

DYWIDAG Mesh



KEY FEATURES

- High tensile strength
- Surface fit
- Flexible system

MAIN BENEFITS

- High-tensile steel wire
- Rhomboid mesh structure
- Knotted ends
- Corrosion & rust protection
- Lightweight
- Balanced stiffness

DYWIDAG Mesh is a high tensile steel wire mesh system specifically designed to provide surface support for excavation works.

Composed of a specific mesh and a series of connectiong and clipping accessories, the DYWIDAG Mesh system withstands significantly higher static and dynamic loads.

Its rhomboid mesh design facilitates fit to all mine surfaces, thereby providing strong and quick support for underground mining activities, preventing the movement of mining materials while ensuring the work safety of underground mining workers.

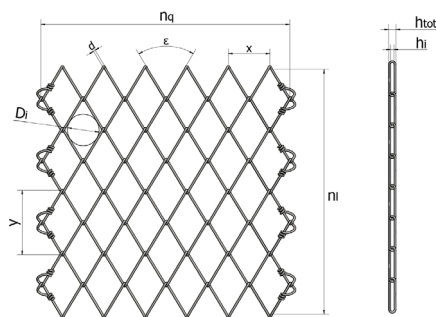
Fields of application

- Tunneling
- Mining
- Excavation support
- Rockfall prevention

Services

DYWIDAG provides assistance to facilitate design, consultancy and installation of the DYWIDAG Mesh products.

Mesh description



Mesh Design	M80/3	M80/4
Geometry	Rhomboid	Rhomboid
Mesh diagonal	$x \times y = 102 \times 177 \text{ mm } (-3\%)$	$x \times y = 102 \times 177 \text{ mm } (-3\%)$
Mesh width	$D_i = 80 \text{ mm } (-3\%)$	$D_i = 80 \text{ mm } (-3\%)$
Angle of mesh	$\varepsilon = 49^\circ$	$\varepsilon = 49^\circ$
Total height of mesh	$h_{tot} = 12.5 \text{ mm } (-1.5 \text{ mm})$	$h_{tot} = 15 \text{ mm } (\pm 1.5 \text{ mm})$
Clearance of mesh	$h_i = 6.5 \text{ mm } (\pm 1.5 \text{ mm})$	$h_i = 7 \text{ mm } (\pm 1.5 \text{ mm})$
No. of meshes longitudinal	$n_l = 5.6 \text{ pcs/m}$	$n_l = 5.6 \text{ pcs/m}$
No. of meshes transversal	$n_q = 9.8 \text{ pcs/m}$	$n_q = 9.8 \text{ pcs/m}$

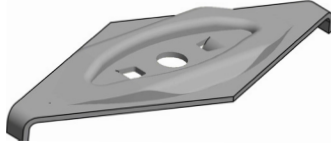
Load capacity	M80/3	M80/4
Tensile strength of mesh longitudinal	$Z_l \geq 110 \text{ kN/m'}$	$Z_l \geq 190 \text{ kN/m'}$
Tensile strength of mesh transversal	$Z_q \geq 45 \text{ kN/m'}$	$Z_q \geq 70 \text{ kN/m'}$

Steel Wire	M80/3	M80/4
Material	High tensile steel wire	High tensile steel wire
Wire diameter	3.0 mm	4.0 mm
Tensile strength	$f_t \geq 1770 \text{ N/mm}^2$	$f_t \geq 1770 \text{ N/mm}^2$
Tensile resistance of a wire	$Z_w = 12.5 \text{ kN}$	$Z_w = 22.0 \text{ kN}$
Anti-corrosion compound	95% Zn / 5% Al	95% Zn / 5% Al
Anti-corrosion coating	min. 150 g/m ²	min. 150 g/m ²

Roll	M80/3				M80/4			
Roll width (m)	2.3	2.3	2.5	2.5	2.3	2.3	2.5	2.5
Roll length (m)	15	20	15	20	15	20	15	20
Surface per roll (m ²)	34.5	46	37.5	50	34.5	46	37.5	50
Weight per m ² (kg)	1.45	1.45	1.45	1.45	2.6	2.6	2.6	2.6
Weight per roll (kg)	50	67	54	73	90	120	98	130

Accessories description

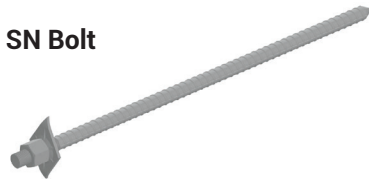
Spike Plate



It is commonly used with nails to fasten the DYWIDAG Mesh onto the slope firmly. The unique claw design makes the spike plate be a more stable and firm structure.

Characteristics	M80/3	M80/4
Size L × W (mm)	667 × 300	
Thickness (mm)	7	
Hole diameter (mm)	50	
Length of the spikes (mm)	min. 30	
Weight (kg)	6.7	
Geometry	Diamond	
Steel quality	S355J according to EN 10025-2	
Longitudinal bending resistance	≥ 8.0 kNm	
Corrosion protection	hot-dip galvanized based on EN ISO 1461	

SN Bolt



It is commonly used with spike plates to fix the DYWIDAG Mesh onto the mountain. High tensile strength and solid structure make it be long service life and in good conditions.

Characteristics	M80/3	M80/4
Length	≥ 2.0 m	
Nail diameter (mm)	25, 28, 32, 40	
Nail distance in horizontal direction	2–3.5 m	
Nail distance in line of slope direction	2–3.5 m	
Corrosion protection	hot-dip galvanized based on EN ISO 1461	
Nuts	generally hexagonal nuts with spherical bearing faces or spherical nuts	

Connection clip



It connects the neighbor DYWIDAG Mesh rolls firmly and supply whole protection for mountain and slopes. It is an alternative to the sewing rope and the connection is commonly without overlap.

Characteristics	M80/3	M80/4
Size L × W (mm)	60 × 21	
Wire diameter (mm)	d = 4.0	
Tensile strength	ft ≥ 1770 N/mm ²	
Material	High tensile spring steel wire	
Tensile force of a wire	Zw ≥ 22 kN	
Compound	95% Zn / 5% Al + 0.5 % special add-on	
Coating	min. 150 g/m ²	

Boundary rope

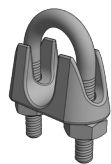


Boundary ropes pass through the DYWIDAG Mesh and then be fixed onto the anchor and enable the firmly stable.

Characteristics	M80/3	80/4
Light Type	•Diameter: 10 mm •Minimum breaking force: 63 kN	
Heavy type	•Diameter = 12 mm •Minimum breaking force: 91 kN	
Anti-corrosion protection	Zinc coating according to DIN EN 10244-2	

Accessories description

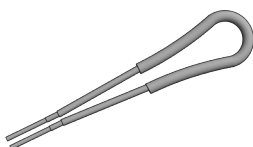
Wire rope clip



Wire rope clip, also known as u-clip or wire rope clamp, is used to fix the loose end of the loop back to the wire rope. It usually consists of a U-shaped bolt, a forged or cast saddle and two nuts. The two layers of wire rope are placed in the U-bolt. If the wire rope clips are not theft-proof type, the thread shall be secured with high viscosity glue.

Characteristics	M80/3	M80/4
Diameter (mm)	10, 12	
Nominal size	3/8», 7/16»	
Number	For wire ropes with diameter D = 10 and 12 mm minimum 3 wire rope clips should be used.	
Anti-corrosion protection	Hot dip galvanized	

Rope Anchor



It is made of high-tensile steel wires with 1770 N/mm² tensile strength rope loop with double steel pipe and excellent corrosion resistance. It is insensitive to impact and is mainly used to fix the DYWIDAG Mesh onto the rock or soil slopes for easy and reliable boundary ropes tensioning/fixation. It can supply the whole stability to the slope and the DYWIDAG Mesh system.

Characteristics	M80/3	M80/4
Description	Spiral rope, 2-stranded, with two hot dip galvanized steel tubes in the loop area	
Anti-corrosion protection	Heavy galvanized in accordance with DIN EN 10244-2 (DIN 2078), minimum coating weight 230 g/m ² (D 10.5 mm), 255 g/m ² (D 14.5 mm)	
Corrosion protection tubes	Hot dip galvanized in accordance with EN 10240, minimum layer thickness 55 µm Hot dip galvanized in accordance with EN 10240, minimum layer thickness 55 µm	
Light Type	D = 10.5 mm, working load 100 kN, length depending on subsoil: L = 2–3 m	
Heavy type	D = 10.5 mm, working load 100 kN, length depending on subsoil: L = 2–3 m	



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