

Cold Formed Welded Structural Hollow Section**EN 10219: 1997 (Replacing BS6363: 1983)****Chemical composition****Cast analysis for material equal to or less than 40mm thick**

Steel Designation	C max %	Si max %	Mn max %	P max %	S max %	Nb max %
S235JRH	0.17	-	1.40	0.045	0.045	0.009
S275JOH	0.20	-	1.50	0.040	0.040	0.009
S355JOH	0.22	0.55	1.60	0.040	0.040	0.009

Mechanical properties for material equal to or less than 16mm thick

Steel Designation	Yield min N/mm ²	Tensile N/mm ²	Elongation min %	Impact Properties	
	Nominal thickness mm	Nominal thickness mm	Nominal thickness mm	Test Temperature	Minimum average absorbed energy standard test piece
	<16	>3 <40	<40	C	J
S235JRH	235	340-470	24	20	27
S275JOH	275	410-560	20	0	27
S355JOH	355	490-630	20	0	27

Cold Formed Welded Structural Hollow Section**EN 10219: 1997 (Replacing BS6363: 1983)****Tolerances****Outside Diameter Square and Rectangular Hollow Sections**

Dimensions less than 100mm	+/- 1.0% with a minimum of +/- 0.5mm
Dimensions 100mm up to 200mm	+/- 0.8%
Dimensions over 200mm	+/- 0.6%
Wall thickness (excluding weld area)	+/-10% for specified thickness of 5mm or below and +/-0.5mm for thickness greater than 5mm
Concavity / Convexity	Max. 0.8% with a minimum of 0.5mm
Squareness of sides:	90 Degree +/- 1 Degree
External corner radius:	6mm thick or below: 1.6 to 2.4 x wall thickness
Straightness:	0.15% of total length.
Twist:	2mm + (0.5mm per mtr) max

Cold Formed Welded Structural Hollow Section

EN 10219: 1997 (Replacing BS6363: 1983)

		Wall	2.00	2.34	2.50	2.64	3.00	3.25	3.50	4.00	5.00	6.00	8.00	10.00	12.00	12.50
O.D. (mm)																
Square 	20.00 x 20.00		●		●		●	●								
	25.00 x 25.00		●		●		●	●								
	30.00 x 30.00		●		●		●	●								
	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		●		●		●	●		●	●	●				
	70.00 x 70.00						●			●	●	●				
	76.20 x 76.20						●	●								
	80.00 x 80.00						●		●	●	●	●	●			
	90.00 x 90.00						●			●	●	●	●			
	100.00 x 100.00						●			●	●	●	●	●		
	110.00 x 110.00						●			●	●	●	●	●	●	
	120.00 x 120.00						●			●	●	●	●	●	●	●
	125.00 x 125.00						●			●	●	●	●	●	●	●
	130.00 x 130.00						●			●	●	●	●	●	●	●
	140.00 x 140.00						●			●	●	●	●	●	●	●
	150.00 x 150.00						●			●	●	●	●	●	●	●
	160.00 x 160.00						●			●	●	●	●	●	●	●
	180.00 x 180.00						●			●	●	●	●	●	●	●
	200.00 x 200.00									●	●	●	●	●	●	●
	250.00 x 250.00									●	●	●	●	●	●	●
Round 	33.70						●									
	38.00						●									
	42.40						●									
	45.00						●									
	48.30						●			●						
	50.00						●			●						
	55.00						●			●						
	57.00						●			●						
	60.30						●			●						
	63.00						●			●						
	70.00						●			●						
	76.10						●			●	●	●				
	80.00						●			●	●	●				
	83.00						●			●						
	88.90						●			●	●	●				
	90.00						●			●						
	95.00						●			●						
	100.00						●			●	●	●	●			
	101.60						●			●	●	●	●			
	108.00						●			●						
	110.00						●			●						
	113.00						●			●	●	●				
	114.30						●			●	●	●	●			
	120.00						●			●						
	125.00						●			●	●	●	●	●		
	127.00						●			●						
	133.00						●			●						
	139.70						●			●	●	●	●	●		
	152.00						●			●						
	159.00						●			●	●	●	●			
	164.00						●			●						
	168.30						●			●	●	●	●	●	●	●
	177.80						●			●	●	●	●	●	●	●
	193.70						●			●	●	●	●	●	●	●
	200.00						●			●	●	●	●	●	●	●
	219.10						●			●	●	●	●	●	●	●
	244.50									●	●	●	●	●	●	●
	273.00									●	●	●	●	●	●	●
	323.90										●	●	●	●	●	●

