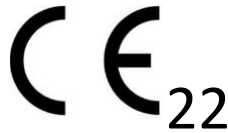


CE Marking
Declaration of performance No.

LSB-CPR-2022-0725

Document attached with

DDT Nr. 16

date 16/01/2023

Signature for receipt:

1. Unique identification code of the product-type: **LSB-CPR-2022-0725**
2. Intended uses: **Ledro Steel Box (LSB) welded mesh gabions are intended to be used for, earth retention, soil reinforcement, river training, erosion control, free-standing walls, architectural claddings. The use of welded mesh gabions should be outside the influence of corrosive soils and waters containing salt or other chemical substances considered corrosive for steel and steel products.**
3. Manufacturer: **Metallurgica Ledrense Soc. Coop -
via Ampola 14 - IT - 38067 Ledro (TN)**
4. System of VVCP: **system 2+**
5. European Assessment Document: **EAD200020-00-0102 (March 2017)**
European Technical Assessment: **ETA-17/0059 (07/07/2022)**
Technical Assessment Body: **ETA-Danmark A/S**
Notified body: **N°1404 - Zavod Za Gradbeništvo
Slovenije**
6. Declared performance:

Essential characteristic	Performance
3.1 Basic Works Requirement 1: Mechanical resistance and stability	
Diameters of wire	6 mm in accordance with EN 10218-2, Table 1, Tolerance Class T1
Wire tensile strength and elongation	Wire tensile strength > 500 MPa according to the pt. 3 of the EN 10218-1 with the limitations given in the pt. 7.4 of the EN 10223-8 after the cold worked processing: -tensile strength: 553 MPa (mean value) -elongation: 6,47% (mean value)
Dimensions of product, mesh size and dimensions of connection components	Please refer to Annex A of this document
Corrosion protection	The steel wires are zinc aluminum alloy coated with minimum 290 g/m2 coating corresponding to class A in accordance EN 10244-2
Weld shear strength	The average shear strength of four welds selected randomly from one panel shall not be less than 75% of the breaking load of the wire with no single shear strength of weld below 50% in accordance with cl.7.5 in EN 10223-8
Tensile strength of gabion/mattress including connection	No performance assessed
Durability	Durability against neutral salt spray test. The products were subjected to a test duration of 1000 hours and showed less than 5% dark brown rust
3.4 Basic Works Requirement 4: Safety and accessibility in use	
Protection against injury	The gabion poses no obvious risk of injury caused by sharp edges of jut out wires.
3.5 Basic Work Requirement 5: Protection against noise	
Airborne sound insulation	No performance assessed
Sound absorption	No performance assessed

The performance of the product identified above is in conformity with the set of declared performances. 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 from:

Fabio Tiboni, legal representative

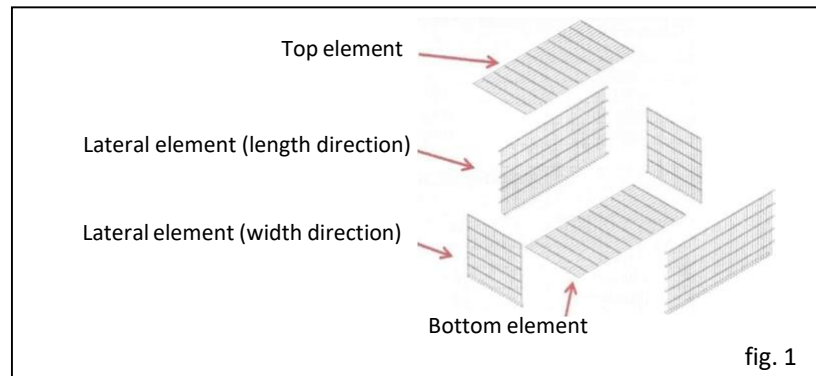
Ledro (TN), 25/07/2022
(Place and date of issue)

ANNEX A

Description of the gabions and components

The Ledrense gabions have parallelepiped or cube shape. The gabions are composed by, see figure n°1:

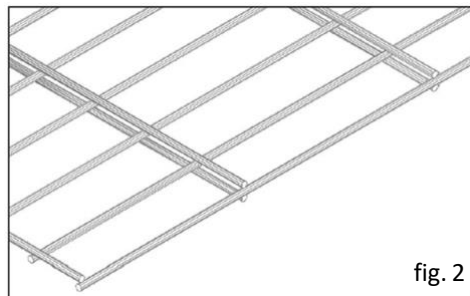
- Bottom element.
- Top element.
- 4 lateral elements (2 length direction and 2 width direction).
- Internal stiffeners (the number depends by the dimension of the gabions).



