.02			INCH	1.18	1.57	1.1
3/4"	1/4"	2	MM 26.67	MM	16	26		2	MM 26.67	MM	26	36	
				INCH	0.63	1.02				INCH	1.02	1.42	
	3/8"	2	MM	18	28		1	MM	32	42	28		
				INCH	0.71	1.1				INCH	1.26	1.65	1.1
		1	INCH 1.05	MM	26	36	32	1	MM	32	42	35	
				INCH	1.02	1.42	1.26			INCH	1.26	1.65	1.38
1"	1/4"	2	mm 33.4	MM	20	30		2	MM 33.4	MM	28	38	
				INCH	0.79	1.18				INCH	1.1	1.5	
	3/8"	2	MM	20	30		2	MM	28	38			
				INCH	0.79	1.18				INCH	1.1	1.5	
		2	INCH 1.315	MM	22	32		1	MM	31	41	35	
				INCH	0.87	1.26				INCH	1.22	1.61	1.38
3/4"	1	MM	27	40	38	1	MM	35	48	42			
			INCH	1.06	1.57			1.5	INCH	1.38	1.89	1.65	
1.1/4"	1/2"	2	MM 42.16	MM	24	34		2	MM 42.16	MM	35	45	
				INCH	0.94	1.34				INCH	1.38	1.77	
	3/4"	2	MM	23	36		2	MM	29	42			
				INCH	0.91	1.42				INCH	1.14	1.65	
		1	INCH 1.66	MM	29	42	46	1	MM	37	50	51	
				INCH	1.14	1.65	1.81			INCH	1.46	1.97	2.01
1.1/2"	1/2"	2	MM 48.26	MM	25	35		2	MM 48.26	MM	38	48	
				INCH	0.98	1.38				INCH	1.5	1.89	
	3/4"	2	MM	22	35		2	MM	30	43			
				INCH	0.87	1.38				INCH	1.18	1.69	
		2	INCH 1.9	MM	23	26		1	MM	41	54	51	
				INCH	0.91	1.02				INCH	1.61	2.13	2.01
1.1/4"	1	MM	34	47	55	1	MM	41	54	60			
			INCH	1.34	1.85			2.16	INCH	1.61	2.13	2.36	

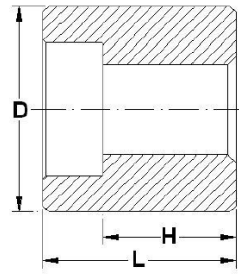
DIMENSIONS IN INCHES AND mm
WEIGHTS:SEE APPENDIX PAGE 6-7

