

Elgard Mixed Metal Oxide Mesh

APPLICATION

ELGARD™ anode ribbon mesh is composed of a precious metal oxide catalyst sintered to an expanded titanium mesh substrate. The anode ribbon mesh is used as a key component in the cathodic protection of reinforced concrete structures.

MMO MESH TYPES

Type	150	210	300
Current rating @ 110 mA/m ² (10 mA/ft ²)	18.8 mA/m ² (1.71 mA/ft ²)	24.4 mA/m ² (2.22 mA/ft ²)	37.8 mA/m ² (3.44 mA/ft ²)
Shipping weight per coil	26 kg (56 lbs)	33kg (73lbs)	43 kg (95 lbs)
Anode ribbon mesh resistance lengthwise	0.085 Ohm/m (0.026 Ohm/ft)	0.046 Ohm/m (0.014 Ohm/ft)	0.027 Ohm/m (0.008 Ohm/ft)
Actual anode surface per unit area of concrete	0.17 m ² /m ² (0.17 ft ² /ft ²)	0.22 m ² /m ² (0.22 ft ² /ft ²)	0.34 m ² /m ² (0.34 ft ² /ft ²)
Expanded thickness	1.415 mm (0.056")	1.981mm (0.078")	1.981 mm (0.078 ")
Diamond dimensions	34 x 76 x 0.64 mm (1.33 " x 3.0 " x 0.025 ")	34 x 76 x 0.89mm (1.330" x 0.18" x 0.025")	25 x 51 x 0.89 mm (0.923 " x 2.0 " x 0.035 ")

MATERIAL SPECIFICATIONS

Expected life (NACE Standard TM02944-94)	75 years
Catalyst	Iridium based mixed metal oxide

MAXIMUM ANODE CONCRETE INTERFACE CURRENT DENSITY

FHWA limit	110 mA/m ² (10 mA/ft ²)
Short-term limit	220 mA/m ² (20 mA/ft ²)

NOMINAL DIMENSIONS

Width of roll	1.22m (4ft)
Length of roll	76m (250 ft)
Area per roll	92.9 m ² (1000ft ²)

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MATERIAL SPECIFICATIONS (continued)

SUBSTRATE

Composition	Titanium, grade 1 per ASTM B265
Coefficient of thermal expansion	$8.7 \times 10^{-5} /K$ (0.0000048/in/in/K)
Thermal conductivity @ 20°C	15.6W/ m ² - K (9.0BTU/hr/ft ² /F/ft)
Electrical resistivity	0.000056 Ohm-cm (0.000022 Ohm-in)
Modulus of elasticity	105 GPa (14,900,000 PSI) minimum
Tensile strength	245 MPa (35,000 PSI) minimum
Yield strength	175 MPa (25,000 PSI) minimum
Elongation	24% minimum

ELECTRICAL PROPERTIES

Current distributor resistance lengthwise	0.049 Ohm/m (0.015 Ohm/ft)
Resistance width wise c/w current distributor	0.016 Ohm/m (0.005 Ohm/ft)