

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

Unique ID code: TST Celsius420NH [Grade S420NH / 1.8750]

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. Table 1 of EN 1090-2:2018 requires a 3.1 inspection document for structural steel above S275.

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. 1370-CPR-1705
Corby and 1370-CPR-1706 Hartlepool)

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Date: 01/11/2019

Table 1 – Essential characteristics and declared performances

Essential characteristic	Performance		Harmonised technical specification
	Nominal thickness (mm)	Values Min (MPa)	
Yield strength	≤ 16	420	EN 10210-1 2006
	> 16 ≤ 40	400	
	> 40	390	
Tensile strength	Nominal thickness (mm)	Values (MPa)	EN 10210-1 2006
	≤ 65	min	
		max	
Elongation	Nominal thickness (mm)	Values min (%)	EN 10210-1 2006
	≤ 65	19	
longitudinal			EN 10210-1 2006
	transverse	17	
Impact strength (longitudinal)	Grade	Impact Value min, average (J) at Test Temp (°C)	EN 10210-1 2006
	NH	40J at - 20°C*	
Weldability (CEV)	Nominal thickness (mm)	Values max (%)	EN 10210-1 2006
	> 16 ≤ 65	0.45	
Durability	Nominal thickness (mm)	Composition (cast) (max. unless otherwise shown)	EN 10210-1 2006
		C	
	Si	0.14 – 0.25	
	Mn	1.00 – 1.70	
	P	0.035	
	S	0.030	
	Nb	0.050	
	V	0.20	
	Al	0.020 min.	
	Ti	0.03	
GF deoxidation*	Cr	0.30	EN 10210-1 2006
	Ni	0.80	
Tolerances on dimensions and shape	Mo	0.10	EN 10210-1 2006
	Cu	0.70	
Tolerances on dimensions and shape	N	0.025	EN 10210-1 2006
Tolerances on dimensions and shape	Round, square, rectangular and elliptical hollow sections	In accordance with EN 10210-2: 2006	EN 10210-1 2006

Notes:
* Value for 10 x 10mm specimen; 10 x 7.5mm specimen = 30J; 10 x 5mm specimen = 20J
* GF – Fully killed fine grain steel containing nitrogen binding elements

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<p>EN 10210-1: 2006</p>	
<p>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. Table 1 of EN 1090-2:2018 requires a 3.1 inspection document for structural steel above S275.</p>	
<p>Performance declared for the following essential characteristics (see Table 1):</p> <ul style="list-style-type: none"> Yield strength Tensile strength Elongation Impact strength Weldability Durability 	
<p>Tolerances on dimensions and shape</p>	
<p>Dangerous Substances: No Performance Determined (NPD)</p>	