



Notifikovaná osoba č. 1301

TECHNICKÝ A SKŮŠOBNÝ ÚSTAV STAVEBNÝ, n. o.  
BUILDING TESTING AND RESEARCH INSTITUTE  
Studená 3, 821 04 Bratislava, Slovenská republika

## Certificate of conformity of the factory production control

1301 – CPR – 1372

In compliance with Regulation (EU) No 305/2011 of the European Parliament and of the Council of 9 March 2011 (the Construction Products Regulation or CPR), this certificate applies to the construction product

### Hexagonal woven mesh gabion boxes, mattresses and sacks Nector

are intended to be used for: earth retention; soil reinforcement; river training; erosion control; fascia systems; architectural claddings; free-standing walls; noise mitigation works. The assumed working life of Hexagonal woven mesh gabion boxes, mattresses and sacks Nector for the intended use is 25 years for corrosivity category C1 and C2 and 10 years for corrosivity category C3 (for corrosivity category see EN ISO 9223) provided that the gabions and mattresses are subject to appropriate installation and use.

Placed on the market under the name of

**Nector Sp. z o.o.**  
ul. Szlak 65/502, 31-153 Kraków  
Poland

and produced in the manufacturing plant

**Zakład Produkcyjny Nector**  
Gierczyce 208, 32-744 Łapczyca  
Poland

This certificate attests that all provisions concerning the assessment and verification of constancy of performance described in

**ETA 18/0224 – version 02, issued on 22/05/2023**

and

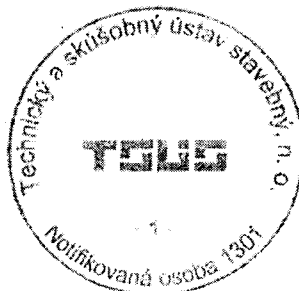
**EAD 200019-00-0102**

under system 2+ are applied and that

**the factory production control is assessed to be in conformity with the applicable requirements.**

This certificate was first issued on 26 April 2018 and will remain valid as long as neither the ETA, the EAD, the construction product, the AVCP methods, nor the manufacturing conditions in the plant are modified significantly, unless suspended or withdrawn by the notified factory production control certification body.

Bratislava, 4 August 2023



  
Dipl. Ing. Daša Kozáková  
Head of Notified Body 1301

## Declaration of Performance

No. 01/2023/G/ICE



1. *Unique identification code of the product-type:*  
**gabion Nector**
2. *Intended use/es:*  
**- earth retention, soil reinforcement, river training, erosion control, fascia systems, architectural claddings, free-standing walls, noise mitigation works**
3. *Manufacturer :*  
**Nector Sp. z o.o.  
Szlak 65/502  
31-153 Kraków**
4. *System of Assessment:* **2+**
5. *European Assessment Document:* **EAD 200019-00-0102, October 2015**  
*European Technical Assessment issued:* **ETA-18/0224 v.2 issued on 22/05/2023**  
*Technical Assesment Body:* **TSUS- Technicky a skusobny ustav stavebny, n.o**  
*Notified body/ies:* **TSUS , n 1301**
6. *Declared performance/s:*

Essential characteristics	Performance
<b>Mesh size</b>	Ø 60x80, Ø 80x100,
<b>Wire diameter and coating mass</b>	Ø 2,2 - 4,9 mm
<b>Wire: - tensile strength:</b> <b>- elongation:</b>	od 350 do 550 MPa > 8%
<b>Dimensions of product</b>	length: 0,5 -6 m width: 0,5-3 m height: 0,3, 0,5, 1 m
<b>Dimensions of C-ring</b>	3 mm
<b>Corrosion protection: - type</b> <b>- class of coating mass</b>	ZnAl 95%5% or 90%10% Class A according EN 10244-2
<b>Additional corrosion protection organic coating: - type</b> <b>- coating thickness</b>	PCV, HDPE od 0,4 do 0,6 mm
<b>Tensile resistance of mesh</b>	6x8/2,2 42 kN/m 6x8/2,7 72 kN/m 8x10/2,7 50 kN/m 8x10/3,0 60 kN/m
<b>C-ring resistance to opening</b>	F≥ 2 kN
<b>Durability</b>	1000 h exposure to salt spray < 5% of DBR category of working life: C2, C3, C4, C5 agree with EN ISO 9227

*The performance of the product identified above is in conformity with the set of declared performance/s. This declaration of performance is issued, in accordance with Regulation (EU) No 305/2011, under the sole responsibility of the manufacturer identified above,*

Signed for and on behalf of the manufacturer by: **Małgorzata Franaszek - Plenipotentiary for FPC**

Kraków, 20.06.2023



**NECTOR**

SPÓŁKA Z O.O.

