

Technical Standard

Double twisted hexagonal mesh rock barriers

The hexagonal mesh rockfall barrier is a structure made of hexagonal double twisted wire mesh (Fig. 1 and 2).

All steel wires used in the manufacture of the mesh are mild steels with heavy galvanization in accordance to ASTM A 641M-98 standards.

The standard combinations mesh/wire are shown in Table 1.

In order to reinforce the structure, all edges are selvaged with a wire having greater diameter than mesh wire.

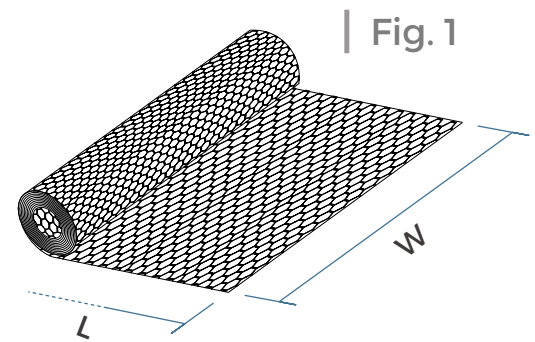


Fig. 1

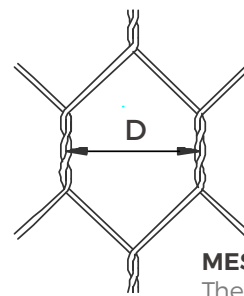


Fig. 2

MESH TOLERANCE

The tolerance on the opening of mesh "D" being the distance between the axes of twist, is according to EN 10223-3

Table 1: STANDARD COMBINATIONS MESH-WIRE			
Type	D (mm)	Tolerances	Wire Diameter (mm)
8 x 10	80	± 10%	2.7/3.7 PVC Coated

Wire

1. Tensile strength. Both the wire used for the manufacture of rockfall barriers, shall have a tensile strength of 350-500 N/mm² according to EN-10223-3. Above values are referred to wire before manufacturing mesh.

Tolerances of wire shown at Tab. 2 meet the requirements of EN 10218.

2. Elongation. The test must be carried out before manufacturing mesh on a sample at least 25 cm long. Elongation shall not be less than 10% as per EN-10223-3.

3. Galvanizing coating. Minimum quantities of Zinc coating, shown at Tab. 2 meet the requirements of EN 10244-2 for Zinc or Zn-Al 5% - MM coatings (Class A) and ASTM 856-98 (Class 80).

TABLE 2: WIRE PROPERTIES				
	Wire Diameter mm			
	2.7	3.05	3.4	3.9
Tensile Strength ¹ N/mm ²	350 to 550			
Elongation ² %	> 10			
Min. Mass of Coating ² g/m ²	245	255	265	275
Tolerance ³ mm	±0.06	±0.07		
Tolerance PVC Thickness ³ mm	±0.1			

¹ in accordance with European Standard EN 10223-3
² in accordance with European Standard EN 10244-2, class A
³ in accordance with European Standard EN 10218-2

PVC coated Hexagonal Mesh

In addition to the galvanization, the steel wire is coated with a PVC polymer of a nominal thickness of 0.50 mm. The technical characteristics and the resistance of the PVC to ageing meet the relevant standards. The main values for the PVC material are as follows:

- **Colour.** Grey-RAL 7037 according to ASTM D 1482-57T;

Specific Artificial Ageing Tests

- **Salt spray test.**

Test period 1,500 hours, test method ASTM-B 117-90;

- **Exposure to UV rays.**

Test period 2,000 hours at 63 °C, test method ASTM D1499-92 and ASTM G 23-93 apparatus type E;

- **Exposure to high temperatures.**

Test period 24 hours at 105 °C, test method ASTM D 1203-89 and ASTM D 2287-92;

- **Brittleness temperature.**

Cold Bend less than -30 °C test method BS 2782- 104 A; Cold Flex less than +15°C in accordance with BS 2782-151A (84).