

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 Registered in England No. 2280000 Registered office: 18 Grosvenor Place, London, SW1X 7HS, UK Website : www.tatasteeluk.com
System of AVCP	System of assessment and verification of constancy of performance of the product System 2+ (FPC Certificate No: 0343/CPR/LRQ0840080/A)
Notified body	Notified body No. 0343 LRQA Nederland B.V. George Hintzenweg 77 3068 AX Rotterdam The Netherlands

Table 1 – Essential characteristics and declared performances

Essential characteristic	Performance		Harmonised technical specification
Yield strength	Nominal thickness (mm)	Values Min (MPa)	EN 10210-1:2006
	≤ 16	420	
	> 16 ≤ 40	400	
	> 40 ≤ 65	390	
Tensile strength	Nominal thickness (mm)	Values (MPa)	
	≤ 65	min max	
		520 680	
Elongation	Nominal thickness (mm)	Values min (%)	
	≤ 65	19	
	longitudinal transverse	17	
Impact strength (longitudinal)	Grade	Impact Value min. average (J) at Test Temp (°C)	
	NH	40J at - 20°C (a)	
Weldability (CEV)	Nominal thickness (mm)	Values max (%)	
	≤ 16	0.45 (b)	
	> 16 ≤ 65	0.45 (c)	
Durability	Nominal thickness (mm)	Composition (cast) (max. unless otherwise shown)	
		C 0.22	
		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	
Tolerances on dimensions and shape	Round, square, rectangular and elliptical hollow sections	In accordance with EN 10210-2: 2006	

Notes:
(a) Value for 10 x 10mm specimen; 10 x 7.5mm specimen = 30J; 10 x 5mm specimen = 20J
(b) Declared performance is below the maximum allowed by the standard (0.50)
(c) Declared performance is below the maximum allowed by the standard (0.52)
(d) GF – Fully killed fine grain steel containing nitrogen binding elements



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TATA STEEL UK LIMITED
Registered in England No. 2280000
Registered office: 18 Grosvenor Place, London, SW1X 7HS, UK
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TST Celsius420NH [Grade S420NH / 1.8750]

EN 10210-1:2006

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.

Performance declared for the following essential characteristics:

Yield strength: 420 MPa (≤ 16 mm)

Tensile strength: 520 – 680 MPa

Elongation: 19%

Impact strength: 40J at - 20°C

Weldability (CEV): 0.45%

Durability: See Declaration of Performance

Tolerances on dimensions and shape: In accordance with EN 10210-2: 2006

Dangerous Substances: No Performance Determined (NPD)



Dean Cartwright
Director, Technical
Tata Steel UK

Date 30/07/2025

Declaration of Performance

(according to The Construction Products (Amendment etc.) (EU Exit) Regulations 2020 No 1359)

Unique ID code	TST Celsius420NH [Grade S420NH / 1.8750]
Designated 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)
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System of AVCP	System of assessment and verification of constancy of performance of the product System 2+ (FPC Certificate No: 0038/CPR/LRQ0840080/A)
Approved body	Approved body No. 0038 LRQA Verification Limited 1 Trinity Park, Bickenhill Birmingham, B37 7ES UK

Table 1 – Essential characteristics and declared performances

Essential characteristic	Performance			Harmonised technical specification
Yield strength	Nominal thickness (mm)		Values Min (MPa)	EN 10210-1:2006
	≤ 16		420	
	> 16 ≤ 40	400		
	> 40 ≤ 65	390		
Tensile strength	Nominal thickness (mm)		Values (MPa)	
	≤ 65		min 520max 680	
Elongation	Nominal thickness (mm)		Values min (%)	
longitudinal	≤ 65		19	
transverse			17	
Impact strength (longitudinal)	Grade	Nom. Thk. (mm)	Impact Value min. average (J) at Test Temp (°C)	
	NH	≤ 65	40J at - 20°C (a)	
Weldability (CEV)	Nominal thickness (mm)		Values max (%)	
	≤ 16		0.45 (b)	
	> 16 ≤ 65		0.45 (c)	
Durability	Nominal thickness (mm)		Composition (cast) (max. unless otherwise shown)	
	≤ 65		C 0.22	
			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	
Cr 0.30				
Ni 0.80				
Mo 0.10				
Cu 0.70				
N 0.025				
		GF deoxidation (d)		
		The product is suitable for hot dip galvanizing according to EN ISO 1461:2009 and fulfils the conditions of Category B of EN ISO 14713-2:2020		
Tolerances on dimensions and shape	Round, square, rectangular and elliptical hollow sections		In accordance with EN 10210-2: 2006	

Notes:

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EN 10210-1:2006

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Tolerances on dimensions and shape: In accordance with EN 10210-2: 2006

Dangerous Substances: No Performance Determined (NPD)



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Date 30/07/2025