METIHBECT

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NATIONAL DECLARATION OF PERFORMANCE
No. 230-B500B-02-2024

1. Technical name of the construction product:
Ribbed bars for concrete reinforcement

1a. Trade name of the construction product:
Ribbed bars B500B

2. Type designation of the construction product:
Ribbed bars B500B

3. Intended application(s) of the product:
Ribbed bars B500B with a diameter of 8.0÷32.0 are intended for application in road construction as reinforcement for reinforced steel structures and elements. Scope of the product application:
a) general purpose roads without limitations,
b) internal roads without limitations,
c) road engineering structures without limitations,
d) railway engineering structures without limitations,
e) auxiliary railway structures limited with facilities for passenger services: platforms and crossings,
f) construction structures of underground (subway), limited to: stations, tunnels, bridges, viaducts, and underground ramps, as well as technical and parking stations,
g) civil aerodromes, limited to: runway pavement, taxiway pavement, slab pavement, and designated parking area pavement.
Ribbed bars B500B shall be used taking into account rules specified in PN-EN 1992-1-1:2008 and PN-EN 1992-2:2010 for rebars of ductility class B (A-IIIN according to PN S-10042:1991).
Reinforced with ribbed bars B500B concrete structures can operate under static and varying loads in the temperature range from -60 °C to +100 °C, as well as under dynamic and repeatedly varying loads.

4. Name and address of manufacturer's registered office and place of the product production:
PRIVATE JOINT STOCK COMPANY "KAMET-STEEL"
Soborna St. 18B, 51925 Dnipropietrovsk Oblast, Kamianske, Ukraine

5. Name and address of authorised representative, if any:
METINVEST POLSKA Sp. z o.o., 33 Warszawska Street, 40-010 Katowice, Poland
(ul.Warszawska 33, 40-010, Katowice, Polska)

6. National system used for assessment and verification of constancy of performance characteristics: **1+**

7. National technical specification:
7b. National technical assessment: **IBDiM-KOT-2023/0976 revision No. 1**
Technical Assessment Body / National Technical Assessment Body:
Research Institute of Roads and Bridges (Instytut Badawczy Dróg i Mostów),
1 Instytutowa Street, 03-302 Warsaw (ul.Instytutowa 1, 03-302, WARSZAWA)

Name of the accredited certification body, accreditation number, and certificate number:
INSTITUTE OF BUILDING TECHNOLOGY, 1 Filtrowa Street, 00-611 WARSAW
(INSTYTUT TECYNIKI BUDOWLANEJ, ul.Filtrowa 1, 00-611, WARSZAWA)
Certification Center, 1 Filtrowa Street, 00-611 WARSAW
(ZAKLAD CERTYFIKACJI, ul.Filtrowa 1, 00-611, WARSZAWA)

Accreditation Certificate No. AC 020

8. Declared performance characteristics:

Main characteristics of the construction product for intended application(s)	Declared performance characteristics			Notes:
1	2			3
1. Chemical composition, %	Chemical element	Type of Analysis		main characteristics of the product
		Heat	Items	
	$C^{1)}$	≤ 0.22	≤ 0.24	
	Mn	≤ 1.60	≤ 1.70	
	Si	≤ 0.60	≤ 0.65	
	S	≤ 0.050	≤ 0.055	
	P	≤ 0.050	≤ 0.055	
	Cu	≤ 0.50	≤ 0.60	
	$N^{2)}$	≤ 0.012	≤ 0.013	
	$C_E{}^{3)}$	≤ 0.50	≤ 0.52	
2. Dimensions, ribbing characteristics, mass per unit length [7)]	Nominal diameter (d), mm	Minimum ribbing ratio (f_R)	Mass per unit length (m), kg/m [4)]	main characteristics of the product
	8.0	0.045	0.395	
	10.0	0,052	0.617	
	12.0	0.056	0.888	
	14.0		1.210	
	16.0		1.580	
	20.0		2.470	
	25.0		3.850	
	28.0		4.830	
	32.0		6.310	
3. Mechanical properties [7)]	Yield strength R_e, MPa [5)]		≥ 500 ≤ 650	main characteristics of the product
	Ratio of tensile strength to yield strength (Rm/Re) [6)]		≥ 1.08	
	Total elongation at maximum force A_{gt}, %		≥ 5.0	
	Bending of "aged" specimens to an angle of 20° after bending to an angle of 90° on a bar with a diameter of: - 5d for d = 8 . 16 mm - 8d for d = 20 . 28 mm - 10d for d = 32 mm		without cracks	
	Fatigue strength tested under the following parameters: - maximum mechanical stress: σ_{max} = 0.6 R_e — range of mechanical stress: $2\sigma_a$ = 160 MPa for d ≤ 28 mm $2\sigma_a$ = 145 MPa for d > 28 mm		≥ 2 x10^6 cycles	

(1) An excess of carbon content by 0.03% by mass is permitted provided that the carbon equivalent is reduced by 0.02%.
(2) A higher nitrogen content is permitted when using an appropriate amount of nitrogen-fixing elements.
3) Carbon equivalent by the formula: CE=C + Mn/6 + (Cr+V+ Mo)/5+ (Cu+Ni)/15.
4) Maximum deviation of the mass is: -4% / +6%.
5) The yield strength shall be taken as the upper yield strength R_{eH}.
6) R_e and R_m shall be determined in relation to the nominal diameter.
7) Methods for determining geometric properties and testing methods in accordance with PN-EN ISO 15630-1:2019-04.

9. Performance characteristics of the abovementioned product shall comply with all declared performance characteristics described in Clause 8. This national declaration of performance has been issued in accordance with the Act of 16 April 2004 on Construction Products, under the sole responsibility of the manufacturer.

The national declaration of performance is available at: http://ks.metinvestholding.com.

Signed on behalf of the manufacturer:

Director for Technology and Quality ..... Viktor DEMBYTSKYI

(position) (signature) (full name)

Kamianske, Ukraine
April 1, 2024
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(place and issue date)