31-153 Kraków, ul. Szlak 65/502  
tel.: 12 631 85 50, fax: 12 631 85 51  
NIP 676-22-23-701 · REGON 356573993

*Małgorzata Franaszek*  
.....  
(signed)



**Technický a skúšobný ústav stavebný, n. o.**  
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## European Technical Assessment

**ETA 18/0224 – version 02**  
**of 22/05/2023**

### General Part

**Technical Assessment Body issuing the ETA and designated according to Article 29 of the Regulation (EU) No 305/2011:** **Technický a skúšobný ústav stavebný, n. o.**

**Trade name of the construction product**

Hexagonal woven mesh gabion boxes, mattresses and sacks Nector

**Product family to which the construction product belongs**

Product area code: 20  
Structural Metallic Products and Ancillaries

**Manufacturer**

Nector Sp. z o. o.  
Ul. Szlak 65/502  
31-153 Kraków  
Poland  
[www.nector.biz](http://www.nector.biz)

**Manufacturing plant**

Zakład Produkcyjny Nector  
Gierczyce 208  
32-744 Łapczyca  
Poland

**This European Technical Assessment contains**

15 pages including 6 annexes which form an integral part of this assessment.

**This European Technical Assessment is issued in accordance with regulation (EU) No 305/2011, on the basis of**

EAD 200019-00-0102

**This version replaces**

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**Translations of this European Technical Assessment in other languages shall fully correspond to the original issued document and should be identified as such.**

**Communication of this European Technical Assessment, including transmission by electronic means, shall be in full (excepted the confidential Annex(es) referred to above). However, partial reproduction may be made, with the written consent of the issuing Technical Assessment Body – Technický a skúšobný ústav stavebný, n. o. (TSÚS). Any partial reproduction has to be identified as such.**

## **Specific part**

### **1 Technical description of the product**

A gabion is a double-twisted wire mesh container uniformly partitioned into internal cells, interconnected with other similar units, and filled with stone at the project site to form flexible, permeable, monolithic structures such as retaining walls, sea wall, channel linings, revetments, and weirs for erosion control projects, noise barrier and architectural cladding. A mattress is a double-twisted wire mesh container uniformly partitioned into internal cells with relatively small height in relation to other dimensions, having generally smaller mesh openings than the mesh used for gabions; mattresses are generally used for riverbank protection and channel linings. The ETA also covers cylindrical (sack) gabions – double-twisted wire mesh units with lateral opening to allow the gabion to be filled in the site.

Gabions and mattresses are produced from double-twisted non-ferrous metallic coated wire mesh and non-ferrous metallic coated steel wire for lacing wire and diaphragms, used for manufacturing, assembling, and installation of the product. The end adjustments of units are made using selvedge and edge wires. For connection of lid, bottom and intermediate diaphragms of the gabion (or mattresses) during the installation lacing wire or C-rings are used. Detailed information is given in Annexes 1 to 6.

### **2 Specification of the intended use(s) in accordance with the applicable European Assessment Document (hereinafter EAD)**

#### **2.1 Intended use**

Hexagonal woven mesh gabion boxes, mattresses and sacks Nector are intended to be used for: earth retention; soil reinforcement; river training; erosion control; fascia systems; architectural claddings; free-standing walls; noise mitigation works. The assumed working life of Hexagonal woven mesh gabion boxes, mattresses and sacks Nector for the intended use is in accordance with Annex A of EN 10223-3: 2013 for Zn95/Al5, Zn90/Al10 and Zn95/Al5 + PVC or HDPE coated products provided that the gabions and mattresses are subject to appropriate installation and use. The real working life may be, in normal use conditions, considerably longer without major degradation affecting the basic requirements for works<sup>1</sup>.

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<sup>1</sup> The real working life of a product incorporated in a specific works depends on the environmental conditions to which that works is subject, as well as on the particular conditions of the design, execution, use and maintenance of that works. Therefore, it cannot be excluded that in certain cases the real working life of the product may also be shorter than referred to above.

### 3 Performance of the product and references to the methods used for its assessment

The performance of the product: Hexagonal woven mesh gabion boxes, mattresses and sacks Nector is summarized in Table 1.

**Table 1 – Performance of the products**

<b>Product-type:</b> Hexagonal woven mesh gabion boxes, mattresses and sacks Nector		<b>Intended use:</b> Earth retention, soil reinforcement, river training, erosion control, fascia systems, free-standing walls, sound barriers, architectural claddings, noise mitigation works.	
<b>BWR</b>	<b>Essential characteristic</b>	<b>References to the methods used for assessment</b>	<b>Performance</b>
<b>1</b>	Mesh designation/Mesh size	2.2.1, EAD 200019-00-0102	<i>M</i> (mm) Annex 2
	Wire diameter	2.2.2, EAD 200019-00-0102	<i>d</i> (mm) Annex 5, Annex 6
	Wire tensile strength and elongation	2.2.3, EAD 200019-00-0102	<i>f<sub>t</sub></i> (MPa), <i>ε</i> (%) Annex 5, Annex 6
	Dimensions of product and connection components	2.2.4, EAD 200019-00-0102	<i>H, L, W, D, L<sub>s</sub></i> (mm) Annex 4
		2.2.4, EAD 200019-00-0102	Annex 3, Annex 6
	Corrosion protection: non-ferrous metallic coating: type	2.2.5, EAD 200019-00-0102	Description Annex 5, Annex 6
		2.2.5, EAD 200019-00-0102	Description Annex 5, Annex 6
	Additional corrosion protection: organic coating: type coating thickness and wire diameter coating concentricity coating integrity	2.2.6, EAD 200019-00-0102	Annex 6
		2.2.6, EAD 200019-00-0102	Annex 5, Annex 6
		2.2.6, EAD 200019-00-0102	Annex 6
2.2.6, EAD 200019-00-0102		Annex 6	
Tensile resistance of mesh	2.2.7, EAD 200019-00-0102	<i>p<sub>k</sub></i> (kN/m) Annex 6	
C-ring (or similar fastener) resistance to opening	2.2.8, EAD 200019-00-0102	<i>F<sub>m</sub></i> ≥ 2,0 kN	
Durability	2.2.9.1, EAD 200019-00-0102 2.2.9.2, EAD 200019-00-0102 2.2.9.3, EAD 200019-00-0102	Zn90/Al10 and Zn95/Al5 coated products: 1 000 hours with surface DBR ≤ 5% Zn90/Al10 and Zn95/Al5 +PVC or HDPE coated products: 1 000 hours with surface DBR ≤ 5%	
<b>3</b>	Content, emissions and/or release of dangerous substances	2.2.10, EAD 200019-00-0102	No performance assessed
<b>5</b>	Airborne sound insulation	2.2.11, EAD 200019-00-0102	No performance assessed
	Sound absorption	2.2.12, EAD 200019-00-0102	No performance assessed
NOTE BWRs 2, 3, 6 and 7 are not relevant, see EAD 200019-00-0102.			

#### 4 Assessment and verification of constancy of performance (hereinafter AVCP) system applied, with reference to its legal base

##### 4.1 System of assessment and verification of constancy of performance

According to the Decision 98/214/EC of the European Commission<sup>2</sup>, the system 2+ of assessment and verification of constancy of performance applies, see Table 2.

**Table 2 – System of assessment and verification of constancy of performance applicable to Hexagonal woven mesh gabion boxes, mattresses and sacks**

Product(s)	Intended use(s)	Level(s) or class(es)	System(s) of assessment and verification of constancy of performance
Structural connectors metallic rivets, bolts (nuts and washers) and H. R. bolts (high strength friction grip bolts), studs, screws, railway fasteners	For uses in structural metallic works	Any	2+

The manufacturer shall draw up the declaration of performance and determine the product type on the basis of the assessments and verifications of constancy of performance carried out under the system 2+ as laid down in the Commission Delegated Regulation (EU) No 568/2014 of 18 February 2014, Annex V, 1.3. This system provides for:

- (a) the manufacturer shall carry out:
  - (i) an assessment of the performance of the construction product on the basis of testing (including sampling), calculation, tabulated values or descriptive documentation of that product;
  - (ii) factory production control;
  - (iii) testing of samples taken at the manufacturing plant by the manufacturer in accordance with the prescribed test plan;
- (b) the notified factory production control certification body shall decide on the issuing, restriction, suspension or withdrawal of the certificate of conformity of the factory production control on the basis of the outcome of the following assessments and verifications carried out by that body:
  - (iv) initial inspection of the manufacturing plant and of factory production control;
  - (v) continuing surveillance, assessment and evaluation of factory production control.

##### 4.2 Construction products for which a European Technical Assessment has been issued

Manufacturers undertaking tasks under system 2+ shall consider the European Technical Assessment issued for the construction product in question as the assessment of the performance of that product. Manufacturer shall therefore not undertake the task referred to in point 4.1 (a)(i).

<sup>2</sup> Official Journal of the European Communities L 80 of 18 March 1998, p. 46.

**5 Technical details necessary for the implementation of the AVCP system, as provided for in the applicable EAD**

**5.1 Tasks and responsibilities of the manufacturer**

At the manufacturing plant the manufacturer has implemented and continuously maintains a factory production control system. All elements, requirements and provisions adopted by the manufacturer are documented in a systematic manner in the form of written policies and procedures. The factory production system ensures that the performance of the "Hexagonal woven mesh gabion boxes, mattresses and sacks Nector" is in conformity with the European Technical Assessment. The corner stones of the actions to be undertaken by the manufacturer are laid down in Factory Production Control Plan.

The manufacturer is responsible for preparing the declaration of performance. When all criteria of the assessment and verification of constancy of performance including certification are met, the manufacturer shall issue a declaration of performance.

**5.2 Tasks and responsibilities of the notified body**

The corner stones of the actions to be undertaken by the notified factory production control certification body in the procedure of assessment and verification of constancy of performance for "Hexagonal woven mesh gabion boxes, mattresses and sacks Nector" are laid down in Table 3.

**Table 3 – Control plan for the notified body (bodies) for Hexagonal woven mesh gabion boxes, mattresses and sacks Nector; corner stones**

Nr	Subject/type of control	Test or control method	Criteria, if any	Minimum number of samples	Minimum frequency of control
(1)	(2)	(3)	(4)	(5)	(6)
<b>Initial inspection of the manufacturing plant and of factory production control</b>					
1	Ascertain that, in accordance with the prescribed test plan, the factory, in particular personnel and equipment, and the factory production control, are suitable to ensure a continuously and orderly manufacturing the product with the specifications given in the specific parts as well as in the annexes of the European Technical Assessment.	–	Laid down in control plan	–	1
<b>Continuing surveillance, assessment and evaluation of factory production control</b>					
2	Verifying that the system of factory production control and the specified manufacturing process are maintained, taking account of the prescribed test plan.	–	Laid down in control plan	–	1/year

Technical details necessary for the implementation of the AVCP system are laid down in the control plan deposited in TSÚS. The implemented factory production control system shall be documented in a systematic manner in the form of written policies and procedures.

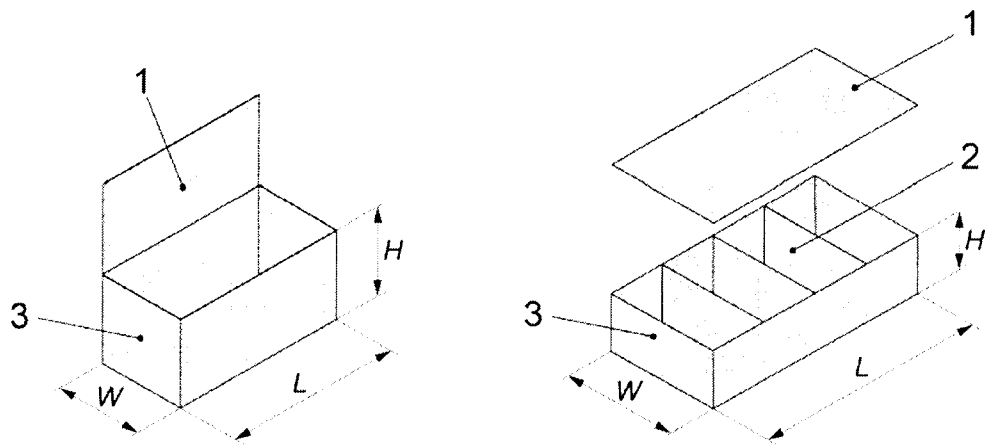
**Technický a skúšobný ústav stavebný, n. o.**  
 Building Testing and Research Institute  
 Studená 3, 821 04 Bratislava, Slovak Republic

On behalf of the Technický a skúšobný ústav stavebný, n. o.  
 Bratislava, 22 May 2023

Prof. Ing. Zuzana Sternová, PhD.  
 Head of Technical Assessment Body

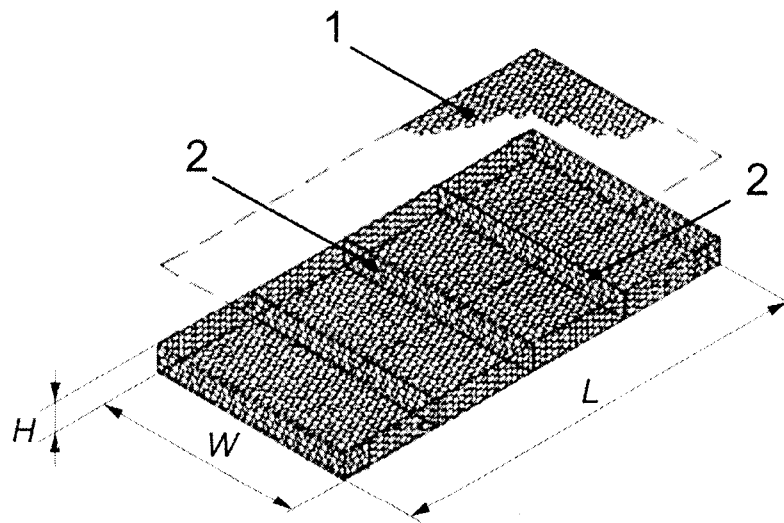
**Annexes**

- Annex 1 Gabion box, mattress
- Annex 2 Cylindrical (sack gabion), selvedge and edge wire, mesh size
- Annex 3 Connection and connection component
- Annex 4 Dimensions of products
- Annex 5 Characteristics of wires (mesh): diameter, non-ferrous metallic coating type and mass, tensile strength, elongation
- Annex 6 Characteristics of wires (connection): diameter, non-ferrous metallic coating type and mass, tensile strength; tensile resistances of meshes, organic coating: type, thickness on wire, concentricity and integrity



a) b)  
Key: 1 lid; 2 diaphragms; 3 end panels;  $H$  height;  $L$  length;  $W$  width

Gabions: a) without diaphragm, b) with diaphragms

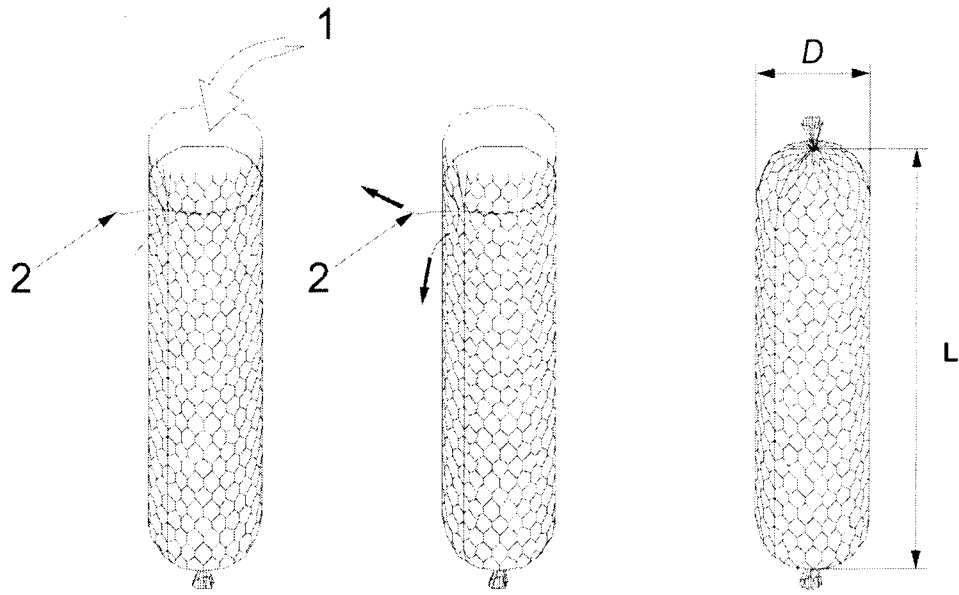


Key: 1 lid; 2 diaphragms;  $H$  height;  $L$  length;  $W$  width

Mattress

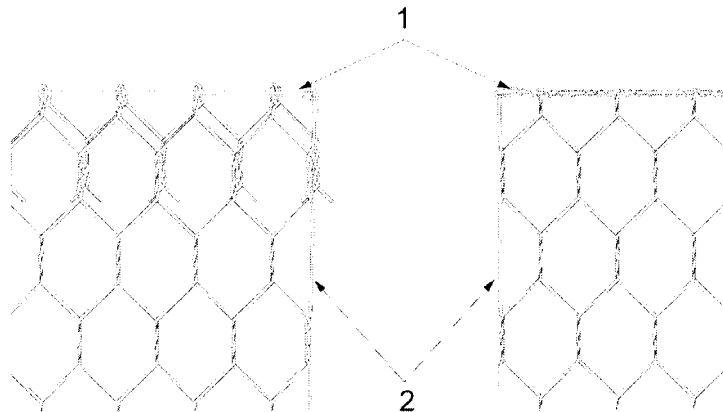
Gabion box, mattress

Annex 1  
of European Technical Assessment  
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Key: 1 filling; 2 lacing wire;  $D$  diameter;  $L_s$  length

**Sack gabion**



Key: 1 selvedge wire; 2 edge wire

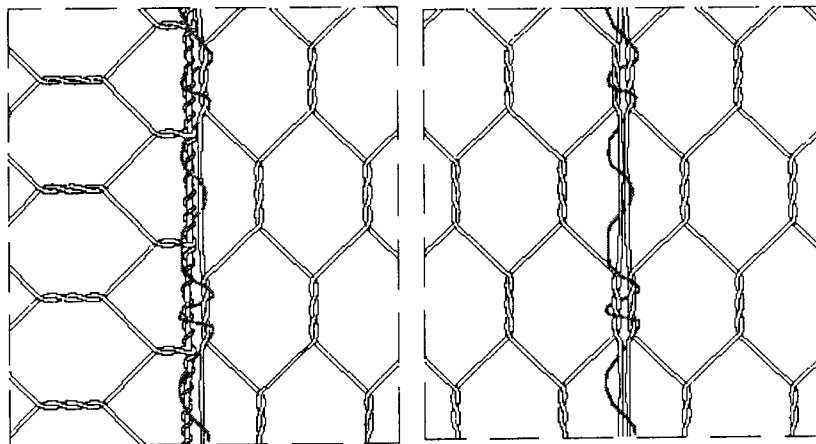
**End adjustment of mesh**

**Nominal mesh sizes and tolerances**

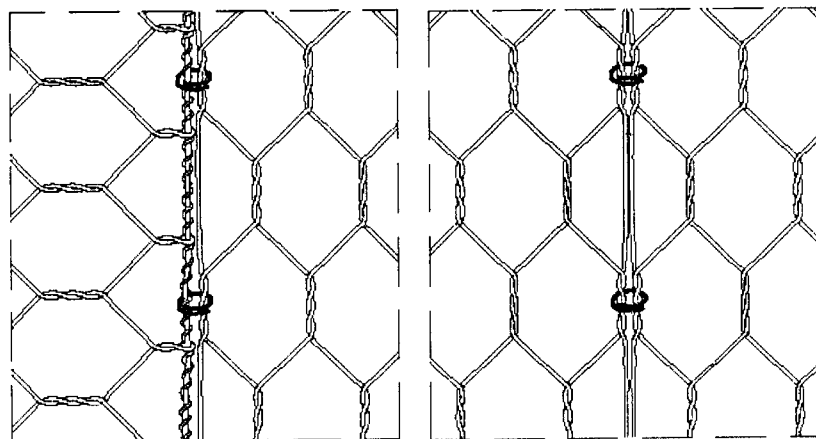
Mesh type	$M$ (mm)	Tolerance (Table 2 of EN 10223-3: 2013) (mm)
6 × 8	60	- 0/+ 8
8 × 10	80	- 0/+ 10

**Cylindrical (sack gabion),  
selvedge and edge wire, mesh size**

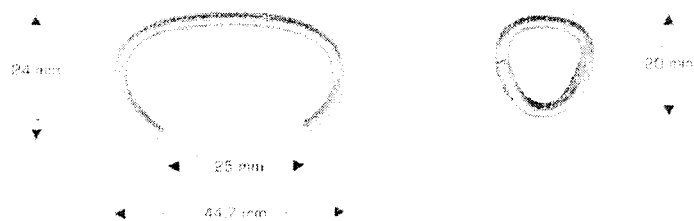
**Annex 2  
of European Technical Assessment  
ETA 18/0224 – version 02**



Connection using lacing wire



Connection using C-ring



Shape and dimensions of C-ring

Connection and connection component

Annex 3  
of European Technical Assessment  
ETA 18/0224 – version 02

Product	Length <i>L</i> (m)	Width <i>W</i> (m)	Height <i>H</i> (m)	Number of diaphragms	Diameter of mesh and selvedge/ edge wire (m)	Mesh designation
Gabion	0,5	For each <i>L</i> and <i>H</i> combination	For each <i>L</i> and <i>W</i> combination	No	Zn95/Al5 coating 2,2/2,7 Zn95/Al5 coating + PVC or HDPE 3,2/3,7 Zn90/Al10 coating 2,2/2,7 Zn90/Al10 coating + PVC or HDPE 3,2/3,7 Zn95/Al5 coating 2,7/3,4 Zn95/Al5 coating + PVC or HDPE 3,7/4,4 Zn90/Al10 coating 2,7/3,4 Zn90/Al10coating + PVC or HDPE 3,7/4,4	6 × 8
	1,0			No		
	1,5			No		
	2,0	0,5	1	Zn95/Al5 coating 2,2/2,7 Zn95/Al5 coating + PVC or HDPE 3,2/3,7 Zn90/Al10 coating 2,2/2,7 Zn90/Al10 coating + PVC or HDPE 3,2/3,7 Zn95/Al5 coating 2,7/3,4 Zn95/Al5 coating + PVC or HDPE 3,7/4,4 Zn90/Al10 coating 2,7/3,4 Zn90/Al10coating + PVC or HDPE 3,7/4,4	8 × 10	
	2,5	1,0	1			
	3,0	1,5	2			
	3,5	2,0	2			
	4,0	2,5	3			
	4,5	3,0	3			
	5,0		4			
	5,5		4			
	6,0		5			
	Tolerances	± 5 % (6.3 of EN 10223-3: 2013)	± 5 % (6.3 of EN 10223-3: 2013)	± 5 % (6.3 of EN 10223-3: 2013)		Tolerance class T1, Table 1 of EN 10218-2: 2012

NOTE Products with different dimensions are possible in accordance with the requirements of the individual design.

**Dimensions of products: gabion boxes**

**Annex 4a  
of European Technical Assessment  
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Product	Length <i>L</i> (m)	Width <i>W</i> (m)	Height <i>H</i> (m)	Number of diaphragms	Diameter of mesh and selvage/ edge wire (m)	Mesh type
Mattresses	1,5	For each <i>L</i> and <i>H</i> combination	For each <i>L</i> and <i>W</i> combination	No	Zn95/Al5 coating 2,2/2,7 Zn95/Al5 coating + PVC or HDPE 3,2/3,7 Zn90/Al10 coating 2,2/2,7 Zn90/Al10 coating + PVC or HDPE 3,2/3,7 Zn95/Al5 coating 2,7/3,4 Zn95/Al5 coating + PVC or HDPE 3,7/4,4 Zn90/Al10 coating 2,7/3,4 Zn90/Al10 coating + PVC or HDPE 3,7/4,4	6 × 8
	2,0			1		
	2,5			1		
	3,0			2		
	3,5			2		
	4,0			3		
	4,5			3		
	5,0			4		
	5,5			4		
	6,0			5		
					Zn95/Al5 coating 2,2/2,7 Zn95/Al5 coating + PVC or HDPE 3,2/3,7 Zn90/Al10 coating 2,2/2,7 Zn90/Al10 coating + PVC or HDPE 3,2/3,7 Zn95/Al5 coating 2,7/3,4 Zn95/Al5 coating + PVC or HDPE 3,7/4,4 Zn90/Al10 coating 2,7/3,4 Zn90/Al10 coating + PVC or HDPE 3,7/4,4 Zn95/Al5 coating 3,0/3,9 Zn95/Al5 coating + PVC or HDPE 4,0/4,9 Zn90/Al10 coating 3,0/3,9 Zn90/Al10 coating + PVC or HDPE 4,0/4,9	8 × 10
Tolerances	± 5% (6.3 of EN 10223-3: 2013)	± 5% (6.3 of EN 10223-3: 2013)	± 25 mm (6.3 of EN 10223-3: 2013)		Tolerance class T1, Table 1 of EN 10218-2: 2012	See Annex 2

NOTE Products with different dimensions are possible in accordance with the requirements of the individual design.