IN ACCORDANCE WITH MSS SP 79

STEEL FITTINGS FOR HIGH PRESSURE SERVICE



REDUCING INSERT TYPE 1



REDUCING INSERT TYPE 2

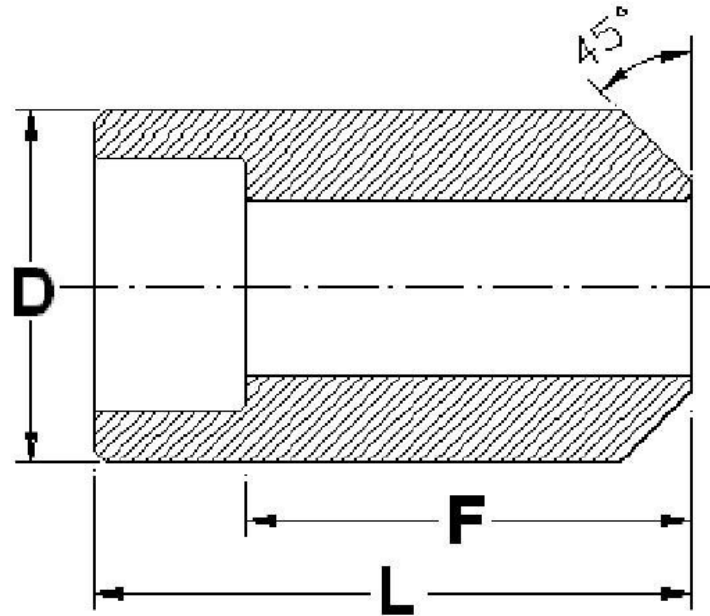
NOMINAL SIZE	RED. SIZE	CLASS DESIGNATION											
		3000					6000						
		TYPE	D	H	L	E	TYPE	D	H	L	E		
2"	1/2"	2	MM 60.32	MM	30	40		2	MM 60.32	MM	39	49	
				INCH	1.18	1.57				INCH	1.53	1.93	
	3/4"	2	MM 60.32	MM	27	40		2	MM 60.32	MM	36	49	
				INCH	1.06	1.57				INCH	1.42	1.93	
	1"	2	MM 60.32	MM	25	38		2	MM 60.32	MM	36	49	
				INCH	0.98	1.5				INCH	1.42	1.93	
	1.1/4"	2	INCH 2.375	MM	25	38		2	INCH 2.375	MM	36	49	
				INCH	0.98	1.5				INCH	1.42	1.93	
	1.1/2"	1	INCH 2.375	MM	34	47	62	1	INCH 2.375	MM	43	56	68
				INCH	1.34	1.85	2.44			INCH	1.69	2.2	2.68
2.1/2"	3/4"	2	MM 73.02	MM	40	54		2	MM 73.02	MM			
				INCH	1.56	2.12				INCH			
	1"	2	MM 73.02	MM	38	54		2	MM 73.02	MM			
				INCH	1.5	2.12				INCH			
	1.1/4"	2	MM 73.02	MM	37	54		2	MM 73.02	MM			
				INCH	1.44	2.12				INCH			
	1.1/2"	2	INCH 2.875	MM	35	54		2	INCH 2.875	MM			
				INCH	1.38	2.12				INCH			
	2"	1	INCH 2.875	MM	46	62	69	1	INCH 2.875	MM	43	59	72.3
				INCH	1.81	2.44	2.71			INCH	1.69	2.32	2.85
3"	1"	2	MM 88.9	MM	32	48		2	MM 88.9	MM			
				INCH	1.25	1.87				INCH			
	1.1/4"	2	MM 88.9	MM	30	48		2	MM 88.9	MM			
				INCH	1.19	1.87				INCH			
	1.1/2"	2	MM 88.9	MM	29	48		2	MM 88.9	MM			
				INCH	1.12	1.87				INCH			
	2"	2	INCH 3.5	MM	25	48		2	INCH 3.5	MM			
INCH				1	1.87		INCH						
2.1/2"	1	INCH 3.5	MM	38	54	83	1	INCH 3.5	MM	38	54	83	
			INCH	1.5	2.12	3.26			INCH	1.5	2.12	3.26	
4"	1.1/4"	2	114.3	MM	43	60		2	114.3	MM	43	60	
				INCH	1.69	2.38				INCH	1.69	2.38	
	1.1/2"	2	114.3	MM	42	60		2	114.3	MM	42	60	
				INCH	1.62	2.38				INCH	1.62	2.38	
	2"	2	114.3	MM	38	60		2	114.3	MM	38	60	
				INCH	1.5	2.38				INCH	1.5	2.38	
	2.1/2"	2	INCH 4.5	MM	38	60		2	INCH 4.5	MM	38	60	
INCH				1.5	2.38		INCH			1.5	2.38		
3"	2	INCH 4.5	MM	33	60		2	INCH 4.5	MM	33	60		
			INCH	1.31	2.38				INCH	1.31	2.38		

DIMENSIONS IN INCHES AND mm
WEIGHTS: SEE APPENDIX PAGE 6-7
IN ACCORDANCE WITH MSS SP 97

Member of CISQ Federation



STEEL FITTINGS FOR HIGH PRESSURE SERVICE



BOSS

CLASS DESIGN.	NOMINAL SIZE		1/4"	3/8"	1/2"	3/4"	1"	1.1/2"	2"
3 0 0 0	D	MM	21	25	30	36	45	61	74
		INCH	0.83	0.98	1.18	1.42	1.77	2.40	2.91
	L	MM	42	45	51	51	51	51	51
		INCH	1.65	1.77	2.01	2.01	2.01	2.01	2.01
	F	MM	32	34	38	36.5	35	32	29
		INCH	1.26	1.34	1.5	1.44	1.38	1.26	1.14
6 0 0 0	D	MM			33	40	49	65	80
		INCH			1.30	1.57	1.93	2.56	3.15
	L	MM			51	51	51	51	51
		INCH			2.01	2.01	2.01	2.01	2.01
	F	MM			38	38	35	32	29
		INCH			1.5	1.5	1.38	1.26	1.14

DIMENSIONS IN INCHES
WEIGHTS:SEE APPENDIX PAGE 3

IN ACCORDANCE WITH BS 3799