

ED Electrode Material Comparison

	Stainless Alloy	DurAnode™	Precious Metal Oxides
Type	316L	Proprietary conductive ceramic	IrO ₂ , RuO ₂ , etc.
Composition	Homogeneous	Homogeneous	Coating
Cost Factor	1	> 20 times	> 5 - 8 times
Availability	OK	Adequate	Adequate
Fabrication	OK	Proprietary	Adequate
Substrate Materials	None	None	Ti,Ta,Zr,Nb
Physical Properties	Strong	Very Brittle	Brittle
Catastrophic Failure ?	Yes	n/a	Yes
Dissolution Products	Fe -> Fe ⁺² & Fe ⁺³	Proprietary	TiO ₂ -> Ti ