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GABION



# Welded Wire Mesh

G A B I O N B O X



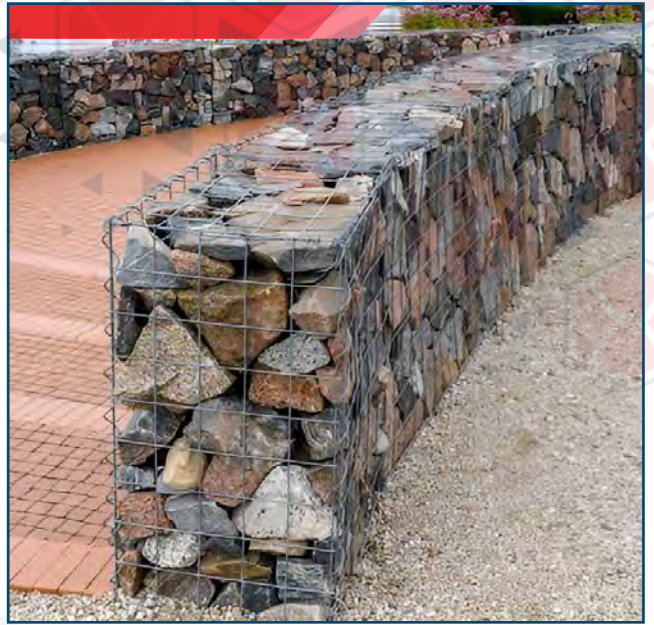


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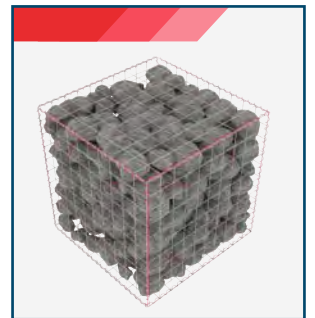
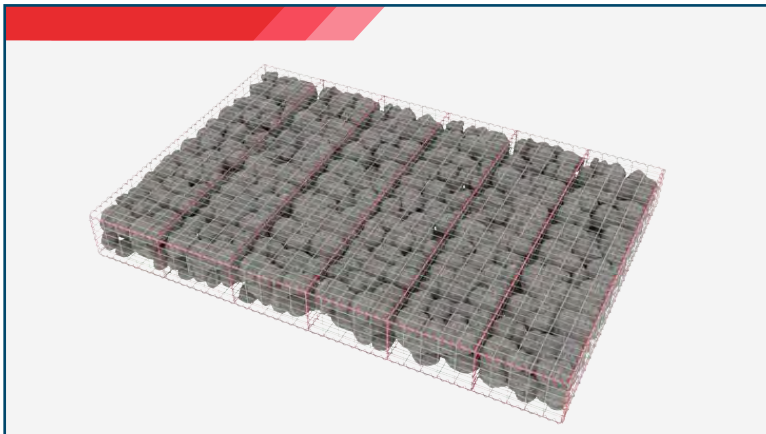
# Welded Wire Mesh

A welded mesh gabion is a rigid, box-like structure constructed from steel wires welded at every intersection where longitudinal (horizontal) and transverse (vertical) wires meet. This welding process creates a uniform grid pattern with precise, stable openings. The welded panels are assembled into containers and filled with stones or other materials for structural or decorative purposes. Unlike double-twisted mesh gabions which are highly flexible, welded mesh gabions are relatively stiff and maintain their shape, while still forming permeable, monolithic structures (e.g., retaining walls, channel linings, revetments) when assembled and filled.



# Gabion Box

A Gabion Box is a cage or container made from wire mesh, typically filled with materials such as stones, rocks, or concrete. It is used in civil engineering, landscaping, and construction for various purposes, including erosion control, slope stabilization, retaining walls, and decorative structures. Regardless of the mesh type – whether welded or woven – the primary function of a Gabion box remains to provide structural support, enhance stability, and blend with natural environments by allowing water drainage and vegetation growth over time.



