TATA STEEL

Declaration of Performance

(according to Regulation EU No 305/2011)

Unique ID code TSNT TT460MLH [Grade S460MLH / 1.8850]

Harmonised standard EN 10219-1:2006 - Cold formed welded 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 10219-1). 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 NEDERLAND TUBES BV

Registered in Netherlands No. 20022812

Registered office: Souvereinstraat 35, Oosterhout,

4903 RH, Netherlands

Website: www.tatasteeleurope.com

System of AVCP System of assessment and verification of constancy

> of performance of the product System 2+ (FPC Certificate No: 2814/CPR/RQA2007001/A)

Notified body Notified body No. 0343

LRQA Nederland B.V. George Hintzenweg 77 3068 AX Rotterdam

Netherlands

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Jacob Gerkema Managing Director Tata Steel Nederland Tubes B.V. Souvereinstraat 35, Oosterhout, 4903 RH Netherlands

Date 01/04/2024

Table 1 - Essential characteristics and declared performances **Harmonised** Essential Performance technical characteristic specification Nominal Value thickness min (MPa) Yield strenath (mm) 460 ≤ 16 Nominal Values Tensile thickness (MPa) strength (mm) min max 530 ≤ 16 720 Nominal Value thickness min (%) Elongation (mm) long. ≤ 16 (15 where Table B.5, Note a applies) Nom. Impact Value Impact Grade Thk min. average (J) strength at Test Temp (°C) (mm) (longitudinal) MLH ≤ 16 27J at - 50°C Nominal Value thickness Weldability max (%) (CEV) (mm) ≤ 16 0.46 EN 10219-1: Nominal Composition (cast) thickness (max. unless otherwise shown) 2006 (mm) C: 0.16 V: 0.12 Al: 0.020 min. Si: 0.60 Mn: 1.70 Ti: 0.050 P: 0.030 Ni: 0.30 Durability ≤ 16 S: 0.025 Mo: 0.20 Nb: 0.050 N: 0.025 GF deoxidation (a) Durability is also dependent on any method of protection subsequently applied and the type and thickness of the coating Rectangular sections Circular sections H.B < 0.5% dimensions 100 min. = 0.25 mm (b)mm H.B ≤ ± 0.5% 200 0.4% (b) min.= ± 0.25 mm $max.= \pm 5 mm (b)$ Outside mm H,B > 200 0.3% (b) mm EN 10219-2 (c) EN 10219-2 (c) Thickness Out-ofroundness (for Not applicable 1% (b) D/T < 100) Tolerances or 0.4 % dimensions Concavity/ Not applicable min. = 0.25 mm (b) and shape convexity Squareness of $90^{\circ} \pm 0.5^{\circ}$ (b) Not applicable External corner profile 2T ± 0.2T (or 1.8T Γ ≤ 6.0 to 2.2T) (b) 6.0 < T 2.5T ± 0.25T (or Not applicable ≤10.0 2.25T to 2.75T) (b) 3T ± 0.3T (or 2.7T to 3.3T) (b)

(a) GF – Fully killed steel containing nitrogen binding elements

Twist

length

Lenath

Straightness

Mass per unit

(b) The declared tolerance is half of the maximum allowed by EN 10219-2:2006

EN 10219-2 (c)

EN 10219-2 (c)

EN 10219-2 (c)

EN 10219-2 (c)

Not applicable

EN 10219-2 (c)

EN 10219-2 (c)

EN 10219-2 (c)

(c) The declared tolerance is the maximum allowed by EN 10219-2:2006





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EN 10219-1:2006

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Performance declared for the following essential characteristics:

Yield strength: 460 MPa Tensile strength: 530 - 720 MPa **Elongation:** 17% (15% where Table B.5.a applies) Impact strength: 27J at - 50°C

Weldability (CEV): 0.46% **Durability:** See Declaration of Performance

Tolerances on dimensions and shape: See Declaration of

Performance

Dangerous Substances: No Performance Determined (NPD)

TATA STEEL

Declaration of Performance

(according to The Construction Products (Amendment etc.) (EU Exit) Regulations SI 2020-1359)

Unique ID code TSNT TT460MLH [Grade S460MLH / 1.8850]

Designated standard EN 10219-1:2006 - Cold formed welded structural hollow sections of non-alloy and fine grain steels -Part 1: Technical delivery conditions (issued on the

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System of assessment and verification of constancy System of AVCP

of performance of the product System 2+ (FPC Certificate No: 0038/CPR/RQA20070001/A)

Date 01/04/2024

Approved body No. 0038 Approved body LRQA Verification Ltd.

