Specification for Standard Siz

EN 10219-I : 2006 & EN 10219-II : 2019 - Cold-Formed Welded Structural

A - Cold-Formed Circular Hollow Section Tubes (Round Tubes)

Designation	Outside Diameter (mm) - Range & Tolerance	
CF-CHS	13.50 (1/4'') -To-323.90 (12'') MM & 1 % of Size (OD)	

B - Cold Formed Square/Rectangular Hollow Section Tubes (Section Tubes)

Designation	Depth (MM)-Range & Tolerance	Width (MM)-Range & Tolera
CF-SHS	20x20-SHS & ±1% of Side	20x20-SHS & ±1% of Side
	200x200-SHS & ±1% of Side	200x200-SHS & ±1% of Side
CF-RHS	40x20-RHS & ±1% of Side	40x20-RHS & ±1% of Side
	200x100-RHS & ±1% of Side	200x100-RHS & ±1% of Side

Chemical and Mechnical Properties as per

Steel Name	Mechnical Properties					
	Steel Number	Yield Strength MPa (Min)	Tensile Strength MPa (Min)		Elongation % (Min)	C % Max.
			Thick<3 mm	Thick>3mm		
S235JRH	1.0039	235	360-510	360-510	24	0.170
S275J0H	1.0149	275	430-580	410-560	20	0.200
S355J0H	1.0547	355	510-680	470-630	20	0.220

1. Length	-0/+50 MM or Mutual Agreement bet
2. Out-of-Roundness CHS	± 2 % for hollow sections having diameter to thickness ratio n and the pu
3. Concavity/Convexity SHS & RHS	Maximum 0.8 % or 0.5 mn
4. Suareness of Sides SHS & RHS	90 degree ±
5.External Corner Profile SHS & RHS	1.60t-To-2.40t , Where
6. Twist SHS & RHS	2 mm + 0.5 mn

7. Straightness	CHS	
	SHS & RHS	

8. Mass(m) per unit length (CHS,SHS,RHS)	± 6 % on individual delivered length $M = 0.785xA$, Where $A = \frac{\pi(D^2-d^2)}{4x10^2}$ Where =

9. Ends	
	Plain end, Gr
	Grooved end - as per Victaulic Specification -25.01
	Thread end - as per BSP (British Standard Pipe)- Thread is 55 degree

10. Flattening Test

for above NPS 2'' - Welded tubes shall be flattened with the weld placed alternately at 0 deg. or 90 to the direction of the the force .

for Weld Test- Flatten up to 75 % of original Dia of the tubes result no cracks apperance on weld Po

For Material other than weld - Flatten up to 60 % of original tube OD result no cracks appearance in metal other than in the weld portion

11. Leack Tightness Test

a.- Online NDT (Eddy Current) or

b. - Hydro Testing at 50 bar Pressure and holding time Minimum 5 Second

12 . Bend Test

Bend Test is applicable for Specified Diameter (D) from 17.20 to 60.30 mm through corresponding r

D	17.2	21.3	26.9	33.7	42.4	48.3
Bending Radius	50	65	85	100	150	170

13. Surface Protcetion

Bare Black Tube (Uncoated)

HDG - Galvanized As per EN ISO 1461 and EN 10240 -A1,A2,A3 & B1,B2,B3 Quality

Oil-Based Painted Tubes (OBPT)

Water-Base Painted Tube - Acid Removal (WBPTAR)

Water-Base Painted Tube - Non Acid Removal (WBPTNR)

14.Packing

Hexagonal Type or Customer Requirments

15. Colour Coading

For Light - Brown

For Medium - Blue

For Heavy - Red

16. Mill Test Certificate

We can issue a MTC, Certifying that the tubes supplied comply with this standard-EN 10219-I : 2006
Documents as Per EN 10204 : 2004 ,Type 3.1

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Hollow Sections of Non-Alloy Steels Tubes

Wall Thickness (mm) - Range & Tolerance
1.80 -To-10.00 MM & ± 10 % of Wall Thickness

nce	Wall Thickness (MM) - Range & Tolerance
	1.50 MM -To-8.00 MM & ±10 % of Wall Thickness
e	1.50 MM -To-8.00 MM & ±10 % of Wall Thickness
	1.50 MM -To-8.00 MM & ±10 % of Wall Thickness
e	1.50 MM -To-8.00 MM & ±10 % of Wall Thickness

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Chemical Composition %

Si Max	Mn %	P % Max	S % Max	N % Max	Carbon Equivalent (CEV) % - (Max.)
…..	1.400	0.040	0.040	0.009	0.350
…..	1.500	0.035	0.035	0.009	0.400
0.550	1.600	0.035	0.035	0.009	0.450

tween Manufacturer and Purchaser

ot exceeding 100, otherwise shall be agree between APM
rchaser

n , whichever is greter

1 degree

T is Wall Thickness

n/M length

0.20 % of total length

0.15 % of total length

=D, Outside Diameter

d : Inside Diameter

deg.

rtion
the

adius

60.3							
220							

, EN 10219-II : 2019 & Inspection