ISD DUNAFERR ZRT
DECLARATION OF PERFORMANCE

ISD DUNAFERR

HOT ROLLED PICKLED PRODUCTS

HRP001-10025/Mod. 6.

The specific data, test results relevant to the cargo arriving to the customer are included in the code numbered section of the inspection document assigned to the cargo!

1. Unique identification code of the product-type:

For hot rolled pickled products produced by ISD DUNAFERR Zrt., CE-marking can be used for the below listed steel grades:

standard	*grade*
EN 10025-2:2019[1)]	**S235JR, S235J0, S235J2**
	S275JR, S275J0, S275J2
	S355JR, S355J0, S355J2, S355K2
EN 10025-3:2019	**S275N, S275NL**
	S355N, S355NL
	S420N, S420NL
	S460N, S460NL
EN 10025-4:2019	**S275M, S275ML**
	S355M, S355ML
	S420M, S420ML
	S460M, S460ML
EN 10025-5:2019	**S235J0W, S235J2W, S355J0WP, S355J2WP, S355J0W, S355J2W**

1) supplied also with the designation C-suitable for cold forming, with the exception of S355JR

The unique identification code is included in cell B02 of inspection document.

2. Intended use/es:

For use in metal structures or in composite metal and concrete structures.

3. Producer:

ISD Dunaferr Zrt., 2400 Dunaújváros, Vasmű tér 1-3., Hungary

4. Authorized representative:

NDP

5. System/s of AVCP:

System 2+

6.a Harmonised standard: **EN 10025-1:2004**
Name of notified body, identification number:

TÜV SÜD Industrie Service GmbH, Westendstr. 199; D – 80686 Munich

Identification number: 0036

Description of the third party tasks as set out in Annex V:
Plant production control certification system 2+ / CE-certification 0036-CPR-M-076-2014

7. Declared performance

Essential characteristics	Performance		Harmonised standards, technical specification
Tolerances on dimensions and shape	Tolerances on dimensions and shape according to standards EN 10051 and EN 10029		EN 10025-1:2004
Minimum upper yield strength (R_{eH})	S235JR	235	EN 10025-1:2004 EN 10025-2:2019 Art.7.3.1. Tab. 6.
	S235J0		
	S235J2		
	S275JR	275	
	S275J0		
	S275J2		
	S355JR	355	
	S355J0		
	S355J2		
	S355K2		
	S275N, NL	275	EN 10025-1:2004 EN 10025-3:2019 Art. 7.3.1. Tab. 4.
	S355N, NL	355	
	S420N, NL	420	
	S460N, NL	460	
	S275M, ML	275	EN 10025-1:2004 EN 10025-4:2019 Art. 7.3.1. Tab. 4.
	S355M, ML	355	
	S420M, ML	420	
	S460M, ML	460	
	S235J0W	235	EN 10025-1:2004 EN 10025-5:2019 Art. 7.3.1. Tab. 4.
	S235J2W		
	S355J0WP	355	
	S355J2WP		
	S355J0W		
	S355J2W		

Tensile strength (R_m)	S235JR	360-510 MPa	EN 10025-1:2004 EN 10025-2:2019 Art. 7.3.1. Tab. 6.
	S235J0		
	S235J2		
	S275JR	430-580 MPa [a.)] 410-560 MPa [b.)]	
	S275J0		
	S275J2		
	S355JR	510-680 MPa [a.)] 470-630 MPa [b.)]	
	S355J0		
	S355J2		
	S355K2		
	S275N, NL	370-510 MPa	EN 10025-1:2004 EN 10025-3:2019 Art. 7.3.1. Tab. 4.
	S355N, NL	470-630 MPa	
	S420N, NL	520-680 MPa	
	S460N, NL	540-720 MPa	
	S275M, ML	370-530 Mpa	EN 10025-1:2004 EN 10025-4:2019 Art. 7.3.1. Tab. 4.
	S355M, ML	470-630 MPa	
	S420M, ML	520-680 MPa	
	S460M, ML	540-720 MPa	
	S235J0W	360-510 MPa	EN 10025-1:2004 EN 10025-5:2019 Art. 7.3.1. Tab. 4.
	S235J2W		
	S355J0WP	510-680 MPa [a.)] 470-630 MPa [b.)]	
	S355J2WP		
	S355J0W		
	S355J2W		
a.) at nominal thickness <3mm, b.) at nominal thickness ≥3mm			