Cold Formed Welded Structural Hollow Section

EN 10219: 1997 (Replacing BS6363: 1983)

		Wall	2.00	2.34	2.50	2.64	3.00	3.25	3.50	4.00	5.00	6.00	8.00	10.00	12.00	12.50
Rectangular 	O.D. (mm)															
	40.00 x 25.00						●									
	40.00 x 27.00						●									
	40.00 x 30.00						●									
	40.00 x 35.00						●									
	45.00 x 25.00						●									
	45.00 x 30.00						●									
	45.00 x 35.00						●			●						
	50.00 x 20.00						●			●						
	50.00 x 25.00		●		●		●									
	50.80 x 25.40					●		●								
	50.00 x 30.00		●				●	●		●						
	50.00 x 40.00						●			●						
	60.00 x 20.00						●									
	60.00 x 25.00						●									
	60.00 x 30.00						●									
	60.00 x 40.00				●		●			●	●	●				
	63.50 x 38.10		●	●				●								
	70.00 x 30.00						●			●	●	●				
	70.00 x 40.00						●			●	●	●				
	70.00 x 50.00						●			●	●	●				
	75.00 x 25.00						●									
	76.20 x 38.10							●								
	76.20 x 50.80		●													
	80.00 x 30.00						●			●						
	80.00 x 40.00						●			●	●					
	80.00 x 45.00						●			●						
	80.00 x 50.00						●			●	●	●				
	80.00 x 60.00						●			●	●	●				
	90.00 x 30.00						●			●						
	90.00 x 40.00						●			●	●					
	90.00 x 50.00						●			●	●	●				
	100.00 x 40.00						●			●	●					
	100.00 x 50.00						●			●	●	●				
	100.00 x 60.00						●			●	●	●	●			
	100.00 x 80.00						●			●	●	●	●			
	110.00 x 70.00						●			●						
	120.00 x 40.00						●			●	●	●	●			
	120.00 x 50.00						●			●						
	120.00 x 60.00						●			●	●	●	●			
	120.00 x 80.00						●			●	●	●	●	●		
	120.00 x 100.00						●			●	●	●	●	●		
	140.00 x 60.00						●			●	●	●	●			
	140.00 x 80.00						●			●	●	●	●	●		
	140.00 x 100.00						●			●	●	●	●	●	●	●
	150.00 x 50.00						●			●	●	●	●			
	150.00 x 100.00						●			●	●	●	●	●	●	●
	160.00 x 80.00						●			●	●	●	●	●	●	●
	160.00 x 90.00						●			●	●	●	●	●	●	●
	160.00 x 100.00						●			●	●	●	●	●	●	●
	160.00 x 120.00						●			●	●	●	●	●	●	●
	180.00 x 80.00						●			●	●	●	●	●	●	●
	180.00 x 100.00						●			●	●	●	●	●	●	●
	180.00 x 120.00						●			●	●	●	●	●	●	●
	180.00 x 140.00						●			●	●	●	●	●	●	●
	200.00 x 80.00						●			●	●	●	●	●	●	●
	200.00 x 100.00						●			●	●	●	●	●	●	●
	200.00 x 120.00						●			●	●	●	●	●	●	●
	200.00 x 150.00						●			●	●	●	●	●	●	●
	200.00 x 160.00						●			●	●	●	●	●	●	●
	250.00 x 100.00						●			●	●	●	●	●	●	●
	250.00 x 150.00									●	●	●	●	●	●	●
	250.00 x 200.00									●	●	●	●	●	●	●
	260.00 x 180.00									●	●	●	●	●	●	●
	300.00 x 100.00									●	●	●	●	●	●	●
	300.00 x 150.00									●	●	●	●	●	●	●
	300.00 x 200.00									●	●	●	●	●	●	●
	300.00 x 220.00										●	●	●	●	●	●

