



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.
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CERTIFICATE OF CONSTANCY OF PERFORMANCE

20-CPR-1-(C-24/2006)

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

Weldable, ribbed, hot-rolled reinforcing steel bars in steel quality B550B (ÖNORM B 4707:2014 / MSZ/T 339:2012.03) with product name TC550BSW produced by Badische Stahlwerke GmbH

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

Badische Stahlwerke GmbH

Graudenzer Str. 45, 77694 Kehl/Rhein, Germany

and produced in the manufacturing plant:

Badische Stahlwerke GmbH

Graudenzer Str. 45, 77694 Kehl/Rhein, Germany

This certificate attests that all provisions concerning the assessment and verification of constancy of performance described in **National Technical Assessment no. A-36/2017** dated at **04.05.2017** under system (1+) are applied and that

the product fulfils all the prescribed requirements set out above.

This certificate was first issued on 13.12.2013* 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: 2.

Dated at Szentendre, 15.07.2020



Ágnes Molnár
Head of Certification Office

* certificate was issued first on 04.12.2007 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 diameter: $\varnothing 10 - \varnothing 40$ mm

Intended use of the product:

The steel bars may be used as reinforcement of concrete structures according to EN 10080:2005, in steel quality B550B (ÖNORM B 4707:2010 and MSZ/T 339:2012.03) into the same use as well B 60.50 (MSZ 339:1987) hot rolled reinforcing steel.

The steel bars can be taken into account with the parameters of B 60.50 (MSZ 339:1987) steel by performing diagnostic works on building designed in accordance with withdrawn standard series no. MSZ 15022:1986 and no. MSZ 15022:1986/1M:1992.

The steel bars can be taken into account as product in ductility class B with $R_e = 550$ MPa declared yield strength calculated from nominal cross-section at design works and strength calculations, according to Annex C of standard no. EN 1992-1-1:2004 (EUROCODE 2)

Essential characteristics		Performance	
Yield or proof strength (R_{eH} or $R_{p0,2}$) ¹⁾		≥ 550 MPa (characteristic) ≥ 534 MPa (individual)	
Tensile strength (R_m)		≥ 620 MPa (characteristic) ≥ 602 MPa (individual)	
Stress ratio (R_m / R_{eH})		≥ 1.08 (characteristic) ≥ 1.06 (individual)	
Yield ratio ($R_{e,act} / R_{e,nom}$)		≤ 1.30 (individual)	
Extension (A_{gt})		≥ 5.0 % (characteristic) ≥ 4.5 % (individual)	
Elongation (A_5)		≥ 18.0 % (average)	
Rib geometry	a_m (mm)	$0,03d - 0,15d$	
	β (°)	35 és 75 között	
	$\sum e_i$ (mm)	$\leq d\pi/4$	
	c (mm)	$0,4d - 1,2d$	
	f_R minimum (individual value)	$10 \text{ mm} < d \leq 12 \text{ mm}$: 0,040 $d > 12 \text{ mm}$: 0,056	
Bending performance: 180° bending test without cracking		$d \leq 16 \text{ mm}$: 3d $d > 16 \text{ mm}$: 6d	
Fire resistance class		A1	
Cross-section / flow meter mass deviation from nominal value (%)		$d > 8 \text{ mm}$: $\pm 4,5$	
Performance against fatigue without breaking		cycle number	$\geq 2 \cdot 10^6$
		σ_{max} [MPa]	330
		$2\sigma_A$ [MPa]	165
Chemical composition performance characteristics	Dose analysis	C; S; P; N ₂ ; Cu	$\leq 0,22$; $\leq 0,050$; $\leq 0,050$; $\leq 0,012$; $\leq 0,80$
	Product analysis	C; S; P; N ₂ ; Cu	$\leq 0,24$; $\leq 0,055$; $\leq 0,055$; $\leq 0,014$; $\leq 0,85$
Weldability performance characteristics	Carbon equivalent, Ceq (%)	- dose analysis - product analysis	$\leq 0,50$ $\leq 0,52$
Caterpillar seam bending to 150° without cracking the transition zone		$d \geq 16 \text{ mm}$ with 3d mandrel	
Impact work at 0° C, KV (J) $d \geq 16 \text{ mm}$		average ≥ 28 individual value ≥ 21 (75%)	
¹⁾ Upper yield strength (R_{eH}), when real yield phenomena occurs, otherwise proof strength ($R_{p0,2}$)			

Issue: 3.

Dated at Szentendre, 15.07.2020

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