

## Precision Welded Steel Tube

BS 6323 Part 5 : 1982 ERW 1

## Chemical Composition - Ladle Analysis

C	Si	Mn	P	S
max %	max %	max %	max %	max %
0.13	-	0.60	0.05	0.05

## Mechanical Properties

Condition	Yield Re min N/mm <sup>2</sup>	Tensile Rm min N/mm <sup>2</sup>	Elongation	
			D/a ≤ 20 % min	D/a > 20 % min
KM as welded	200	300	10	20
GKM annealed	150	270	27	27
NKM normalized	155	280	25	25

## Tolerances

Outside Diameter		KM condition D/a ≤ 40 "GKM, NKM" D/a ≤ 20 mm +/-	GKM, NKM 20 < D/a ≤ 40 mm +/-	All conditions D/a > 40 mm +/-
Over mm	Up to and Including mm			
	20	0.12	0.18	0.24
20	30	0.15	0.22	0.30
30	50	0.20	0.30	0.40
50	70	0.25	0.37	0.50
70	90	0.30	0.45	0.60
90	110	0.35	0.52	0.70
110	130	0.45	0.68	0.90
130	150	0.55	0.82	1.10

n.b. The tolerance on outside diameter includes ovality

Wall Thickness	Weld Height
The tolerance including eccentricity but excluding the weld, shall be: a) thickness less 3mm : +/- 10% b) thickness 3mm and over : +/- 8%	The maximum height of the internal weld bead shall not exceed 60% of the specified thickness.
Concavity / Convexity	Straightness
The maximum concave or convex deflection of a flat side of a square or rectangular section tube shall not exceed 0.5% of the nominal length of that side.	Tubes shall not depart from straightness by more than 1.5 in 1000.

# Electric Resistance Welded (Round)



Circular	Wall	0.71	0.81	0.91	1.00	1.22	1.50	1.63	2.00	2.03	2.50	2.64	2.95	3.25	3.60	4.06	4.88
O.D.																	
9.53				●		●											
10.00					●	●	●										
12.00					●		●		●								
12.70				●		●		●									
13.50							●										
14.00					●		●										
15.00					●		●		●								
15.88		●	●	●		●	●	●	●	●							
16.00					●		●	●	●								
17.20						●											
18.00		●			●	●	●		●								
19.05		●		●	●	●	●	●		●							
20.00					●		●		●								
21.30												●					
22.00							●		●								
22.22				●	●	●	●	●		●		●					
25.00		●			●	●	●	●	●	●		●					
25.40				●		●	●	●		●	●	●		●			
26.98							●		●								
28.00							●		●								
28.58				●		●	●	●		●		●					
30.00							●		●								
31.75				●		●	●	●		●		●		●			
33.70												●					
34.93						●	●	●		●		●					
35.00						●	●										
38.10					●	●	●	●		●		●		●			●
40.00							●		●								
41.28						●	●	●		●							
44.45						●	●	●		●		●		●			
45.00						●		●									
47.63						●	●	●		●		●					
50.00							●		●								
50.80					●	●	●	●		●		●		●			
53.98						●	●			●							
57.15						●	●	●		●							
60.00						●	●		●								
60.33								●					●			●	
63.50						●	●	●		●		●		●			
66.68						●											
69.85								●		●		●		●			
76.10					●	●	●	●		●		●		●			
80.00							●		●								
88.90							●	●		●				●			
101.60							●	●		●				●	●	●	
108.00								●									
114.30							●			●				●			
127.00							●			●				●			
133.00											●						
139.70														●			
152.40											●			●			

ALSO AVAILABLE IN  
BS EN 10305-3: 2002

# Electric Resistance Welded

(Rectangular)



