

MEXFLOW[®]

Quality & Dependability

DISCOVER PIPELINE



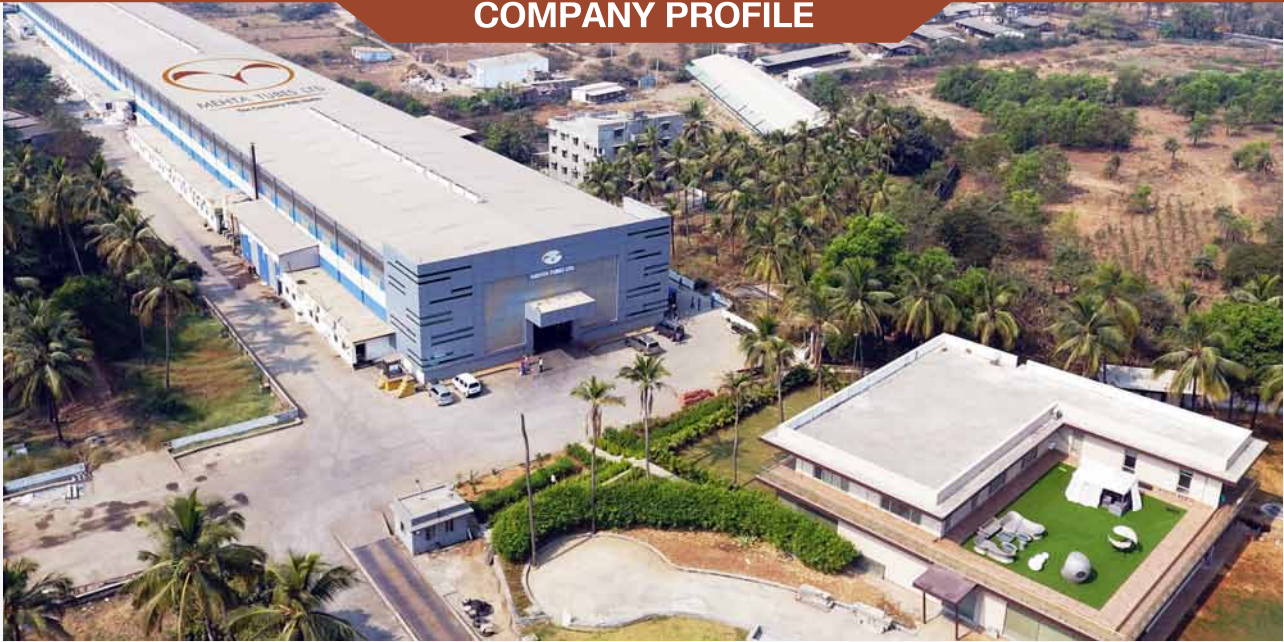
That Sets The Trend.



MEHTA TUBES LTD.