**Dimensions of products: mattresses**

**Annex 4b  
of European Technical Assessment  
ETA 18/0224 – version 02**

Product	Length $L_s$ (m)	Diameter $D$ (m)	Diameter of mesh and selvedge/ edge wire (m)	Mesh type		
Sack (cylindrical) gabions			Zn95/Al5 coating 2,2/2,7	6 × 8		
			Zn95/Al5 coating + PVC or HDPE 3,2/3,7			
			Zn90/Al10 coating 2,2/2,7			
			Zn90/Al10 coating + PVC or HDPE 3,2/3,7			
			Zn95/Al5 coating 2,7/3,4			
	Zn95/Al5 coating + PVC or HDPE 3,7/4,4					
	Zn90/Al10 coating 2,7/3,4					
	Zn90/Al10 coating + PVC or HDPE 3,7/4,4					
	For each $L$ and mesh:	2,0	0,45		Zn95/Al5 coating 2,2/2,7	8 × 10
		3,0	0,50		Zn95/Al5 coating + PVC or HDPE 3,2/3,7	
4,0		0,65	Zn90/Al10 coating 2,2/2,7			
5,0		0,80	Zn90/Al10 coating + PVC or HDPE 3,2/3,7			
		0,95	Zn95/Al5 coating 2,7/3,4			
			Zn95/Al5 coating + PVC or HDPE 3,7/4,4			
			Zn90/Al10 coating 2,7/3,4			
			Zn90/Al10 coating + PVC or HDPE 3,7/4,4			
			Zn95/Al5 coating 3,0/3,9 PVC or HDPE 4,0/4,9			
			Zn90/Al10 coating 3,0/3,9			
			Zn90/Al10 coating + PVC or HDPE 4,0/4,9			
Tolerances	± 5 % (6.3 of EN 10223-3: 2013)	± 5 % (6.3 of EN 10223-3: 2013)	Tolerance class T1, Table 1 of EN 10218-2: 2012	See Annex 2		

Dimensions of products: sack (cylindrical) gabions

**Annex 4c**  
**of European Technical Assessment**  
**ETA 18/0224 – version 02**

Characteristics of mesh wires

Position	Coating type	Diameter		Minimum mass of coating (Class A, Table 2 of EN 10244-2: 2009) (g/m <sup>2</sup> )	Tensile strength <i>f<sub>t</sub></i> (5.2 of EN 10223-3: 2013) (N/mm <sup>2</sup> )	Elongation <i>ε</i> (5.2 of EN 10223-3: 2013) (%)
		Core diameter <i>D<sub>w</sub></i> (Table 1 of EN 10218-2: 2012) (mm)	Minimum outer diameter <i>D<sub>w</sub></i> (Table 2 of EN 10218-2: 2012) (mm)			
Mesh	Zn95/Al5 Zn90/Al10	2,20 ± 0,060	–	230	350 to 550	min. 8 % on a gauge length of 250 mm at fracture
		2,70 ± 0,060	–	245		
		3,00 ± 0,070	–	255		
Selvedge Edge	Zn95/Al5 Zn90/Al10	2,70 ± 0,060	–	245		
		3,40 ± 0,070	–	265		
		3,90 ± 0,070	–	275		
Mesh	Zn95/Al5 + PVC Zn90/Al10 + PVC	2,20 ± 0,060	3,20 ± 0,20	230		
		2,70 ± 0,060	3,70 ± 0,20	245		
		3,00 ± 0,070	4,00 ± 0,20	255		
Selvedge Edge	Zn95/Al5 + PVC Zn90/Al10 + PVC	2,70 ± 0,060	3,70 ± 0,20	245		
		3,40 ± 0,070	4,40 ± 0,20	265		
		3,90 ± 0,070	4,90 ± 0,20	275		
Mesh	Zn95/Al5 + HDPE Zn90/Al10 + HDPE	2,20 ± 0,060	3,20 ± 0,20	230		
		2,70 ± 0,060	3,70 ± 0,20	245		
		3,00 ± 0,070	4,00 ± 0,20	255		
Selvedge Edge	Zn95/Al5 + HDPE Zn90/Al10 + HDPE	2,70 ± 0,060	3,70 ± 0,20	245		
		3,40 ± 0,070	4,40 ± 0,20	265		
		3,90 ± 0,070	4,90 ± 0,20	275		

Characteristics of wires (mesh): diameter, non-ferrous metallic coating type and mass, tensile strength, elongation

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**Characteristics of connection wires**

Connection	Coating type	Diameter		Minimum mass of Zn95/Al5 coating  (Class A, Table 2 of EN 10244-2: 2009)  (g/m <sup>2</sup> )	Tensile strength $f_t$  (5.2 of EN 10223-3: 2013)  (N/mm <sup>2</sup> )
		Core diameter $D_w$  (Table 1 of EN 10218-2: 2012)  (mm)	Minimum outer diameter $D_w$  (Table 2 of EN 10218-2: 2012)  (mm)		
Lacing wire	Zn95/Al5 Zn90/Al10	2,20 ± 0,060	–	230	350 to 550
		2,70 ± 0,060	–	245	
		3,00 ± 0,070	–	255	
		3,40 ± 0,070	–	265	
	Zn95/Al5 + PVC Zn90/Al10 + PVC	2,20 ± 0,060	3,20 ± 0,20	230	
		2,70 ± 0,060	3,70 ± 0,20	245	
		3,00 ± 0,070	4,00 ± 0,20	255	
		3,40 ± 0,070	4,40 ± 0,20	265	
	Zn95/Al5 + HDPE Zn90/Al10 + HDPE	2,20 ± 0,060	3,20 ± 0,20	230	
		2,70 ± 0,060	3,70 ± 0,20	245	
		3,00 ± 0,070	4,00 ± 0,20	255	
		3,40 ± 0,070	4,40 ± 0,20	265	
C-ring	Zn95/Al5 Stainless steel	3,00 ± 0,070		255 –	≥ 1 720 ≥ 1 550

**Characteristic tensile strengths  
5% fractile, known coefficient of variation**

Mesh size	Wire diameter  (mm)	Characteristic values of tensile strength $p_k$  (kN/m)
6 × 8	2,20 (2,20/3,20)	42
6 × 8	2,70 (2,70/3,70)	72
8 × 10	2,70 (2,70/3,70)	50
8 × 10	3,00 (3,00/4,00)	60

The organic coating material (PVC OR HDPE) properties are according to EN 10245-2.