**ALSO AVAILABLE IN  
BS EN 10305-5: 2003**

	Wall	0.91	1.00	1.22	1.50	1.63	2.00	2.03	2.34	2.50	2.64	3.00
20.00 x 10.00				●	●							
20.00 x 15.00				●	●		●					
25.00 x 10.00					●							
25.00 x 12.00					●							
25.00 x 15.00				●	●		●					
25.00 x 20.00				●	●		●			●		
25.40 x 12.70				●	●	●						
30.00 x 10.00			●	●	●							
30.00 x 15.00				●	●		●					
30.00 x 20.00		●	●	●	●		●					
30.00 x 25.00					●		●					
31.75 x 15.88				●	●	●		●				
31.75 x 19.05				●	●	●						
34.93 x 15.88				●	●	●		●				
35.00 x 15.00					●		●					
35.00 x 16.00					●		●					
35.00 x 20.00					●		●					
38.10 x 12.70					●							
38.10 x 19.05				●	●	●		●				
38.10 x 25.40					●	●		●				
40.00 x 10.00					●							
40.00 x 15.00					●		●					
40.00 x 20.00			●	●	●		●					
40.00 x 25.00					●		●					●
40.00 x 30.00					●		●					
45.00 x 20.00					●		●					
45.00 x 25.00					●		●			●		
45.00 x 30.00					●		●					
47.63 x 23.81					●			●				
50.00 x 10.00					●							
50.00 x 15.00					●							
50.00 x 20.00					●		●					
50.00 x 25.00					●		●			●		●
50.00 x 30.00					●		●					
50.00 x 34.00					●		●					
50.00 x 40.00					●		●					●
50.80 x 25.40				●	●	●		●			●	
50.80 x 38.10					●	●	●	●				
60.00 x 20.00					●	●	●					
60.00 x 25.00					●		●					
60.00 x 30.00					●		●			●		
60.00 x 40.00					●		●					
63.50 x 25.40					●		●					
63.50 x 38.10					●	●	●					
70.00 x 20.00					●		●					
70.00 x 25.00							●					
70.00 x 30.00						●						
70.00 x 40.00							●					
70.00 x 50.00							●					
75.00 x 25.00					●		●					●
80.00 x 20.00					●		●					
80.00 x 30.00							●			●		
80.00 x 40.00					●		●					
100.00 x 25.00							●					
100.00 x 30.00							●					
100.00 x 34.00							●					
100.00 x 40.00							●					
100.00 x 50.00							●					
120.00 x 60.00										●		●

## Electric Resistance Welded



(Square)

Square	Wall	0.91	1.00	1.22	1.50	1.63	2.00	2.03	2.34	2.50	2.64	3.00	3.25
10.00 x 10.00			●		●								
12.00 x 12.00					●								
12.70 x 12.70		●		●	●	●							
15.88 x 15.88		●		●	●	●		●					
16.00 x 16.00			●		●			●					
18.00 x 18.00					●			●					
19.05 x 19.05		●		●	●	●		●					
20.00 x 20.00			●		●		●						
22.22 x 22.22		●		●	●	●		●					
25.00 x 25.00		●		●	●	●	●	●					
25.40 x 25.40		●		●	●	●		●		●	●		
28.58 x 28.58					●	●	●	●					
30.00 x 30.00				●	●	●	●	●	●	●			
31.75 x 31.75				●	●	●		●			●		
34.93 x 34.93				●	●	●		●					
35.00 x 35.00				●	●	●	●	●					
38.10 x 38.10				●	●	●		●			●		●
40.00 x 40.00				●	●	●	●	●		●		●	
45.00 x 45.00				●	●	●	●	●					
50.00 x 50.00					●	●	●	●		●		●	
50.80 x 50.80					●	●	●	●			●		●
60.00 x 60.00					●	●	●	●				●	
80.00 x 80.00						●	●	●					
90.00 x 90.00							●	●					
100.00 x 100.00							●	●					