The Company With Mettle

COMPANY PROFILE

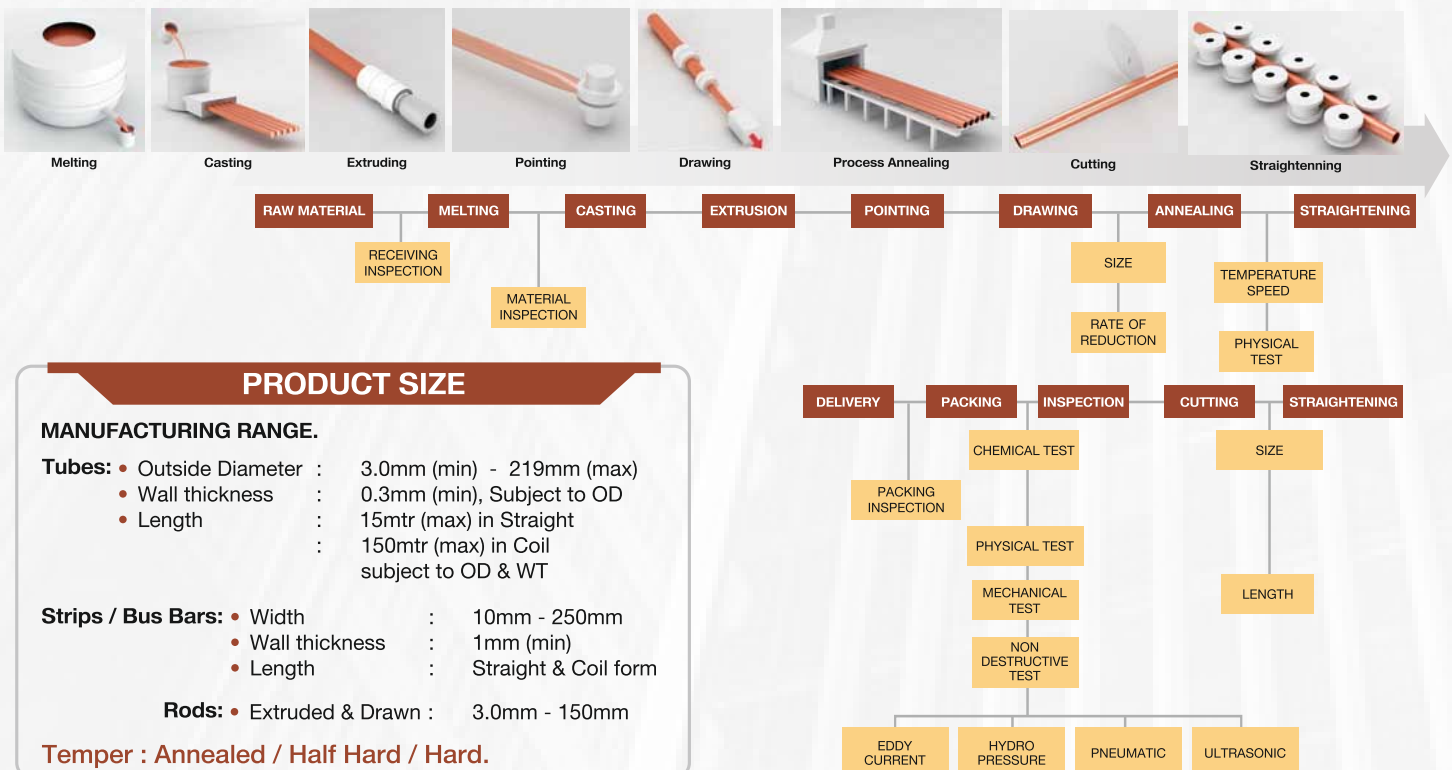


Since our Inception in 1984, we have always evolved keeping in mind the requirement of the industry. Our constant endeavor to innovate & meet high standards of quality has retained our Global Leadership in Copper & Copper Alloy products with **ISO 9001** Certification & Star Trading House Status.

We have transformed into our New Shell & Set up one of the largest state of the art manufacturing unit in India. With our changing look we are also changing the face of the Umbergaon, Gujarat contributing to the Rapid Development in this Beach Town.

We are Mehta Group **The Radiant Star of the Indian Copper Industry.**

MANUFACTURING PROCESS



Technical Specification of **MEXFLOW**® Copper Pipes for Plumbing, Water Gas & Sanitation

STANDARD FEATURES

- Cu-DHP Grade Copper
- BSI KITEMARK & NSF CERTIFIED
- 6mm (1/4") - 54mm (2") available in R250 (half-hard) Condition, Suitable for Cold Bending and forming
- 6mm (1/4") - 159MM (6") available in R290 (hard) Condition
- Available in 3m / 5.5m / 5.8m / 6m in Straight Lengths

TYPICAL APPLICATIONS

- Drinking Water
- Central Heating
- Sanitation
- Hot and Cold Water
- Gas
- Various Engineering

SPECIFICATIONS

- BS 2871 PART - 1 or EN 1057
- ASTM B 88 TYPE K / L / M
- ASTM B 306

MECHANICAL PROPERTIES

SPECIFICATION	CHEMISTRY		COPPER GRADE	TEMPER	
TEST METHOD	Optical Emission Spectra				
EN 1057	Cu + Ag: min. 99.90%	P: 0.015% to 0.040%	Cu-DHP or CW024A	R220	annealed
				R250	half hard
				R290	hard
ASTM B 88	Cu + Ag: min. 99.90%	P: 0.015% to 0.040%	C12200, Cu-DHP	Annealed, Coils & Straight	O60
				Annealed, Straight Lengths	O50
				Drawn, Straight Lengths	H58
ASTM B 306	Cu + Ag: min. 99.90%	P: 0.015% to 0.040%	C12200, Cu-DHP	Drawn, Straight Lengths	H58