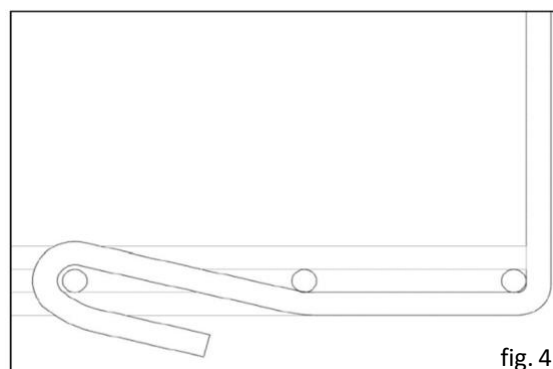
All the elements above are made of:

- LEDRO STEEL BOX: double steel wire of diameter 6 mm for the horizontal direction (except for the boundaries, which are single) and single steel wire of diameter 6 mm for the vertical direction. See figure n° 2

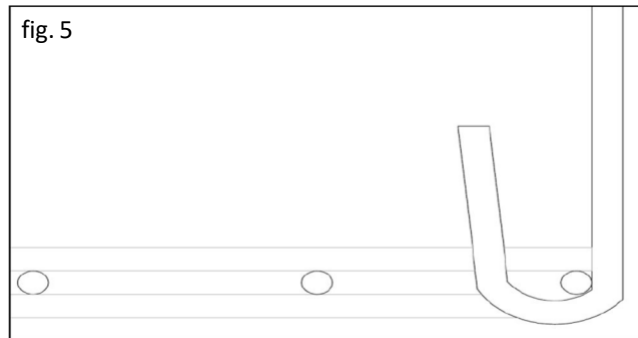
The steel wires are zinc-aluminum alloy coated with minimum 275 g/m² coating for wires with diameter 3.80-4.40 mm and minimum 290 g/m² coating for wires with diameter 5.20-8.20 mm corresponding to class A in accordance with EN 10244-2



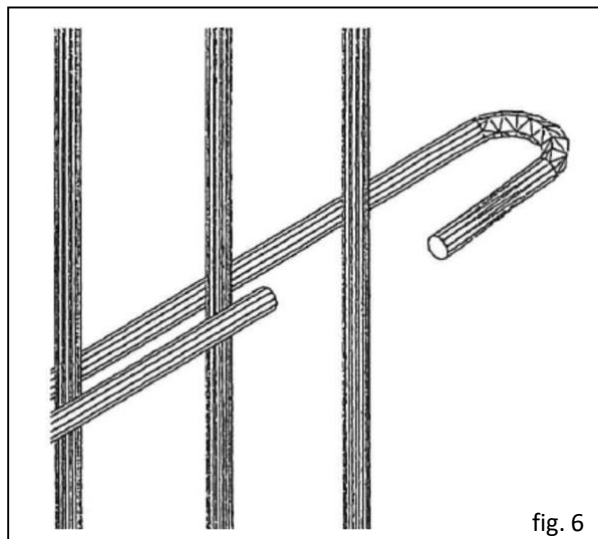
The lateral elements (length direction) are connected by a J-shaped hook, incorporated in the lateral elements, with the bottom element, see figure n°4.



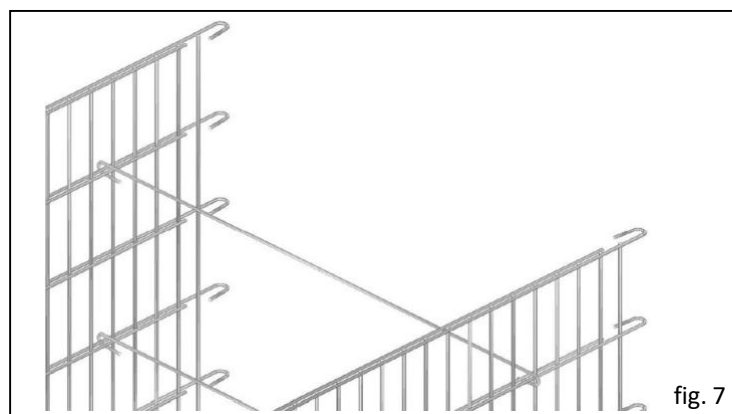
The lateral elements (width direction) are connected by a U-shapes hook, incorporated in the lateral elements, with the bottom element, see figure n°5.



The lateral elements (length and width direction) are connected each other by a U hook, incorporated in the lateral elements (length direction), see figure n° 6.



