



# MIXED METAL OXIDE ELGARD 100 RIBBON MESH

REVISION 1

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.

## MATERIAL SPECIFICATIONS

ANODE PERFORMANCE	
Current rating @ 110 mA/m <sup>2</sup> (10 mA/ft <sup>2</sup> )	3.5 mA/m (1.05 mA/ft)
Expected life (NACE Standard TMO2944-94)	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	
Width	13 mm (0.5 ")
Coil length	76 m (250 ft)
Actual anode surface per unit length of anode	0.032 m <sup>2</sup> /m (0.105 ft <sup>2</sup> /ft)
Expanded thickness	1.30 mm (0.051 ")
Diamond dimensions	2.5 x 4.6 x 0.6 mm (0.10 " x 0.18 " x 0.025 ")
Shipping weight per coil	1.8 kg (4 lbs)
SUBSTRATE	
Composition	Titanium, Grade 1 per ASTM B265
Coefficient of thermal expansion	8.7 x 10 <sup>-5</sup> /°K (0.0000048/in/in/°K)
Thermal conductivity @ 20°C	15.6W/ m <sup>2</sup> - °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	12.70 mm (0.5 ")
Thickness	0.90 mm (0.035 ")
Coil length	76 m (250 ft)
Shipping weight per coil	3.9 kg (8.6 lbs)
ELECTRICAL PROPERTIES	
Anode ribbon mesh resistance lengthwise	0.39 Ohm/m (0.12 Ohm/ft)
Current distributor resistance lengthwise	0.049 Ohm/m (0.015 Ohm/ft)