SPECIFICATION	Tensile Strength	Elongation		Hardness	Carbon Residues	Grain Size
TEST METHOD	MPa	%		Hv5	mg / dm ²	
EN 1057	EN 10002-1	40 min.		EN ISO 6507-1	EN 723	
	220 min.			40 to 70	0,2	
	250 min.	D < 66.70 & T < 1mm - 30 min.	D > 66.70 & T > 1mm - 20 min.	75 to 100	0,2	
	290 min.	3 min.		100 min.	Upto 54mm - 0,20 Above 54mm - 1,0	
ASTM B 88	ASTM E 8			E 18		E 2, E 3, E 112
	ksi = 1000psi	%		Rockwell		mm
	30min.			F - 50max.		0.040min.
	30min.			F - 55max.		0.025min.
ASTM B 306	ASTM E 8			E 18		-
	40 Ksi Min			30T - 30min.		

SPECIFICATION	BENDING TEST	DRIFT EXPANDING TEST	NON DESTRUCTIVE TEST	
TEST METHOD	EN ISO 8491	EN ISO 8493	EN 1971	
EN 1057	-	Upto > 18mm - MANDATORY	EDDY CURRENT	Up to 159 mm OD
	-	Upto > 18mm - MANDATORY		
	Upto > 18mm - MANDATORY	-		
ASTM B 88		B 153	ASTM E 243	
		D > 5/8" 40%, D > 5/8" 30%	EDDY CURRENT	up to 31/8" OD
		D > 5/8" 40%, D > 5/8" 30%	HYDROSTATIC TEST	35/8" OD and Above
ASTM B 306			ASTM E 243	
			EDDY CURRENT	up to 31/8" OD
			HYDROSTATIC TEST	35/8" OD and Above



DIMENSIONS & PRESSURE RATING

EN 1057

TABLE - X										TABLE - Y					
Actual O.D.	THK	THK Tol.		WT / MTR	SAFE WORKING PRESSURE	SAFE WORKING PRESSURE	SAFE WORKING PRESSURE	THK	Thk Tol.		WT / MTR	SAFE WORKING PRESSURE	SAFE WORKING PRESSURE	SAFE WORKING PRESSURE	
mm	MM	+/- (mm)	min -thk	KG	Annealed kPa	1/2 HARD kPa	HARD kPa	MM	+/- (mm)	Min thk (mm)	KG	Annealed kPa	1/2 HARD kPa	HARD kPa	
15.00	0.7	0.07	0.63	0.281	3,596	4,938	6,173	1.0	0.13	0.87	0.393	5,032	6,911	8,639	
22.00	0.9	0.09	0.81	0.534	3,139	4,310	5,388	1.2	0.18	1.02	0.701	3,984	5,471	6,839	
28.00	0.9	0.09	0.81	0.685	2,450	3,365	4,206	1.2	0.18	1.02	0.904	3,104	4,263	5,329	
35.00	1.2	0.12	1.08	1.140	2,618	3,595	4,494	1.5	0.225	1.275	1.412	3,104	4,263	5,329	
42.00	1.2	0.12	1.08	1.376	2,172	2,983	3,729	1.5	0.225	1.275	1.707	2,574	3,535	4,419	
54.00	1.2	0.12	1.08	1.780	1 682	2 309	2 887	2.0	0.30	1.70	2.922	2,672	3,670	4,587	
66.70	1.2	0.18	1.02	2.209		1,759	2,199	2.0	0.30	1.70	3.636		2,956	3,695	
76.10	1.5	0.225	1.275	3.144		1,930	2,412	2.0	0.30	1.70	4.164		2,584	3,231	
88.90			-			-	-	2.0	0.30	1.70	4.884		2,207	2,758	
108.00	1.5	0.225	1.275	4.489		1,354	1,693	2.5	0.375	2.125	7.411		2,271	2,839	
133.00	1.5	0.225	1.275	5.543		1,098	1,372	3.0	0.45	2.55	10.959		2,212	2,766	
159.00	2.0	0.30	1.70	8.823		1,225	1,532	3.0	0.45	2.55	13.151		1,846	2,307	