The stiffeners connect the lateral elements two-two with the following rule: length-length and width-width, in number and position in according with the instruction given by the manufacturer, mainly in function of the dimension of the gabions. See figure n° 7 as an example.



All the hooks and stiffeners are designed to give stability and structural resistance at the gabions for the movements and placement phases, and ensure the monolithic behavior of the gabions.

The gabions are delivered in the following sizes.

Commercial name	LEDRO STEEL BOX (13) Nominal Dimensions (mm)		
(H x L x W)	H	L	W
50 x 50 x 50	515	515	500
100 x 100 x 50	1015	1015	500
100 x 100 x 100	1015	1015	990
50 x 100 x 50	515	1015	500
50 x 100 x 100	515	1015	990
100 x 150 x 50	1015	1515	500
100 x 150 x 100	1015	1515	990
50 x 150 x 50	515	1515	500
50 x 150 x 100	515	1515	990
100 x 200 x 50	1015	2015	500
100 x 200 x 100	1015	2015	990
50 x 200 x 50	515	2015	500
50 x 200 x 100	515	2015	990
50 x 100 x 75	515	1015	770
50 x 150 x 75	515	1515	770
50 x 200 x 75	515	2015	770
100 x 100 x 75	1015	1015	770
100 x 150 x 75	1015	1515	770
100 x 200 x 75	1015	2015	770
100 x 50 x 50	1015	515	500

The elements of the gabions are described below

Commercial name	LEDRO STEEL BOX (7) Nominal Dimensions (mm)	
	TOP ELEMENT	
	W	L
50 x 50	467	476
50 x 100	467	972
100 x 100	967	972
50 x 150	467	1471
100 x 150	967	1471
50 x 200	467	1967
100 x 200	967	1967
75 x 100	759	972
75 x 150	759	1471
75 x 200	759	1967

Commercial name	LEDRO STEEL BOX (7) Nominal Dimensions (mm)	
	LATERAL ELEMENT (LENGTH DIRECTION)	
	H	L
50 x 50	501	515
50 x 100	501	1014
100 x 100	998	1014
50 x 150	501	1514
100 x 150	998	1514
50 x 200	501	2013
100 x 200	998	2013



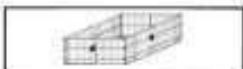


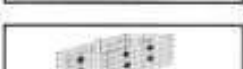



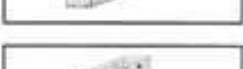


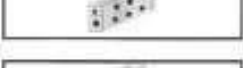







Commercial name	LEDRO STEEL BOX (4) Nominal Dimensions (mm)	
	LATERAL ELEMENT (WIDTH DIRECTION)	
	H	W
50 x 50	492	477
50 x 100	492	977
100 x 100	1002	977
100 x 50	1002	477
75 x 50	758	477
75 x 100	758	977

Commercial name	LEDRO STEEL BOX (7) Nominal Dimensions (mm) BOTTOM ELEMENT	
	W	L
50 x 50	467	476
50 x 100	467	972
100 x 100	967	972
50 x 150	467	1471
100 x 150	967	1471
50 x 200	467	1967
100 x 200	967	1967
75 x 100	759	972
75 x 150	759	1471
75 x 200	759	1967

STIFFENERS	
	6 mm FOR BOTH PRODUCTS: LEDRO STEEL BOX & ECOBOX
Commercial name	Nominal mm
500	520
750	782
1000	1021
1500	1524
2000	2021

MESH		
	LEDRO STEEL BOX (2) Nominal Dimensions (mm)	
Commercial name (MxN)	M (vertical)	N (horizontal)
200 x 50	198	47

