



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

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CERTIFICATE OF CONSTANCY OF PERFORMANCE

20-CPR-366-(C-11/2019)

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

Ferriera Valsabbia S.p.A. made ribbed, hot rolled reinforcing steel in bars in steel quality B500B (DIN 488-1:2009 / MSZ/T 339:2012.03)

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

Ferriera Valsabbia S.p.A.
25076 Odolo (BS) Via Marconi 13., Italy

and produced in the manufacturing plant:

Ferriera Valsabbia S.p.A.
25076 Odolo (BS) Via Marconi 13., Italy

This certificate attests that all provisions concerning the assessment and verification of constancy of performance described in **National Technical Assessment no. A-21/2019 dated at 18.10.2019** under system (1+) are applied and that

the product fulfils all the prescribed requirements set out above.

This certificate was first issued on 12.08.2020 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!

Dated at Szentendre, 12.08.2020



Ágnes Molnár
Head of Certification Office

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ANNEX

Nominal diameters: $\varnothing 8$ - $\varnothing 28$ 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 B500B (DIN 488-1:2009 / MSZ/T 339:2012.03).

The reinforcing steel products can be taken into account with the parameters of B60.50 (MSZ 339:1987) reinforcing steels by performing diagnostic works on structures designed in accordance with withdrawn standards series no. MSZ 15022-1;-2;-4;-7:1986.

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

Essential characteristics		Performance
Yield or proof strength (R_{eH} or $R_{p0,2}$) ¹⁾		≥ 500 MPa (characteristic) ≥ 485 MPa (individual)
Tensile strength (R_m)		≥ 580 MPa (characteristic) ≥ 563 MPa (individual)
Stress ratio, $R_m / R_{p0,2}$ ¹⁾		≥ 1.08 (characteristic) ≥ 1.06 (individual)
Yield ratio, $R_{p0,2} / R_{p0,2, nom}$ ¹⁾		≤ 1.30 (individual)
Extension (A_{gt})		≥ 5.0 % (characteristic) ≥ 4.5 % (individual)
Elongation, A_5		≥ 18.0 % (average)
Rib geometry	a_m [mm]	$0,03 \cdot d - 0,15 \cdot d$
	θ [°]	between 35° and 75°
	Σe_i [mm]	$\leq d \cdot \pi / 4$
	c [mm]	$0,4 \cdot d - 0,15 \cdot d$
	f_R minimum	$d \leq 6$ mm: 0,035 6 mm < $d \leq 12$ mm: 0,040 $d > 12$ mm: 0,056
180° bend test with no cracks		3d mandrel
Fire resistance class		A1
Deviation from nominal cross section		$d \leq 8$ mm: $\pm 6,0$ $d > 8$ mm: $\pm 4,5$
Impact work at 0 ° C, KV (J) $d \geq 16$ mm		average ≥ 28 individual value ≥ 21 (75%)
Carbon equivalent, C_{eq} (%)		
- Batch analysis		$\leq 0,50$
- Product analysis		$\leq 0,52$
Batch analysis Ca; S; P; N ₂ ; Cu		$\leq 0,22$; $\leq 0,050$; $\leq 0,050$; $\leq 0,012$; $\leq 0,80$
Product analysis Ca; S; P; N ₂ ; Cu		$\leq 0,24$; $\leq 0,055$; $\leq 0,055$; $\leq 0,014$; $\leq 0,85$

¹⁾ Upper yield strength, when real yield phenomena occurs, otherwise proof strength

Dated at Szentendre, 12.08.2020