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[sales@hitech.sa](mailto:sales@hitech.sa)

Building no 3824, Nira Street, 2nd  
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The design and manufacturing of Gabion boxes using welded mesh are governed by two key standards:

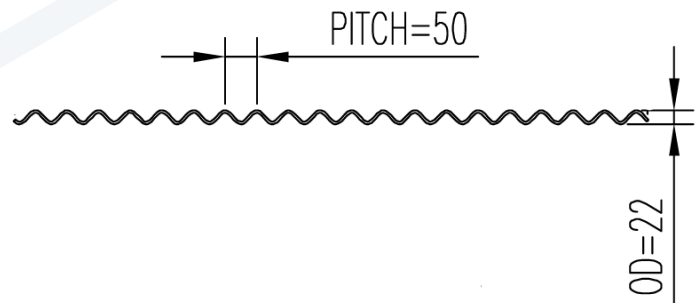
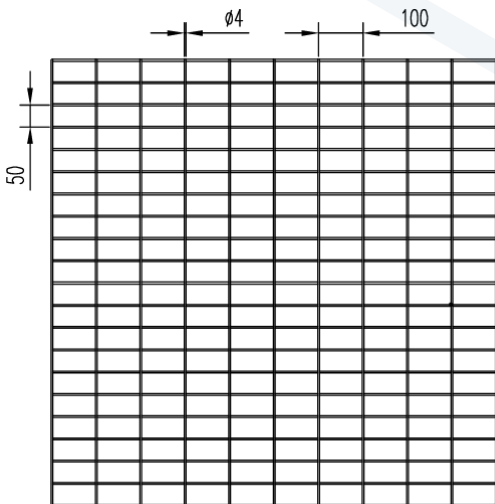
**ASTM A974:** This standard emphasizes the specifications and coating parameters for Gabions, particularly focusing on coating types and their application.

**BS EN 10223-8:2013:** This standard provides more flexibility, offering clients a wider range of options for Gabion design. It outlines the minimum wire diameter requirements based on the Gabion type and specifies coating parameters according to environmental conditions.

## Specifications:

Coating	Galvanized/PVC coating
Wire Diameter	3.0/4mm/5mm
Mesh size	75 x 75 mm/100 x 50mm
Lacing	Spiral coil
Spiral	3.0mm

Spiral internal diameter	20mm
Spiral Pitch	45mm
Fasteners	3.76mm
Stiffeners	3.76mm
Material	Carbon Steel Wire



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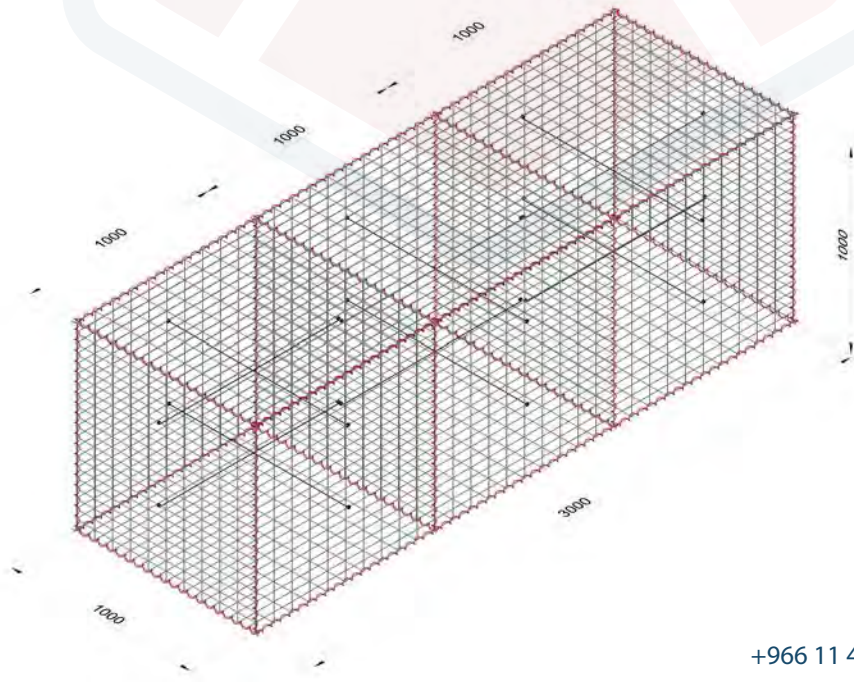
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Gabion Welded Mesh Boxes are available in a wide range of sizes to suit your needs. Please note that the overall dimensions may vary depending on the mesh opening size.