NECESSARY INTERNAL RODS

Gabions model		Nr. Stiffeners	Size		Nr. Stiffeners	Size	Positioning
GABBIA	50 X 50 X 50	2 PZ.	50 CM.				
GABBIA	100 X 100 X 100	4 PZ.	100 CM.				
GABBIA	100 X 100 X 50	2 PZ.	100 CM.				
GABBIA	100 X 50 X 100	2 PZ.	50 CM.	+	2 PZ.	100 CM.	
GABBIA	100 X 50 X 50	1 PZ.	50 CM.	+	1 PZ.	100 CM.	
GABBIA	150 X 100 X 100	4 PZ.	100 CM.	+	2 PZ.	150 CM.	
GABBIA	150 X 100 X 50	2 PZ.	100 CM.	+	1 PZ.	150 CM.	
GABBIA	150 X 50 X 100	4 PZ.	50 CM.	+	2 PZ.	150 CM.	
GABBIA	150 X 50 X 50	2 PZ.	50 CM.	+	1 PZ.	150 CM.	
GABBIA	200 X 100 X 100	6 PZ.	100 CM.	+	2 PZ.	200 CM.	
GABBIA	200 X 100 X 50	3 PZ.	100 CM.	+	1 PZ.	200 CM.	
GABBIA	200 X 50 X 100	6 PZ.	50 CM.	+	2 PZ.	200 CM.	
GABBIA	200 X 50 X 50	3 PZ.	50 CM.	+	1 PZ.	200 CM.	
GABBIA	100 X 75 X 50	1 PZ.	75 CM.	+	1 PZ.	100 CM.	
GABBIA	150 X 75 X 50	3 PZ.	75 CM.	+	1 PZ.	150 CM.	
GABBIA	200 X 75 X 50	3 PZ.	75 CM.	+	1 PZ.	200 CM.	
GABBIA	100 X 75 X 100	2 PZ.	75 CM.	+	2 PZ.	100 CM.	
GABBIA	150 X 75 X 100	4 PZ.	75 CM.	+	2 PZ.	150 CM.	
GABBIA	200 X 75 X 100	6 PZ.	75 CM.	+	2 PZ.	200 CM.	
GABBIA	50 X 50 X 100	4 PZ.	50 CM.				

Instructions and information for the proper movement, storage, transportation, assembling and laying. ETA 17/0059 Section 11 paragraph 6 of UE 305/2011 Regulation

1. **Usage destination of the product:** the gabion is destined to be used for earth retention and reinforcement, river training, erosion control, free-standing walls, architectural claddings.
2. **Handling:** The gabion is composed of 6 panels, which can be moved singularly or, as an alternative, the already stone filled gabion can be moved as a whole. During the handling, lifting and transport operations of the panels, their integrity must be guaranteed, avoiding shocks, tears or other causes of damage. The weight of the stone filled gabion is 1650 kg/mc. All operations must be performed in compliance with the provisions of Legislative Decree no. 81/08 and subsequent updates.
3. **Lifting:** The 6 panels that compose the gabion must be raised individually or, as an alternative, the gabion can be lifted once filled. The panels must be hoisted, on appropriate wooden platforms, by machines equipped with a load securing device such as, for example, a hook. To the sealing device, steel chains or ropes, equipped with adequate lifting accessories, able to withstand the stresses induced by the weight of the manufactured articles, must be fixed jointly, respecting the directive 2006/42 / EC. The gabion filled with stone materials must be lifted with by machines equipped with a load securing device such as, for example, a hook. To the sealing device, steel chains or ropes, equipped with the "ML Comb" lifting accessories, able to withstand the stresses induced by the weight of the manufactured articles, must be fixed jointly, respecting the directive 2006/42 / EC, to use as described in paragraph n. 9 of this manual or the "ML comb accessory technical sheet". The empty gabions or the single panels can in alternative also be moved by one or more operators. All operations must be performed in compliance with the provisions of Legislative Decree 81/08 and subsequent updates.
4. **Transportation:** The stone filled Gabions must be positioned in a pile and need to be secured with suitable cables to be transported, in compliance with the regulations governing the safety of transport and those of the Highway Code. As an alternative the 6 panels of which it is composed can be transported individually. During the transport the individual components of the gabions must be placed on appropriate wooden platforms, positioned in a stack and secured to the vehicle with suitable cables, in compliance with the regulations governing the safety of transport and those of the Highway Code.
5. **Storage:** The storage of the stone filled gabion or the individual panels must take place placing them in piles made up of successive layers resting on wooden platforms. The heap laying surface must be levelled and compacted. All operations must be performed in compliance with the indications of d.lgs. 81/08 and subsequent updates.
6. **Installation:** for the installation, gabions have to be positioned in plan and in assess as verified from the general planner of the structures (Law 5/11/71 n 1086- norm3/9) without exceeding the permitted loads. All the operations have to be performed according to the indications of D.lgs. 81/08 and subsequent updates.
7. **Use and maintenance:** eventual information about the use and maintenance has to be edited by the general planner of the structures, in the maintenance plan of the work, and from the safety coordinator, in the work file. It is however necessary that the use and maintenance of the gabion is appropriate to the intended use of the project, without exceeding the admissible loads.
8. **Instruction for the correct assembling of the gabions:** gabions are made by 6 panels that have to be connected with the specific hook they are equipped with. For assembling details references should be made to the complete information available with a simple request to Metallurgica Ledrense Soc. Coop. Are available at the following link: www.ml-ita.com