ASTM B 88

Nominal O.D.	Type K									Type L							
	Actual O.D.				THK	ToL.	THK	Min Thk	Weight / MTR	SAFE WORKING PRESSURE	SAFE WORKING PRESSURE	Thk	ToL.	THK	Min Thk	WT / MTR	SAFE WORKING PRESSURE
inch	inch	inch	mm	inch	+/- (inch)	mm	inch	KG	Annealed kPa	HARD kPa	inch	+/- (inch)	mm	inch	kg	Annealed kPa	HARD kPa
1/4"	3/8"	0.375	9.525	0.035	0.0035	0.889	0.032	0.216	7,405	12,756	0.030	0.003	0.762	0.027	0.188	6,288	10,818
3/8"	1/2"	0.500	12.700	0.049	0.005	1.245	0.044	0.401	7,791	13,418	0.035	0.004	0.889	0.031	0.295	5,371	9,246
1/2"	5/8"	0.625	15.875	0.049	0.005	1.245	0.044	0.512	6,143	10,577	0.040	0.004	1.016	0.036	0.424	4,978	8,564
5/8"	3/4"	0.750	19.050	0.049	0.005	1.245	0.044	0.623	5,075	8,729	0.042	0.004	1.067	0.038	0.539	4,351	7,488
3/4"	7/8"	0.875	22.225	0.065	0.006	1.651	0.059	0.954	5,875	10,108	0.045	0.004	1.143	0.041	0.677	4,013	6,909
1"	1 1/8"	1.125	28.575	0.065	0.006	1.651	0.059	1.249	4,516	7,764	0.050	0.005	1.270	0.045	0.974	3,406	5,861
1 1/4"	1 3/8"	1.375	34.925	0.065	0.006	1.651	0.059	1.544	3,668	6,302	0.055	0.006	1.397	0.049	1.316	3,027	5,206
1 1/2"	1 5/8"	1.625	41.275	0.072	0.007	1.829	0.065	2.027	3,406	5,861	0.060	0.006	1.524	0.054	1.702	2,813	4,840
2"	2 1/8"	2.125	53.975	0.083	0.008	2.108	0.075	3.073	2,999	5,151	0.070	0.007	1.778	0.063	2.608	2,510	4,309
2 1/2"	2 5/8"	2.625	66.675	0.095	0.01	2.413	0.085	4.357	2,744	4,716	0.080	0.008	2.032	0.072	3.691	2,317	3,978
3"	3 1/8"	3.125	79.375	0.109	0.011	2.769	0.098	5.960	2,655	4,564	0.090	0.009	2.286	0.081	4.952	2,186	3,758
3 1/2"	3 5/8"	3.625	92.075	0.120	0.012	3.048	0.108	7.625	2,524	4,330	0.100	0.010	2.540	0.090	6.390	2,096	3,599
4"	4 1/8"	4.125	104.775	0.134	0.013	3.404	0.121	9.695	2,482	4,261	0.110	0.011	2.794	0.099	8.007	2,020	3,475
5"	5 1/8"	5.125	130.175	0.160	0.016	4.064	0.144	14.402	2,379	4,082	0.125	0.012	3.175	0.113	11.331	1,855	3,185
6"	6 1/8"	6.125	155.575	0.192	0.019	4.877	0.173	20.651	2,391	4,104	0.140	0.014	3.556	0.126	15.190	1,730	2,971

Type M										
Nominal O.D.	Actual O.D.			Thk	ToL.	THK	Min Thk	WT / MTR	SAFE WORKING PRESSURE	SAFE WORKING PRESSURE
inch	inch	inch	mm	inch	+/- (inch)	mm	inch	kg	Annealed kPa	HARD kPa
1/4"	3/8"	0.375	9.525	0.025	0.002	0.635	0.023	0.159	5,336	9,161
3/8"	1/2"	0.500	12.700	0.025	0.002	0.635	0.023	0.215	3,930	6,771
1/2"	5/8"	0.625	15.875	0.028	0.003	0.711	0.025	0.303	3,406	5,861
5/8"	3/4"	0.750	19.050	-	-	-	-	-	-	-
3/4"	7/8"	0.875	22.225	0.032	0.003	0.813	0.029	0.489	2,806	4,833
1"	1 1/8"	1.125	28.575	0.035	0.004	0.889	0.031	0.692	2,324	3,999
1 1/4"	1 3/8"	1.375	34.925	0.042	0.004	1.067	0.038	1.015	2,331	4,013
1 1/2"	1 5/8"	1.625	41.275	0.049	0.005	1.245	0.044	1.400	2,282	3,923
2"	2 1/8"	2.125	53.975	0.058	0.006	1.473	0.052	2.173	2,062	3,544
2 1/2"	2 5/8"	2.625	66.675	0.065	0.006	1.651	0.058	3.017	1,889	3,248
3"	3 1/8"	3.125	79.375	0.072	0.007	1.829	0.064	3.985	1,744	2,999
3 1/2"	3 5/8"	3.625	92.075	0.083	0.008	2.108	0.073	5.330	1,738	2,986
4"	4 1/8"	4.125	104.775	0.095	0.010	2.413	0.084	6.941	1,731	2,972
5"	5 1/8"	5.125	130.175	0.109	0.011	2.769	0.097	9.912	1,607	2,758
6"	6 1/8"	6.125	155.575	0.122	0.012	3.099	0.110	13.277	1,510	2,586