- For 100 x 50 mm mesh, the dimensions will be multiples of 100 or 50. For example, you can have a 1000 x 1000 x 1000 mm box, with a possible  $\pm 20$  mm variation in all dimensions to accommodate spiral adjustments.
- For 75 x 75 mm mesh, the dimensions will be multiples of 75. For instance, a box size of 900 x 900 x 900 mm may have a  $\pm 20$  mm variation for spiral adjustments.

Coating	Width	Height	Number of cells
1	0.5/1/1.5	0.5/0.7/1	1
1.5	0.5/1/1.5	0.5/0.7/1	1
2	0.5/1/1.5	0.5/0.7/1	2
3	0.5/1/1.5	0.5/0.7/1	3
4	0.5/1/1.5	0.5/0.7/1	4
5	0.5/1/1.5	0.5/0.7/1	5



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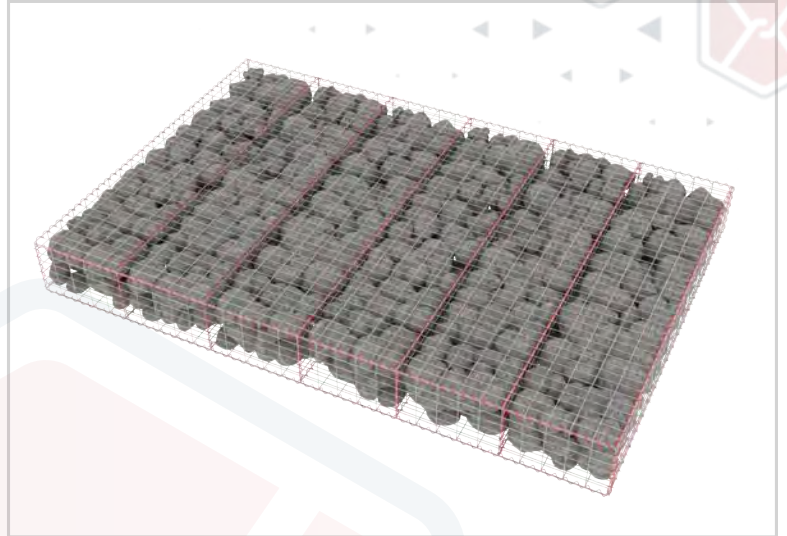
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# Gabion Mattresses

