



DECLARATION OF PERFORMANCE NO. USSK-29/2015

<p>1. Unique identification code for product type:</p>	<p>Flat hot rolled structural steel products of steel grades: acc. to EN 10025-2:2004/AC:2005^{1,2)}: S235JR, S235J0, S235J2, S275JR, S275J0, S275J2, S355JR, S355J0, S355J2, S355K2 Produced in thickness 1,8 – 12,7 mm</p> <p>steel grades S355M, S420M acc. to EN 10025-4:2004 Produced in thickness 2,0 – 4,09 mm</p> <p>steel grade S355J0WP acc. to EN 10025-5:2004¹⁾ Produced in thickness 2,0 – 12,0 mm</p> <p>¹⁾ applies also for the delivery condition: +AR, +N ²⁾ supplied also with the designation C - suitable for cold forming, with the exception of S355JR</p>
<p>2. Batch No./Serial No.: <i>acc. to article 11 par.4</i></p>	<p>see marking/ label/ inspection certificate</p>
<p>3. Intended use for construction product:</p>	<p>For use in metal structures or in composite metal and concrete structures.</p>
<p>4. Contact address of manufacturer:</p>	<p>U. S. Steel Košice, s. r. o. Vstupný areál U. S. Steel 044 54 Košice Slovak Republic Producing plant: Hot Rolling Mill Division Plant</p>
<p>5. Contact address of authorized representative:</p>	<p>not relevant</p>
<p>6. Assessment system and verification for constancy of performance:</p>	<p>EN 10025-1:2004, Annex ZA, system 2+</p>
<p>Harmonized standard:</p>	<p>EN 10025-1:2004 Hot rolled products of structural steels. Part 1: General technical delivery conditions.</p>
<p>7. The notified body:</p>	<p>Strojírenský zkušební ústav, s.p. Hudcova 424/56b 621 00 Brno Czech Republic Identification number: 1015</p> <hr/> <p><u>issued:</u> Certificate of conformity of the factory production control No. 1015-CPR-E-30-20419-15, dated July 31, 2015</p> <p><u>performed:</u> - initial inspection of the manufacturing plant and of factory production control - continuous surveillance, assessment and evaluation of factory production control</p>
<p>8. Construction product with European Technical Assessment:</p>	<p>no</p>

The Declaration of performance for download: <http://www.usske.sk/skripty/doc.cgi?/Hot Rolled Products-Vyroby valcovane za tepla>

9. Declared performance:

Essential characteristics	Performance		Technical specification
Tolerances on dimensions and shape	Tolerances on dimensions and shape according to standards EN 10029 and EN 10051.		EN 10029:2010 EN 10051:2010
Minimum elongation A (in transversal direction)	S235JR	17 % ^{a)}	EN 10025-2:2004 Art. 7.3.1, Tab. 7
	S235J0	18 % ^{b)}	
	S235J2	19 % ^{c)}	
		24 % ^{d)}	
	S275JR	15 % ^{a)}	
	S275J0	16 % ^{b)}	
	S275J2	17 % ^{c)}	
		21 % ^{d)}	
	S355JR	14 % ^{a)}	
	S355J0	15 % ^{b)}	
	S355J2	16 % ^{c)}	
	S355K2	20 % ^{d)}	
	S355M	22 % ^{d) k)}	EN 10025-4:2004 Art. 7.3.1, Tab.5
S420M	19 % ^{d) k)}	EN 10025-4:2004 Art.7.3.1, Tab.5	
S355J0WP	14 % ^{a)} 15 % ^{b)} 16 % ^{c)} 20 % ^{d)}	EN 10025-5:2004 Art. 7.3.1, Tab. 4	
^{a)} at nominal thickness ≤ 2 mm ^{c)} at nominal thickness > 2,5 mm and < 3 mm ^{k)} at nominal thickness < 3 mm ^{b)} at nominal thickness > 2 mm and ≤ 2,5 mm ^{d)} at nominal thickness ≥ 3 mm ^{l)} elongation value should be agreed			
Minimum upper yield strength <i>R_{eH}</i>	S235JR	235 MPa	EN 10025-2:2004 Art. 7.3.1, Tab. 7
	S235J0		
	S235J2		
	S275JR	275 MPa	
	S275J0		
	S275J2		
	S355JR	355 MPa	
	S355J0		
	S355J2		
	S355K2		
	S355M	355 MPa	EN 10025-4:2004 Art. 7.3.1, Tab.5
	S420M	420 MPa	EN 10025-4:2004 Art. 7.3.1, Tab.5
	S355J0WP	355 MPa	EN 10025-5:2004 Art. 7.3.1, Tab. 4
Tensile strength <i>R_m</i>	S235JR	360 to 510 MPa	EN 10025-2:2004 Art. 7.3.1, Tab. 7
	S235J0		
	S235J2		
	S275JR	430 to 580 MPa ^{e)}	
	S275J0	410 to 560 MPa ^{f)}	