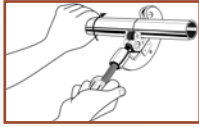
ASTM B 306

DWV									
Nominal O.D.	Actual O.D.			THK	ToL.	THK	Min Thk	WT / MTR	WORKING PRESSURE
inch	inch	inch	mm	inch	+/- (inch)	mm	inch	KG	HARD kPa
1.1/4"	1.3/8"	1.375	34.925	0.040	0.003	1.016	0.037	0.953	3,906
1.1/2"	1.5/8"	1.625	41.275	0.042	0.003	1.067	0.039	1.130	3,475
2"	2.1/8"	2.125	53.975	0.042	0.004	1.067	0.038	1.487	2,577
3"	3.1/8"	3.125	79.375	0.045	0.004	1.143	0.041	2.198	1 883
4"	4.1/8"	4.125	104.775	0.058	0.007	1.473	0.051	2.903	1,774
5"	5.1/8"	5.125	130.175	0.072	0.008	1.829	0.064	3.607	1,792
6"	6.1/8"	6.125	155.575	0.083	0.008	2.108	0.075	4.312	1,756



COPPER TUBE AND ENDFEED FITTINGS

1. Cut the tube to length.



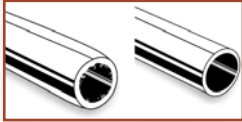
Use only rotary tube cutter/ Wheel cutter. Cutter should be oil free. Do not use hack saw to cut the tubes

2. De-burr and remove all internal & external sharp edges.



Where possible angle the tube downwards to prevent fillings entering the tube. Use circular deburrer for external edges / Pencil type deburrer on internal tube edges.

3. Smooth & Free from Burs / Sharp Edges.



BEFORE AFTER



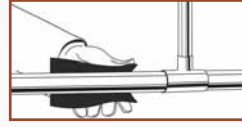
4. Clean the tube end with a cleaning pad in a rotating action, should be free from dirt and debris.

5. Pipe Jointing Fittings



Pipe jointing fittings should be end-feed capillary fittings to BS EN 1254-1 All Pipe jointing fittings and sub-assemblies of Fittings must be cleaned and degreased for Oxygen service and be free of particulate matter and toxic residue and individually sealed in bags.

6. Insert the tube fully into the fittings.



The tube must be fully inserted into the fittings until it reaches the tube stop/up to the shoulder of the fittings.

7. Penetration of Brazing alloy:



Due to tolerances of the capillary space on these pipes and fittings, full penetration of the brazing alloy may not occur and is not necessary.

The minimum penetration at any point on the joint must be three times the wall thickness of tube or 3 mm whichever is greater.

Heat Source: Heating of joints for brazing should be carried out with oxygen / acetylene (Oxygen + DA). While Copper to Copper joints, the brazed joints (torch brazing) should be made using a silver-copper-phosphorus brazing alloy CP 104 to BS EN:1044:1999. No flux should be used.

Note: Do not use LPG for brazing of copper tubes, prolonged heating at the joints will damage the tube and fittings.

8. Use of N2 internal inert gas shield.

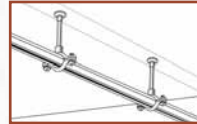
Brazing should be carried out using oxygen-free nitrogen as an internal inert gas shield to prevent the formation of oxides on the inside of the pipes and fittings.

