



275/2013. Govern. decree
Nr.20

ÉMI NON-PROFIT LIMITED LIABILITY COMPANY FOR QUALITY
CONTROL AND INNOVATION IN BUILDING
ENGINEERING SERVICES DIRECTORATE
CONFORMITY ASSESSMENT CENTER
CERTIFICATION OFFICE

H-2000 Szentendre, Dózsa György út 26. Postal address: H-2001 Szentendre, Pf : 180.
Phone: +36 (26) 502 300 E-mail: tanusitas@emi.hu WEB: http://www.emi.hu

CERTIFICATE OF CONSTANCY OF PERFORMANCE

20-CPR-143-(C-34/2010)

In compliance with Government decree no. 275/2013. (issued on 16th July) this certificate applies to the construction product

Yssel Steel SK, s.r.o. made weldable, ribbed, cold formed reinforcing steel in coils and straightened wires in steel quality B500A (DIN 488-1:2009 and MSZ/T 339:2012.03) with $\varnothing \geq 5$ mm nominal diameter

with product performance and intended use shown in the annex as page 2/2 of this certificate and produced by

Yssel Steel SK, s.r.o.

Mierová 21, SK-941 11 Palárikovo, Slovakia

and produced in the manufacturing plant:

Yssel Steel SK, s.r.o.

Továrenská 1, SK-943 03 Štúrovo, Slovakia

This certificate attests that all provisions concerning the assessment and verification of constancy of performance described in **National Technical Assessment no. A-260/2015 dated at 17.05.2019** under system (1+) are applied and that

the product fulfils all the prescribed requirements set out above.

This certificate was first issued* on 04.02.2016. and will remain valid as long as the test methods and/or factory production control requirements included in the National Technical Assessment, used to assess the performance of the declared characteristics, do not change, and the product, and the manufacturing conditions in the plant are not modified significantly.

This certificate consists of 2 pages!

Issue: 6.

Dated at Szentendre, on 18.06.2020



Ágnes Molnár
Head of Certification Office

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* certificate was issued first on **23rd April 2012** within the period of validity of joint Ministerial Decree No. 3/2003. (25th January) BM-GKM-KvVM of Ministry of Interior, Ministry of Economy and Transport, and Ministry of Environment Protection and Water Management.



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ANNEX

Nominal diameters:

$\varnothing \geq 5 \text{ mm}$

Intended use of the product:

The steel coils and wires may be used as reinforcement of concrete structures according to EN 10080:2005, in steel quality B500A (DIN 488-1:2009 and MSZ/T 339:2012.03).

The reinforcing steel coils and wires can be taken into account with the parameters of BHB 55.50 (MSZ 982:1987) reinforcing steel by performing diagnostic works on building designed in accordance with withdrawn standards series no. MSZ 15022:1986 and no. MSZ 15022:1986/1M:1992.

The reinforcing steel coils and wires can be taken into account as product in ductility class A with $R_{p0,2} = 500$ MPa declared proof strength calculated from nominal cross-section at design works and strength calculations, according to Annex C of standard no. EN 1992-1-1:2010 (EUROCODE 2).

Essential characteristics	Performance	
Rib geometry	- a_m [mm]	$0,03 \cdot d - 0,15 \cdot d$
	- β [°]	between 35° and 75°
	- Σe_i [mm]	$\leq d \cdot \pi / 4$
	- c [mm]	$0,4 \cdot d - 1,2 \cdot d$
	- f_R , minimum (individual value)	$d \leq 6 \text{ mm}: 0,035$ $6 \text{ mm} < d \leq 12 \text{ mm}: 0,040$ $d > 12 \text{ mm}: 0,056$
Proof or yield strength ($R_{p0,2}$ or R_{eH}) ¹⁾	$\geq 500 \text{ MPa}$ (characteristic) $\geq 485 \text{ MPa}$ (individual)	
Tensile strength (R_m)	$\geq 550 \text{ MPa}$ (characteristic) $\geq 534 \text{ MPa}$ (individual)	
Stress ratio, R_m / R_{eH}	≥ 1.05 (characteristic) ≥ 1.03 (individual)	
Yield ratio, $R_{e,act} / R_{e,nom}$	≤ 1.30 (individual)	
Extension (A_{gt})	$\geq 2.5 \%$ (characteristic) $\geq 2.25 \%$ (individual)	
Elongation, A_5	$\geq 10.0 \%$ (average)	
- bending test 180 degrees, without crack	$d \leq 16 \text{ mm}: 3d$ $d > 16 \text{ mm}: 6d$	
- bending test 90 degrees, re-bending 20 degrees	$d \leq 12: 5d$ $12 < d \leq 16: 6d$ $16 < d: 8d$	
nominal mass per metre	$(d2\pi/4) \cdot 7850 \text{ kg/m}^3$	
Tolerances from nominal cross-section	$d \leq 8 \text{ mm}: \pm 6.0$ $d > 8 \text{ mm}: \pm 4.5$	
Batch analysis: C; S; P; N ₂ ; Cu	$\leq 0,22; \leq 0,050; \leq 0,050; \leq 0,012; \leq 0,80$	
Carbon equivalent, CEV [%]	$\leq 0,50$	
Product analysis (coils): C; S; P; N ₂ ; Cu	$\leq 0,24; \leq 0,055; \leq 0,055; \leq 0,014; \leq 0,85$	
Carbon equivalent (coils), CEV [%]	$\leq 0,52$	

¹⁾ Upper yield strength (R_{eH}), when real yield phenomena occurs, otherwise proof strength ($R_{p0,2}$)

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