	S275J2	510 to 680 MPa ^{e)} 470 to 630 MPa ^{f)}	EN 10025-4:2004 Art. 7.3.1, Tab.5	
	S355JR			
	S355J0			
	S355J2			
	S355K2			
	S355M	470 to 630 MPa		EN 10025-4:2004 Art. 7.3.1, Tab.5
	S420M	520 to 680 MPa		EN 10025-4:2004 Art. 7.3.1, Tab.5
	S355J0WP	510 to 680 MPa ^{e)} 470 to 630 MPa ^{f)}		EN 10025-5:2004 Art. 7.3.1, Tab. 4
^{e)} at nominal thickness < 3 mm		^{f)} at nominal thickness ≥ 3 mm		

Impact strength KV ^{g)} (min.)	S235JR ^{h)}	27 J at +20 °C	EN 10025-2:2004 Art. 7.3.1, 7.3.2 Tab. 9
	S235J0	27 J at 0 °C	
	S235J2	27 J at -20 °C	
	S275JR ^{h)}	27 J at +20 °C	
	S275J0	27 J at 0 °C	
	S275J2	27 J at -20 °C	
	S355JR ^{h)}	27 J at +20 °C	
	S355J0	27 J at 0 °C	
	S355J2	27 J at -20 °C	
	S355K2	40 J at -20 °C	
	S355M	40 J at -20 °C	EN 10025-4:2004 Art. 7.3.1, 7.3.2 Tab. 6
	S420M	40 J at -20 °C	EN 10025-4:2004 Art. 7.3.1, 7.3.2 Tab. 6
	S355J0WP ^{h)}	27 J at 0 °C	EN 10025-5:2004 Art. 7.3.1, 7.3.2. Tab. 5

^{g)} at nominal thickness < 6 mm the Charpy impact test is not performed, in as per EN 10025-1:2004, Article 7.3.2.1

^{h)} 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 10025-2:2004 Art. 7.4.1
	Grades S355M and S420M are applicable for welding.	EN 10025-4:2004 Art. 7.4.1
	The following applies to S355J0WP: Specific actions need to be taken in case of welding with high phosphorus content.	EN 10025-5:2004 Art. 7.4.1, D.1


Durability (chemical composition, %)	C	Si	Mn	P	S	N ^{j)}	Cu	Cr	Nb	V	Al	Ti	Ni	Mo	CEV
	max.	max.	max.		max.	max.			max	max	max	max	max	max	max.
----- EN 10025-2:2004; Article 7.2; 7.4.3 ----- Table 2															
S235JR	0,17	-	1,40	max.0,035	0,035	0,012	max.0,55	-	-	-	-	-	-	-	0,35
S235J0	0,17	-	1,40	max.0,030	0,030	0,012	max.0,55	-	-	-	-	-	-	-	0,35
S235J2	0,17	-	1,40	max.0,025	0,025	-	max.0,55	-	-	-	-	-	-	-	0,35
S275JR	0,21	-	1,50	max.0,035	0,035	0,012	max.0,55	-	-	-	-	-	-	-	0,40
S275J0	0,18	-	1,50	max.0,030	0,030	0,012	max.0,55	-	-	-	-	-	-	-	0,40
S275J2	0,18	-	1,50	max.0,025	0,025	-	max.0,55	-	-	-	-	-	-	-	0,40
S355JR	0,24	0,55	1,60	max.0,035	0,035	0,012	max.0,55	-	-	-	-	-	-	-	0,45
S355J0	0,20 ^{j)}	0,55	1,60	max.0,030	0,030	0,012	max.0,55	-	-	-	-	-	-	-	0,45
S355J2	0,20 ^{j)}	0,55	1,60	max.0,025	0,025	-	max.0,55	-	-	-	-	-	-	-	0,45
S355K2	0,20 ^{j)}	0,55	1,60	max.0,025	0,025	-	max.0,55	-	-	-	-	-	-	-	0,45

EN 10025-4:2004 Article 7.2, Table 2																
S355M	0,14	0,50	1,60	max.0,030	0,025	0,015	max.0,55	max.0,30	0,05	0,10	0,02	0,05	0,50	0,10	0,39	
S420M	016	0,50	1,70	max.0,030	0,025	0,025	max.0,55	max.0,30	0,05	0,12	0,02	0,05	0,80	0,20	0,43	
EN 10025-5:2004 Article 7.2, Table 2																
S355J0WP	0,12	0,75	1,00	0,06 - 0,15	0,035	0,009 ⁾	0,25 - 0,55	0,30 - 1,25								0,52
⁾ For grades suitable for cold roll forming max. 0,22 % C max. ⁾ The max. value for Nitrogen does not apply if the chemical composition shows a minimum total Al content of 0,020 % or alternatively sufficient other binding elements are present.																

10. The producer declares, on their own responsibility, that the properties of the above stated products are in conformance with attributes declared in the table.

This declaration of parameters is developed in accordance with Regulation (EU) No. 305/2011 of the European Parliament and of the Council laying down harmonized conditions for the marketing of construction product.

The declaration of performance is valid since October 1, 2015

Name: Ing. Štefan Novák
Position: Director of Hot Rolling Mill DP
Signature: 

Ing. Ferdinand Kóča
Head of QMS department