1 Trinity Park, Bickenhill Lane

Solihull. West Midlands

Birmingham B37 7ES

United Kingdom

DocuSigned by:

BBAC84320D6F4EC...

Jacob Gerkema Managing Director

Tata Steel Nederland Tubes B.V.

Souvereinstraat 35. Oosterhout, 4903 RH

Netherlands

Table 1 - Essential characteristics and declared performances

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Essential characteristic	Performance				Harmonised technical specification
Yield strength	Nominal thickness (mm)		Value min (MPa)		
	≤ 16		460]
Tensile strength	Nominal thickness		Values (MPa)		
	(mm)		min	max	
Elongation	≤ 16 Nominal		530 Vali	720	
	thickness		min (%)		
	(mm)		long. 17		
	≤ 16		(15 where Table B.5, Note a applies)		
Impact strength (longitudinal) Weldability (CEV)	Grade	Nom. Thk.	Impact min. avei		
	(mm		at Test Temp (°C)		
	MLH ≤ 16 Nominal		27J at - 50°C		
	thickness		Value max (%)		
	(mm) ≤ 16		0.46		-
Durability	Nominal		Composition (cast)		EN 10219-1:
	thickness (mm)		(max. unless oth		2006
	≤ 16		C: 0.16	V: 0.12	
			Si: 0.60 Mn: 1.70	Al: 0.020 min. Ti: 0.050	
			P: 0.030	Ni: 0.30	
			S: 0.025 Nb: 0.050	Mo: 0.20 N: 0.025	
			GF deoxidation (a)		
	Durability is also dependent on any method of				
	protection subsequently applied and the type and thickness of the coating				
Tolerances on dimensions and shape			jular sections	Circular sections	
	Outside dimensions	H,B < 100	0.5%	± 0.5% min.= ± 0.25 mm max.= ± 5 mm (b)	
		mm	min. = 0.25 mm (b)		
		H,B ≤ 200			
		mm			
		H,B > 200	0.3% (b)		
		mm	` '	EN 10010 0 ()	
	Thickness Out-of-		EN 10219-2 (c)	EN 10219-2 (c)	
	roundness (for D/T < 100)		Not applicable	1% <i>(b)</i>	
	Concavity/ convexity		0.4 % min. = 0.25 mm (b)	Not applicable	
	Squareness of side		90° ± 0.5° (b)	Not applicable	
	External corner profile	T ≤ 6.0	2T ± 0.2T (or 1.8T to 2.2T) (b)	Not applicable	
		6.0 < T ≤10.0	2.5T ± 0.25T (or		
		≤10.0 T >	2.25T to 2.75T) (b) 3T ± 0.3T (or 2.7T		
		10.0	to 3.3T) (b)	Not on Each I	
	Twist Straightness		EN 10219-2 (c) EN 10219-2 (c)	Not applicable EN 10219-2 (c)	
	Mass per unit		EN 10219-2 (c)	EN 10219-2 (c)	1
	length Length		EN 10219-2 (c)	EN 10219-2 (c)	1
Notes:		ol conta	ning nitrogen hinding		



(a) GF – Fully killed steel containing nitrogen binding elements

(b) The declared tolerance is half of the maximum allowed by EN 10219-2:2006

c) The declared tolerance is the maximum allowed by EN 10219-2:2006



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Durability: See Declaration of Performance Tolerances on dimensions and shape: See Declaration of

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Dangerous Substances: No Performance Determined (NPD)