9. Inspection of joints.

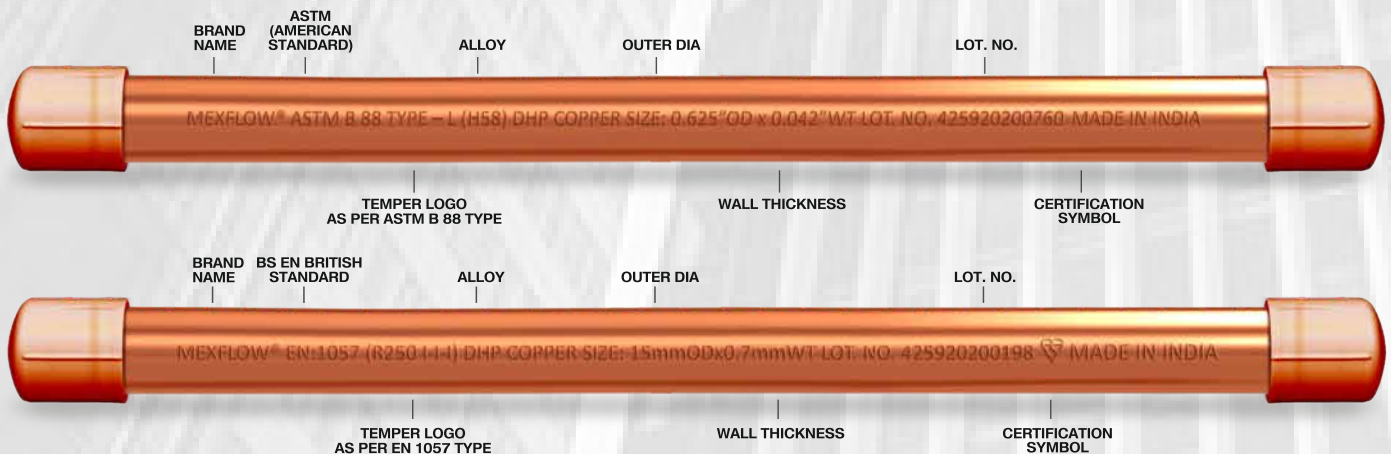


Inspection of joints should be carried as a rolling procedure on a monthly basis as work progresses for each team performing the installation.

10. Pipe Supports.



The pipeline should be adequately supported at sufficient intervals as per the standards



CITY GAS DISTRIBUTION

S.No.	PRODUCT DESCRIPTION	WT PER METER	MAX BURST PRESSURE		MAXIMUM WORKING PRESSURE (psi)			
			kg	psi	Mpa	10300	10000	9700
BELOW SIZES CAN BE SUPPLIED IN STRAIGHT LENGTHS OF 3m 5m 5.5m 5.8m 6m								
	COPPER TUBES / PIPE				100°F/38°C to 250°F/121°C	300°F/149°C	350°F/176°C	400°F/204°C
1	12mm O.D. x 0.6mm Avg W. Thk.	0.193	1563	10.77	630	612	594	575
2	15mm O.D. x 0.7mm Avg. W.Thk.	0.282	1454	10.03	499	485	470	456
**Factor of safety =2								

PRODUCT DESCRIPTION	CHEMICAL COMPOSITION		MECHANICAL PROPERTIES			
			Temper		HARDNESS	Carbon Residues
	Copper + Ag.	Phosphorous			HV5	mg / dm ²
TEST METHOD	Optical Emission Spectra				EN ISO 6507-1	EN 723
12mm O.D. x 0.6mm Avg W. Thk.			R220	ANNEALED	40 to 70	0.2
12mm O.D. x 0.6mm Avg W. Thk.	Min. 99.90%	0.015% to 0.040%	R250	HALF HARD	75 to 100	0.2
15mm O.D. x 0.7mm Avg. W.Thk.			R220	ANNEALED	40 to 70	0.2
15mm O.D. x 0.7mm Avg. W.Thk.			R250	HALF HARD	75 to 100	0.2

PRODUCT DESCRIPTION	MECHANICAL PROPERTIES			
	TENSILE STRENGTH	ELONGATION		DRIFT EXPANDING TEST
	MPa	%		
TEST METHOD	EN 10002-1			EN ISO 8493
12mm O.D. x 0.6mm Avg W. Thk.	220min.	40% min.		Upto > 18mm - MANDATORY
12mm O.D. x 0.6mm Avg W. Thk.	250min.	D < 66.70 & T < 1mm - 30 min.	D > 66.70 & T > 1mm - 20 min.	Upto > 18mm - MANDATORY
15mm O.D. x 0.7mm Avg. W.Thk.	220min.	40% min.		Upto > 18mm - MANDATORY
15mm O.D. x 0.7mm Avg. W.Thk.	250min.	D < 66.70 & T < 1mm - 30 min.	D > 66.70 & T > 1mm - 20 min.	Upto > 18mm - MANDATORY

