

Authorized Body 204  
empowered by the Decision of COSMT No. 5/2017  
Branch Office 0600 – Brno

issues  
in compliance with Act No. 22/1997 Coll. on Technical Requirements for Products and on Amendments to Some Acts as amended and Section 2 and 3 of Government Decree No. 163/2002 Coll., as amended by Government Decree No. 312/2005 Coll. and by the Government Decree No. 215/2016 Coll.

# TECHNICAL APPROVAL

No. 060-050684

Trade name:

**Composite glassfiber rebar AKS “Rockbar”**

type / variant:

**diameter of rods 6 mm, 8 mm, 10 mm**

manufacturer:

**GALEN LLC**

INo:	1022100979780
address:	15/1 Industrial pr, Cherdaklinsky district, Port special economic zone, Ulyanovsk region, Russia, 433405
plant:	<b>GALEN LLC</b>
address:	15 Lapsarsky pr, Cheboksary, Russia, 428903
order:	Z060190228

The Authorized Body 204 confirms by this Technical Approval the technical characteristics of the product, their levels and procedures of determination in relation to the essential requirements specified in Annex No. 1 to the Government Decree No. 163/2002 Coll. as amended by the Government Decree No. 312/2005 Coll. and by the Government Decree No. 215/2016 Coll.

The technical Approval is a technical specification intended for assessing of conformity of the mentioned product.

Number of pages of the Technical Approval, including the title page: 4

This Technical Approval is compiled by:

Ing. Marek Sopko  
Chief Assessor

This Approval is valid until: July 31, 2023

Person responsible for correctness of this Approval:

Brno, July 21, 2020

Ing. Miroslav Procházka  
Deputy manager of the Authorized Body 204

Note: This Technical Approval shall not be reproduced other than as a complete without a written consent of the Head Manager of the Authorized Body 204.

**1. Information of the product and its intended use:**

Composite reinforcement bar AKS “Rockbar” of diameter 6, 8 and 10 mm is glass fibre reinforced polymer rod, which is performed of glass fibres impregnated by heat-cured epoxy resin.

The surface of the bars is covered by siliceous sand for better cohesion with concrete in structures.

These bars are intended especially for reinforcement of concrete constructions (walls, boards) and a flooring to prevent a formation of shrinkage cracks situated in humid and corrosive environment (sewage plants, silage troughs, chemical, food processing and agricultural operations).

## 2. Determination of observed characteristic and methods of verification:

Tab. 1: Determination of observed characteristics of the bars with diameter 6 mm

No.	Characteristic	Test method	No. of samples		Required (R) / declared value (D)			
			T	S	Characteristic	Ø 6 mm	Ø 8 mm	Ø 10 mm
1	Tensile strength Elongation	ISO 10406-1, cl. 6 ČSN EN ISO 6259-1	10	5	D: $f_{u,c}$ : D: $\varepsilon_u$	min. 1100 MPa (3,1 ÷ 3,5) %	min. 1100 MPa (2,8 ÷ 3,2) %	min. 1100 MPa (2,2 ÷ 3,4) %
2	Nominal diameter	ISO 10406-1, cl. 5	3	3	D:	tolerance (-5 / +10) %		
3	Modulus of elasticity Tensile rigidity	ISO 10406-1, cl. 6.4.4	10	5	D: $E_m$ : $E_A$ :	min. 44 GPa min. 1500 kN	min. 48 GPa min. 2400 kN	min. 50 GPa min. 4000 kN
4	Bond strength	ISO 10406-1, cl. 7	3	--	D:	min. 11 N/mm <sup>2</sup>	min. 16 N/mm <sup>2</sup>	min. 11 N/mm <sup>2</sup>
5	Tensile fatigue - 1. Level for 10 <sup>3</sup> cycles	ISO 10406-1, cl. 10	5	3	D:	min. 10 <sup>3</sup> cycles for range of force 4 ÷ 18 kN	min. 10 <sup>3</sup> cycles for range of force 4 ÷ 25 kN	min. 10 <sup>3</sup> cycles for range of force 5 ÷ 45 kN
6	Shear strength	ISO 10406-1, cl. 13	3	3	D:	min. 300 N/mm <sup>2</sup>	min. 300 N/mm <sup>2</sup>	min. 250 N/mm <sup>2</sup>
7	Alkali resistance	ISO 10406-1, cl. 11	5	5	D: $R_{et}$ : $E_m$ : $E_A$ :	≥ 60 %	≥ 75 %	≥ 80 %
8	Fibre content	ČSN EN ISO 1172	2	2	D:	(82 ÷ 86) %		
9	Cadmium content	Methodology No. 100611-01	1	1	D:	max. 0,01 %		
10	Marking	ČSN EN 13706-2	1	1	D:	according to ČSN EN 13706-2, cl. 8		

Note: T – verification of product conformity (§ 7, 8), S – surveillance over certified product (§ 5, 5a, 6, 10)

### 3. Factory production control assessment

General requirement of manufacturing control system are listed in Annex No. 3 to Government Decree No. 163/2002 Sb. as amended by Government Decree No. 312/2005 Sb. and by the Government Decree No. 215/2016 Coll and they are specify in the Tab.2.

### 4. Data proposed by the importer:

- Application for performance of activity of Authorized Body 204, dated 5. 12. 2019

### 5. List of applied technical instructions, standards and other data:

- Act No. 22/1997 Coll. on Technical Requirements for Products and on Amendments to Some Acts
- Government Decree No. 163/2002 Coll., on the Technical requirements for selected construction products, as amended by Government Decree No. 312/2005 Coll. and the Government Decree No. 215/2016 Coll.
- ISO 10406-1 Fibre-reinforced polymer (FRP) reinforcement of concrete – Test methods – Part 1: FRP bars and grids
- ČSN EN ISO 6259-1 Thermoplastic pipes - Determination of tensile properties - Part 1: General test method
- ČSN EN ISO 1172 Textile-glass-reinforced plastics - Prepregs, moulding compounds and laminates - Determination of the textile-glass and mineral-filler content - Calcination methods
- ČSN EN 13706-2 Reinforced plastics composites - Specifications for pultruded profiles - Part 2: Methods of test and general requirements
- Methodology No. 100611-01 Determination of metals in the sample: AAS – flame
- Technical direction 01.02.c Glass or carbon or their combination reinforced polymer rods

### 6. Verification tests:

No verification tests have been performed in order to compile this Technical Approval.

### 7. Specific requirements for evaluation of conformity:

- The product is classified as product group No. 01, item 2, pursuant to Annex 2 to Government Decree No. 163/2002 Coll. as amended and it is specified to verify conformity by the producer pursuant to § 5 thereof. The importer shall check the products in accordance with the requirements of § 5 cl. 1 d) thereof.
- Surveillance of the certified product will be performed once every 12 months