61-59
03.03.2023

ArcelorMittal

DECLARATION OF PERFORMANCE
no 61-59/1/2023.....

1. Unique identification code of the product-type:

Weldable, ribbed, hot rolled reinforcing steel bars and coils in steel grade B500B,
bars: Ø8, Ø10, Ø 12, Ø 14, Ø 16, Ø 20, Ø 25, Ø 28 and Ø32 mm;
coils: Ø8, Ø10, Ø 12 mm.

2. Designation of the construction product type:

Rolling marking applied on the product: 9-2-2

3. Technical specification applicable to the construction product: **in accordance with NTA No. A-41/2022 dd 14.10.2022**

The steel bars can be taken into account as products 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).

4. Name and address of the manufacturer:

Public Joint Stock Company ArcelorMittal Kryvyi Rih
Kryvorizhstali 1
50095 Kryvyi Rih, Ukraine

5. System of assessment of and verification of constancy of performance of the construction product:

System 1+

6. Technical Assessment Body and Designated Certification Body:

ÉMI Non-profit Ltd. for Quality Control and Innovation In Building
(government decree no. 275/2013. Nr.20)
Hungary, 2000 Szentedre, Dózsa György Street 26

7. Technical Specification and Certificate sign:

National Technical Assessment no. A-41/2022 - dd 14.10.2022
Certificates of Constancy of Performance no. 20-CPR-434-(C-35/2022) – 2023.02.23
and 20-CPR-435-(C-35/2022) – 2023.02.23

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в ПАТ «Сітібанк»
Код ЄДРПОУ – 24432974,
МФО – 300584

8. Declared performance:

Essential characteristics		**Performance**	**Applied test and product standards**	**Technical specification**
Yield strength, R_e [MPa][1),2)]		≥ 500 (characteristic) ≥ 485 (individual)	MSZ EN 13501-1:2019 MSZ EN 10080:2005 MSZ EN ISO 15630-1:2020 MSZ EN 1992-1-1:2010 MSZ 339:1987	National technical assessment no. A-41/2022 dd 14.10.2022
Tensile strength, R_m [MPa] [2)]		≥ 590 (individual)		
Stress ratio, R_m / R_e[1)]		≥ 1,08 (characteristic) ≥ 1,06 (individual)		
Yield ratio, $R_{e,act} / R_{e,nom}$[1)]		≤ 1,30 (individual)		
Elongation, A_{gt} [%]		≥ 5,0 (characteristic) ≥ 4,0 (individual)		
Elongation, A_5 [%]		≥ 18,0 (individual)		
180° bend test without cracking		d ≤ 16: 3d d > 16: 6d maximum spike diameter		
or band 90° and reband 20° test without cracking		d ≤ 16: 5d 16 < d ≤ 25: 8d 25 < d: 10d maximum spike diameter		
Reaction to fire		A1		
Tolerances from nominal cross-section [%]		d ≤ 8 mm: ± 6,0 d > 8mm: ± 4,5		
Bar manufacturing length tolerance [mm]		+100 / -0		
Relative rib surface, f_R, minimum		6,0 < d ≤ 12,0: 0,040 d > 12,0: 0,056		
Rib height, $a_m(h)$ [mm]		0,03·d – 0,15·d		
Rib angle, β [°]		between 35° and 75°		
Circumference without rib, Σ_{ei} [mm]		≤ d·π/4		
Distance between ribs, c [mm]		0,4·d – 1,5·d		
Chemical composition, cast analysis	C;[a)] S; P N_2;[b)] Cu	≤ 0,22; ≤ 0,050; ≤ 0,050; ≤ 0,012; ≤ 0,80		
Chemical composition, product analysis	C; [a)] S; P N_2;[b)] Cu	≤ 0,24; ≤ 0,055; ≤ 0,055; ≤ 0,014; ≤ 0,85		
Carbon equivalent value[b)], C_{eq} [%] - cast analysis - product analysis		 ≤ 0.50 ≤ 0,52		
Fatigue		σ_{max} = 0,6·R_e MPa; $2\sigma_A \geq 150$ MPa; $n \geq 2 \cdot 10^6$; 1-200 Hz		

1) $R_e = R_{eH}$ (upper yield strength), or $R_e = R_{po,2}$ (conventional yield strength) when no upper yield strength (ReH) indicated.

2) Calculated with nominal cross-section.

3) The evaluation performed with a 180° bending test.

a) The maximum prescribed value of carbon may be exceeded by 0,03% by mass if, at the same time, the carbon equivalent is reduced by 0,02% by mass.

b) Higher nitrogen contents are permissible if the content of nitrogen-fixing elements is sufficient.

9. The performance of the product identified in point 1. – 3. is in conformity with the declared performance in point 8. This declaration of performance is issued under the sole responsibility of the manufacturer identified in point 4.

Singed for and on behalf of the manufacturer by:

Acting Head of Quality Department

Kopylov S. A.

(name and position)

Kryvyi Rih, Ukraine

03.03.2023

(place and date of issue)

Україна м. Кривий Ріг
Публічне акціонерне товариство «АрселорМіттал Кривий Ріг»
Ідентифікаційний код 24432974
Дніпропетровська область

(signature)