Minimum elongation (A)	S235JR S235J0 S235J2	16% c.) 17% d.) 18% e.) 19% f.) 24% g.)	EN 10025-1:2004 EN 10025-2:2019 Art. 7.3.1. Tab. 6.
	S275JR S275J0 S275J2	15% d.) 16% e.) 17% f.) 21% g.)	
	S355JR S355J0 S355J2 S355K2	14% d.) 15% e.) 16% f.) 20% g.)	
	S275N, NL	24%	EN 10025-1:2004 EN 10025-3:2019 Art. 7.3.1. Tab. 4.
	S355N, NL	22%	
	S420N, NL	19%	
	S460N, NL	17%	
	S275M, ML	24%	EN 10025-1:2004 EN 10025-4:2019 Art. 7.3.1. Tab. 4.
	S355M, ML	22%	
	S420M, ML	19%	
	S460M, ML	17%	
	S235J0W S235J2W	17% d.) 18% e.) 19% f.) 24% g.)	EN 10025-1:2004 EN 10025-5:2019 Art. 7.3.1. Tab. 4.
	S355J0WP S355J2WP S355J0W S355J2W	14% d.) 15% e.) 16% f.) 20% g.)	
c.) 1,0mm< nominal thickness ≤1,5mm d.) 1,5mm< nominal thickness ≤2mm e.) 2mm< nominal thickness ≤2,5mm f.) 2,5mm< nominal thickness <3 mm g.) nominal thickness ≥3mm			

Minimum impact strength KV [h]	S235JR [i]	27J at +20°C	EN 10025-1:2004 EN 10025-2:2019 Art. 7.3.1, Art. 7.3.2. Tab. 8.
	S235J0	27J at 0°C	
	S235J2	27J at -20°C	
	S275JR [i]	27J at +20°C	
	S275J0	27J at 0°C	
	S275J2	27J at -20°C	
	S355JR [i]	27J at +20°C	
	S355J0	27J at 0°C	
	S355J2	27J at -20°C	
	S355K2	40J at -20°C	
	S275N	40J at -20°C	EN 10025-1:2004 EN 10025-3:2019 Art. 7.3.1., Art. 7.3.2. Tab. 5.
	S355N		
	S420N		
	S460N		
	S275NL	27J at -50°C	
	S355NL		
	S420NL		
	S460NL		
	S275M	40J at -20°C	EN 10025-1:2004 EN 10025-4:2019 Art. 7.3.1., Art. 7.3.2. Tab. 5.
	S355M		
	S420M		
	S460M		
	S275ML	27J at -50°C	
	S355ML		
	S420ML		
	S460ML		
	S235J0W	27J at 0°C	EN 10025-1:2004 EN 10025-5:2019 Art. 7.3.1., Art. 7.3.2. Tab. 5.
	S235J2W	27J at -20°C	
	S355J0WP	27J at 0°C	
	S355J2WP	27J at -20°C	
	S355J0W	27J at 0°C	
	S355J2W	27J at -20°C	

h.) at nominal thickness < 6mm the Charpy impact test is not performed, in as per EN 10025-1:2004, art. 7.3.2.1.
i.) the impact properties are verified only when specified at the time of the order

Weldability	Based on carbon equivalent CEV calculation, the material is weldable	EN 10025-2: 2019 Art. 7.4.1.
	These steels are suitable for welding.	EN 10025-3:2019 Art. 7.4.1.
	These steels are suitable for welding.	EN 10025-4: 2019 Art. 7.4.1.
	These steels do not have unlimited suitability for the various welding processes.	EN 10025-5: 2019 Art. 7.4.1., Annex C

Durability (chemical composition %)	EN 10025-2:2019, Art. 7.2., Art. 7.4.3., Tab. 1., Tab. 5															
		C_{max}	Si_{max}	Mn_{max}	P_{max}	S_{max}	N_{max}	Cu_{max}	Cr_{max}	Nb_{max}	V_{max}	Al_{min}	Ti_{max}	Ni_{max}	Mo_{max}	Cev_{max}
	S235JR	0,17		1,40	0,035	0,035	0,012	0,55								0,35
	S235J0	0,17		1,40	0,030	0,030	0,012	0,55								0,35
	S235J2	0,17		1,40	0,025	0,025	-	0,55								0,35
	S275JR	0,21		1,50	0,035	0,035	0,012	0,55								0,40
	S275J0	0,18		1,50	0,030	0,030	0,012	0,55								0,40
	S275J2	0,18		1,50	0,025	0,025	-	0,55								0,40
	S355JR	0,24	0,55	1,60	0,035	0,035	0,012	0,55								0,45
	S355J0	0,20	0,55	1,60	0,030	0,030	0,012	0,55								0,45
	S355J2	0,20	0,55	1,60	0,025	0,025	-	0,55								0,45
	S355K2	0,20	0,55	1,60	0,025	0,025	-	0,55								0,45

