

# Elgard Mixed Metal Oxide Ribbon 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 RIBBON MESH TYPES

Type	85	100	150	200
Current rating @ 110 mA/m <sup>2</sup> (10 mA/ft <sup>2</sup> )	2.8 mA/m (0.85 mA/ft)	3.5 mA/m (1.05 mA/ft)	5.28mA/m (1.61 mA/ft)	7.0mA/m (1.62 mA/ft)
Width	10mm (0.4")	13mm (0.5")	19mm (0.5")	25mm (0.8")
Shipping weight per coil	1.4kg (3.1lbs)	1.8kg (4lbs)	2.7kg (6lbs)	3.6kg (7.9lbs)
Anode ribbon mesh resistance lengthwise	0.49 Ohm/m (0.15 Ohm/ft)	0.39 Ohm/m (0.12 Ohm/ft)	0.26 Ohm/m (0.08 Ohm/ft)	0.20 Ohm/m (0.06 Ohm/ft)
Actual anode surface per unit length of anode	0.025 m <sup>2</sup> /m (0.082 ft <sup>2</sup> /ft)	0.032 m <sup>2</sup> /m (0.105 ft <sup>2</sup> /ft)	0.048 m <sup>2</sup> /m (0.157 ft <sup>2</sup> /ft)	0.062 m <sup>2</sup> /m (0.203 ft <sup>2</sup> /ft)

### 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 <sup>2</sup> (10 mA/ft <sup>2</sup> )
Short-term limit	220 mA/m <sup>2</sup> (20 mA/ft <sup>2</sup> )

### NOMINAL DIMENSIONS

Coil length	76m (250ft)
Expanded thickness	1.30mm (0.051")
Diamond dimensions	2.5 x 4.6 x 0.6mm (0.10" x 0.18" x 0.025")

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### MATERIAL SPECIFICATIONS (continued)

#### SUBSTRATE

Composition	Titanium, grade 1 per ASTM B265
Coefficient of thermal expansion	$8.7 \times 10^{-5} / \text{K}$ (0.000048/in/in/K)
Thermal conductivity @ 20°C	$15.6 \text{ W/m}^2 \cdot \text{K}$ (9.0BTU/hr/ft <sup>2</sup> /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

#### CURRENT DISTRIBUTOR

Width	12.70mm (0.5")
Thickness	0.90mm (0.035")
Coil length	76m (250ft)
Shipping weight per coil	3.9kg (8.6lbs)

#### ELECTRICAL PROPERTIES

Current distributor resistance lengthwise	0.049 Ohm/m (0.015 Ohm/ft)
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