## Definition

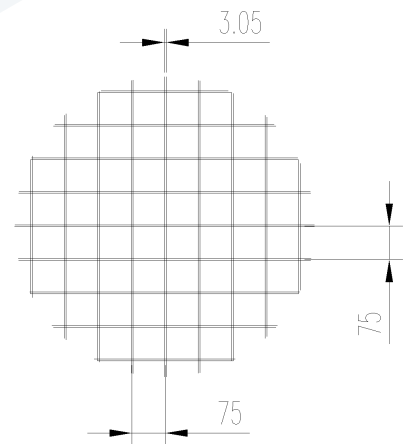
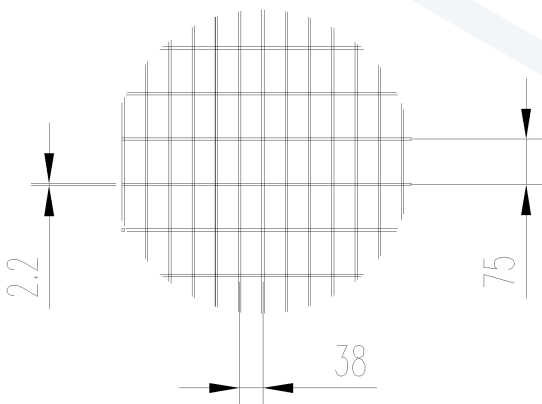
Gabion mattresses, also known as Reno mattresses, are flexible, wire mesh structures filled with stone, used for erosion control, slope stabilization, and channel linings. They can be made from welded wire mesh. Double-twisted mesh offers flexibility, allowing ground adaptation, while welded mesh provides a rigid structure with a flat profile. Both types are corrosion-resistant and promote vegetation growth for long-term erosion protection.



## ASTM A974 (Welded Mesh Mattresses)

ASTM A974 governs welded mesh gabions, ensuring structural integrity and consistent dimensions. It requires strong weld shear strength and corrosion-resistant coatings for longevity. This standard is commonly used for gabions in areas requiring a rigid structure with controlled deformation.

Mesh Size	Wire Ø (mm)	Weld Shear Strength	Coating Options
76 x 76	3.05 (galv/PVC)	≥70% of tensile strength	Galv, Zn-5%Al, PVC
38 x 76	2.2 (galv/PVC)	≥70% of tensile strength	Galv, Zn-5%Al, PVC



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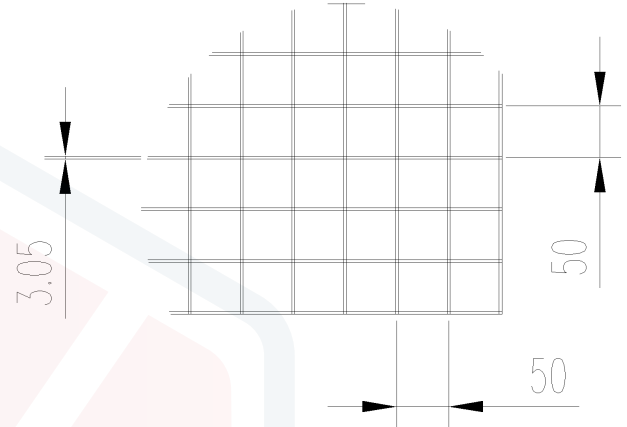
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## BS EN 10223-8 (Welded Mattresses)

BS EN 10223-8 sets requirements for welded mesh gabions, focusing on wire tensile strength, coating quality, and weld durability. It ensures welded mattresses provide sufficient load-bearing capacity while resisting corrosion. The standard is widely used in infrastructure and hydraulic engineering projects.

Mesh Size	Wire Ø (mm)	Weld Strength	Coating Options
50×50 mm	3.0	≥75% of tensile strength	Zinc, Zn-5%Al, PVC, Stainless Steel
75×75 mm	3.0	≥75% of tensile strength	Zinc, Zn-5%Al, PVC, Stainless Steel



## Available Mattress Sizes

Length (m)	Mesh Size	Mesh Size	Mesh Size	Mesh Size
2.00	2.00	0.225 - 0.50	4	BS EN 10223-8.
3.00	2.00	0.225 - 0.50	6	BS EN 10223-8.
4.00	2.00	0.225 - 0.50	8	BS EN 10223-8.
5.00	2.00	0.225 - 0.50	10	BS EN 10223-8.
6.00	2.00	0.225 - 0.50	12	BS EN 10223-8.
9.00	1.83	0.15 - 0.30	3	ASTM A974.
12.00	1.83	0.15 - 0.30	4	ASTM A974.