Durability (chemical composition %)	EN 10025-3:2019, Art. 7.2., Art. 7.4.3., Tab. 1., Tab. 3														
		C_{max}	Si_{max}	Mn	P_{max}	S_{max}	N_{max}	Cu_{max}	Cr_{max}	Nb_{max}	V_{max}	Al_{min}	Ti_{max}	Ni_{max}	Mo_{max}	Cev_{max}
	S275N	0,18	0,40	0,50-1,50	0,030	0,025	0,015	0,55	0,30	0,05	0,05	0,02	0,05	0,3	0,10	0,40
	S275NL	0,16			0,025	0,020										
	S355N	0,20	0,50	0,90-1,65	0,030	0,025	0,015	0,55	0,30	0,05	0,12	0,02	0,05	0,50	0,10	0,43
	S355NL	0,18			0,025	0,020										
	S420N	0,20	0,60	1,00-1,70	0,030	0,025	0,025	0,55	0,30	0,05	0,20	0,02	0,05	0,80	0,10	0,48
	S420NL	0,20			0,025	0,020										
	S460N	0,20	0,60	1,00-1,70	0,030	0,025	0,025	0,55	0,30	0,05	0,20	0,02	0,05	0,80	0,10	0,53
	S460NL	0,20			0,025	0,020										

Durability (chemical composition %)	EN 10025-4:2019, Art. 7.2., Art. 7.4.3., Tab. 1., Tab. 3														
		C_{max}	Si_{max}	Mn_{max}	P_{max}	S_{max}	N_{max}	Cu_{max}	Cr_{max}	Nb_{max}	V_{max}	Al_{min}	Ti_{max}	Ni_{max}	Mo_{max}	Cev_{max}
	S275M	0,13	0,5	1,50	0,025	0,025	0,015	0,55	0,30	0,05	0,08	0,02	0,05	0,30	0,10	0,34
	S275ML	0,13			0,025	0,020	0,015									
	S355M	0,14		1,60	0,025	0,025	0,015				0,10			0,50	0,10	0,39
	S355ML	0,14			0,025	0,020	0,015									
	S420M	0,16		1,70	0,030	0,025	0,025				0,12			0,80	0,20	0,43
	S420ML	0,16			0,025	0,020	0,025									
	S460M	0,16	0,6	1,70	0,030	0,025	0,025				0,12			0,80	0,20	0,45
	S460ML	0,16			0,025	0,020	0,025									

Durability (chemical composition %)	EN 10025-5:2019, Art. 7.2., Tab. 2														
		C_{max}	Si_{max}	Mn	P_{max}	S_{max}	N_{max}	Cu_{max}	Cr_{max}	Nb_{max}	V_{max}	Al_{min}	Zr_{max}	Ni_{max}	Mo_{max}	Cev_{max}
	S235J0W	0,13	0,40	0,20-0,60	max. 0,035	0,035	0,012	0,25-0,55	0,40-0,80				0,15	0,65	0,30	0,44
	S235J2W					0,030	-									
	S355J0WP	0,12	0,75	max. 1,0	0,06-0,15	0,035	0,012		0,30-1,25							0,52
	S355J2WP					0,030	-									
	S355J0W	0,16	0,50	0,50-1,50	max. 0,035	0,035	0,012		0,40-0,80							
	S355J2W				max. 0,030	0,030	-									
		These steels contain at least one of the following elements: $Al_{össz}$ ≥0,020, Nb: 0,015-0,060, V: 0,02-0,12, Ti: 0,02-0,10														

The declaration of performance for download: www.dunaferr.hu

The essential characteristics are indicated on the inspection document pursuant to the referred points of the standard series EN 10025 as well as the customer's requirements set out in the contract.

8. Appropriate Technical Documentation and/or Specific Technical Documentation:
NPD

The performance of the product identified above is in conformity with the set of declared performance/s. This declaration of performance is issued, in accordance with Regulation (EU) no. 305/2011, under the sole responsibility of the manufacturer identified above.

Signed for and on behalf of the manufacturer by:

ISD DUNAFERR
Dunai Vasmű Zártkörűen Működő
Részvénytársaság
2400 Dunaújváros, Vasmű Tér 1-3
Cg: 07-10-001049
3.

Dunaújváros, 4 August 2020

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Evgeny Tankhilevich
Corporate Manager