SCOTLAND

Tel: 0141 848 6767

Fax: 0141 848 6991

MANCHESTER

Tel: 0161 203 4410

Fax: 0161 203 4426

BILSTON

Tel: 01902 494416

Fax: 01902 353687

LONDON

Tel: 020 8803 1474

Fax: 020 8803 3187

LEICESTER

Tel: 01162 769171

Fax: 01162 743473

Welded Gas List Tubes

BS 1387: 1985

Chemical Composition - (ladle)

	C	Mn	P	S	
	max%	max%	max%	max%	
	0.20	1.20	0.045	0.045	

Mechanical Properties at room temperature

	Yield	Tensile	Elongation	
	min N/mm ²	N/mm ²	min %	
	195	320-460	20	

Dimensions of steel tubes (light)

Nominal size of	Designation thread	Outside diameter		Thickness mm	Plain ends kg/m	Screwed and socketed kg/m
		max mm	min mm			
8	0.250	13.6	13.2	1.8	0.515	0.519
10	0.375	17.1	16.7	1.8	0.670	0.676
15	0.500	21.4	21.0	2.0	0.947	0.956
20	0.750	26.9	26.4	2.3	1.380	1.390
25	1.000	33.8	33.2	2.6	1.980	2.000
32	1.250	42.5	41.9	2.6	2.540	2.570
40	1.500	48.4	47.8	2.9	3.230	3.270
50	2.000	60.2	59.6	2.9	4.080	4.150
65	2.500	76.2	75.2	3.2	5.710	5.830
80	3.000	88.7	87.9	3.2	6.720	6.890
100	4.000	113.9	113.0	3.6	9.750	10.000

Dimensions of steel tubes (Medium)

Nominal size of	Designation thread	Outside diameter		Thickness mm	Plain ends kg/m	Screwed and socketed kg/m
		max mm	min mm			
8	0.250	13.9	13.3	2.3	0.641	0.645
10	0.375	17.4	16.8	2.3	0.839	0.845
15	0.500	21.7	21.1	2.6	1.210	1.220
20	0.750	27.2	26.6	3.2	1.560	1.570
25	1.000	34.2	33.4	3.2	2.410	2.430
32	1.250	42.9	42.1	3.2	3.100	3.130
40	1.500	48.8	48.0	3.2	3.570	3.610
50	2.000	60.8	59.8	3.6	5.030	5.100
65	2.500	76.6	75.4	3.6	6.430	6.550
80	3.000	89.5	88.1	4.0	8.370	8.540
100	4.000	114.9	113.3	4.5	12.200	12.500
125	5.000	140.6	138.7	5.0	16.600	17.100
150	6.000	166.1	164.1	5.0	19.700	20.300

Dimensions of steel tubes (Heavy)

Nominal size of	Designation thread	Outside diameter		Thickness mm	Plain ends kg/m	Screwed and socketed kg/m
		max mm	min mm			
8	0.250	13.9	13.3	2.9	0.765	0.769
10	0.375	17.4	16.8	2.9	1.020	1.030
15	0.500	21.7	21.1	3.2	1.440	1.450
20	0.750	27.2	26.6	3.2	1.870	1.880
25	1.000	34.2	33.4	4.0	2.940	2.960
32	1.250	42.9	42.1	4.0	3.800	3.830
40	1.500	48.8	48.0	4.0	4.380	4.420
50	2.000	60.8	59.8	4.5	6.190	6.260
65	2.500	76.6	75.4	4.5	7.930	8.050
80	3.000	89.5	88.1	5.0	10.300	10.500
100	4.000	114.9	113.3	5.4	14.500	14.800
125	5.000	140.6	138.7	5.4	17.900	18.400
150	6.000	166.1	164.1	5.4	21.300	21.900