

Declaration of Performance (according to Regulation EU No 305/2011)

Unique ID code TST Celsius355 [Grade S355NH / 1.0539] *

Harmonised standard EN 10210-1:2006 - Hot finished structural hollow sections of non-alloy and fine grain steels - Part 1: Technical delivery conditions (issued on the Official Journal of the European Union on 01/02/2007)

Intended use To be used in metal structures or in composite metal and concrete structures. This product is supplied with a specific inspection document 3.1 (according to EN 10204) that includes the full length non-destructive testing of the weld (as defined in table 2 of EN 10210-1). This product is suitable for being used as constituent product of a steel structure according to EN 1090.

Manufacturer TATA STEEL UK LIMITED
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System of AVCP System of assessment and verification of constancy of performance of the product
System 2+ (FPC Certificate No: 2814/CPR/LRQ0840080/A)

Notified body Notified body No. 2814
Lloyd's Register Verification B.V.
K.P. van der Mandelelaan 41A
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Date 12/07/2021

Table 1 – Essential characteristics and declared performances

Essential characteristic	Performance		Harmonised technical specification		
	Nominal thickness (mm)	Values Min (MPa)			
Yield strength	≤ 16	355	EN 10210-1:2006		
	> 16 ≤ 40	345			
	> 40 ≤ 65	335			
Tensile strength	Nominal thickness (mm)	Values (MPa)	EN 10210-1:2006		
		min		max	
	≤ 3	510 (a)		630	
	≤ 65	470		630	
Elongation	Nominal thickness (mm)	Values min (%)	EN 10210-1:2006		
	≤ 65	22			
Impact strength (longitudinal)	Grade	Nom. Thk. (mm)	Impact Value min, average (J) at Test Temp (°C)		
				NH	≤ 65
Weldability (CEV)	Nominal thickness (mm)	Values max (%)	EN 10210-1:2006		
				> 16 ≤ 65	0.43
				≤ 16	0.45
Durability	Nominal thickness (mm)	Composition (cast) (max, unless otherwise shown)	EN 10210-1:2006		
				C	0.20
				Si	0.14-0.25
				Mn	0.90-1.60 (b)
				P	0.030 (c)
				S	0.030
				Nb	0.050
				V	0.12
				Al	0.020 min.
				Ti	0.03
				Cr	0.30
				Ni	0.50
Mo	0.10				
Cu	0.35				
N	0.020				
Tolerances on dimensions and shape	Round, square, rectangular and elliptical hollow sections	In accordance with EN 10210-2:2006	EN 10210-1:2006		
				GF deoxidation (d)	

Notes:
 (a) The declared minimum value (510) is above the minimum allowed (470)
 (b) The declared maximum content (1.60) is below the maximum allowed (1.65)
 (c) The declared maximum content (0.030) is below the maximum allowed (0.035)
 (d) GF – Fully killed fine grain steel containing nitrogen binding elements

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Performance declared for the following essential characteristics:

Yield strength: 355 Mpa (≤ 16 mm)
Tensile strength: 470 – 630 Mpa (> 3 mm)
Elongation: 22%
Impact strength: 40J at -20°C
Weldability (CEV): 0.43% (≤ 16 mm)
Durability: See Declaration of Performance
Tolerances on dimensions and shape: In accordance with EN 10210-2:2006

Dangerous Substances: No Performance Determined (NPD)