ALSO AVAILABLE IN  
BS EN 10305-5: 2003

## Electric Resistance Welded



Tunnel Section	Wall	1.00	1.22	1.50	1.63	2.00	2.03	2.64	2.95
35.00 x 30.00				●		●			
60.00 x 25.00				●		●			
60.00 x 30.00				●		●			

## Electric Resistance Welded



'D' Section	Wall	1.00	1.22	1.50	1.63	2.00	2.03	2.64	2.95
40.00 x 20.00			●	●	●		●		
Trapezoidal			●	●	●		●		

## Electric Resistance Welded



Elliptical Oval	Wall	1.00	1.22	1.50	1.63	2.00	2.03	2.64	2.95
18.72 x 12.62				●					
22.22 x 12.70			●	●	●		●		
23.50 x 13.34			●	●	●		●		
26.29 x 16.21			●	●	●		●		
32.00 x 17.50			●	●	●		●		
38.10 x 25.40			●	●	●		●		

## Electric Resistance Welded

		Wall	1.00	1.22	1.50	1.63	2.00	2.03	2.64	2.95	
Flat Sided Oval	20.00 x 10.00				●			ALSO AVAILABLE IN BS EN 10305-3: 2002			
	25.00 x 12.00				●						
	30.00 x 15.00				●		●				
	30.00 x 16.00				●						
	31.75 x 15.88			●	●	●		●	●		
	35.00 x 15.00				●						
	35.00 x 20.00				●		●				
	38.10 x 25.40			●	●	●		●			
	40.00 x 20.00			●	●	●		●			
	41.28 x 22.22			●	●	●		●			
	41.70 x 22.61			●	●	●		●			
	44.45 x 19.05		●								
	45.00 x 17.00				●						
	45.00 x 20.00			●	●	●		●			
	50.00 x 20.00						●				
	50.00 x 25.00				●		●				
	60.00 x 20.00						●				
	60.00 x 30.00				●		●				
	66.68 x 33.34								●	●	
	70.00 x 20.00				●	●		●			
127.00 x 19.00						●					

## SCULPTURED TUBE

Sculptured tube has an embossed outside diameter making it suitable for practical and decorative applications. The embossed surface also increases its strength by up to 50%. Sculptured tube is produced in a series of standard patterns.

### TYPICAL APPLICATIONS

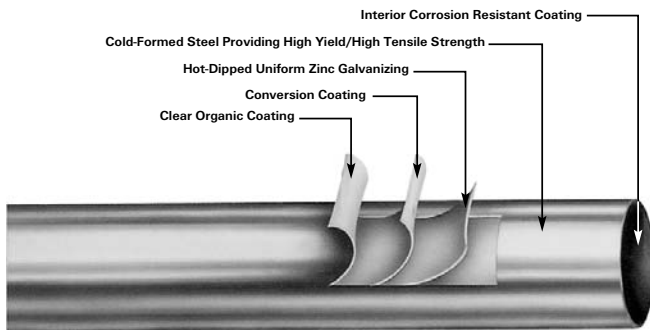
- Transport hand rail systems
- Furniture
- Ladder rungs
- Shop fittings
- Exhibition stands
- Grip rails



Various sections are available ex stock in a wide range of gauges and sizes

## FLO COAT TUBE

The manufacturing of Flo-Coat is accomplished automatically 'in-line', quite unlike any other galvanized tube. The galvanizing and other coating operations all take place sequentially as the tube travels along from the welding stage of the production line. In this way the consistency of coating is controlled to tolerances unequalled by any other process. The combination of cold forming, heating and rapid cooling inherent in the Flo-Coat process enhances the mechanical properties of the tube, resulting in higher tensile strength.



## PRE-GALVANIZED

When finished products require internal galvanizing we can supply tube manufactured from pre-galvanized strip. The weld zone area is spray repaired after the removal of the external fin.

BS 2982	EN 10142
Z2	DX51D+Z/+ZF
Z28	S280GD+Z/+ZF
Z35	S350GD+Z/+ZF