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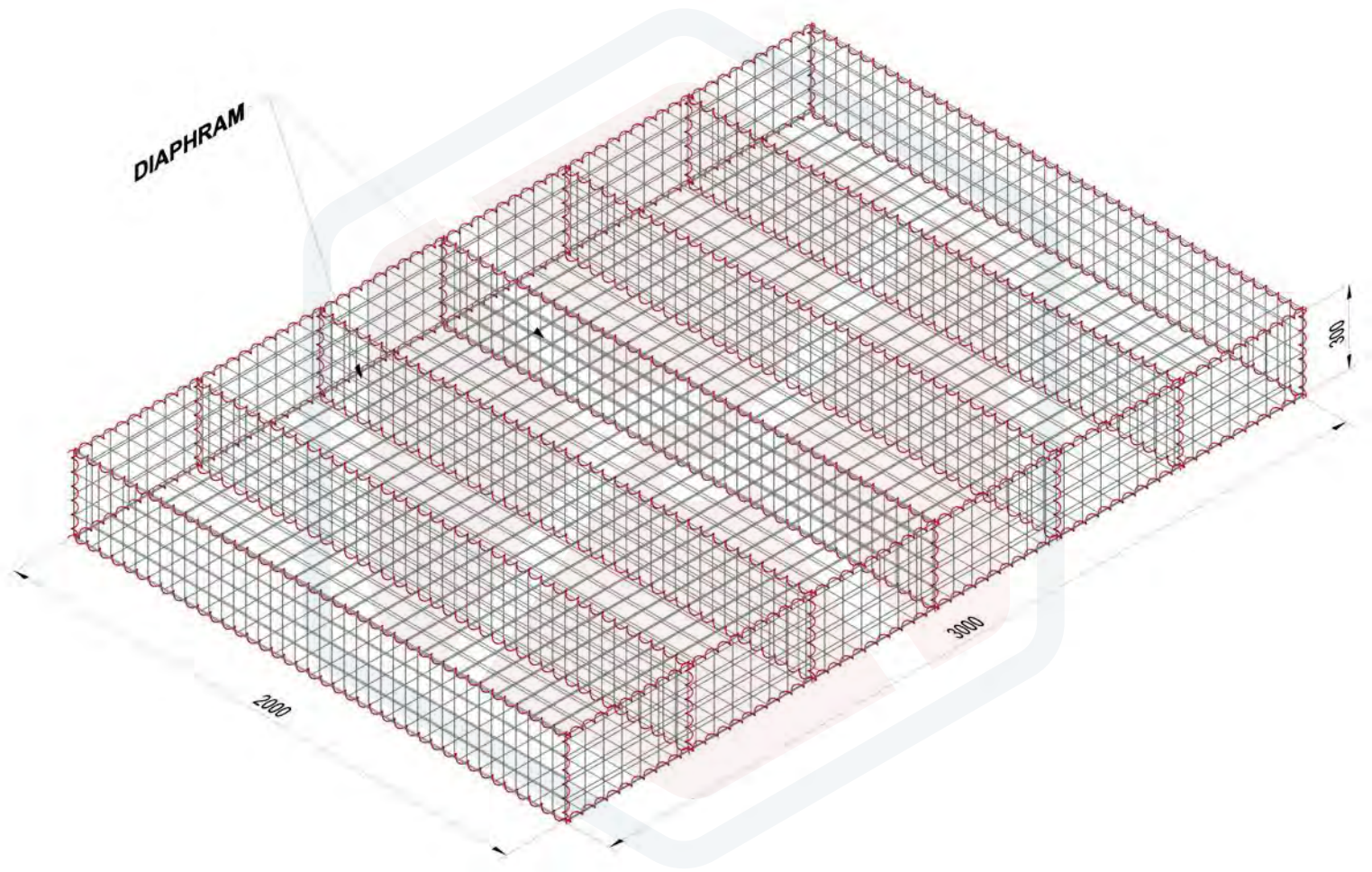






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