The organic coating type and thickness on wire is in accordance with Annex 4a and Annex 4b.  
The minimum concentricity of organic coating is 60 %.

The organic coating integrity is ensured, because: No cracks (no visible underlying steel wire) in organic coating within the double twist region occur at 50 % of the mean value of tensile strength of the mesh.

**Characteristics of wires (connection): diameter, non-ferrous metallic coating type and mass, tensile strength  
Tensile resistances of meshes, organic coating: type, thickness on wire, concentricity and integrity**

**Annex 6  
of European Technical Assessment  
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## REFERENCES

- [1] Manufacturer's Technical File
- [2] Test report nr. 1/18, ZDT-GLIMAG Sp z o. o., Laboratorium Metaloznawstwa i Obróbki Ciepłej, Mikołów, Poland, 08/01/2018
- [3] Test report nr. 7/18, ZDT-GLIMAG Sp z o. o., Laboratorium Metaloznawstwa i Obróbki Ciepłej, Mikołów, Poland, 16/01/2018
- [4] Test report, tensile test on meshes, Nector, Poland 14/03/2023
- [5] Test report, nr. 124/2022, Corr-Lab Agata Eksterowicz, Warszawa, 16/11/2022
- [6] Test report, Salt Spray Test, Zn95/Al5 + PVC OR HDPE REGIONALNE CENTRUM TECHNOLOGII I WIEDZY "INTERIOR" Sp. z o.o., Poland, 11/01/2022
- [7] Test report, Salt Spray Test, Zn95/Al5, REGIONALNE CENTRUM TECHNOLOGII I WIEDZY "INTERIOR" Sp. z o.o., Poland, 11/01/2022
- [8] Test report, Measuring the coating thickness and concentricity, Nector, Poland, 2022

## STANDARDS

- EAD 200019-00-0102 HEXAGONAL WOVEN MESH GABION BOXES AND MATTRESSES
- EN 1990: 2002+A1: 2005+AC: 2010 Eurocode 0: Basis of Structural Design
- EN 10204: 2004 Metallic products. Types of inspection documents
- EN 10218-1: 2012 Steel wire and wire products. General. Part 1: Test methods
- EN 10218-2: 2012 Steel wire and wire products. General. Part 2: Wire dimensions and tolerances
- EN 10223-3: 2013 Steel wire and wire products for fencing and netting. Part 3: Hexagonal steel wire mesh products for civil engineering purposes
- EN 10244-1: 2009 Steel wire and wire products. Non-ferrous metallic coatings on steel wire. Part 1: General principles
- EN 10244-2: 2009 Steel wire and wire products. Non-ferrous metallic coatings on steel wire. Part 2: Zinc or zinc alloy coatings
- EN 10245-1: 2011 Steel wire and wire products. Organic coatings on steel wire. Part 1: General rules
- EN 10245-3: 2011 Steel wire and wire products - Organic coatings on steel wire - Part 3: PE coated wire
- EN 22768: 1993 General tolerances. Part 1: Tolerances for linear and angular dimensions without individual tolerance indications
- EN ISO 527-1: 2012 Plastics. Determination of tensile properties. Part 1: General principles (ISO 527-1: 2012)
- EN ISO 527-2: 2012 Plastics. Determination of tensile properties. Part 2: Test conditions for moulding and extrusion plastics (ISO 527-2: 2012)
- EN ISO 868: 2003 Plastics and ebonite. Determination of indentation hardness by means of a durometer (Shore hardness) (ISO 868: 2003)
- EN ISO 1183-1: 2012 Plastics. Methods for determining the density of non-cellular plastics. Part 1: Immersion method, liquid pycnometer method and titration method (ISO 1183-1: 2012)
- EN ISO 1183-2: 2004 Plastics. Methods for determining the density of non-cellular plastics. Part 2: Density gradient column method (ISO 1183-2: 2004)
- EN ISO 1183-3: 1999 Plastics. Methods for determining the density of non-cellular plastics. Part 3: Gas pycnometer method (ISO 1183-3: 1999)
- EN ISO 2039-2: 1999 Plastics. Determination of hardness. Part 2: Rockwell hardness (ISO 2039-2: 1987)
- EN ISO 6892-1: 2009 Metallic materials. Tensile testing. Part 1: Method of test at room temperature (ISO 6892-1: 2009)
- EN ISO 9223: 2012 Corrosion of metals and alloys. Corrosivity of atmospheres. Classification, determination and estimation (ISO 9223: 2012)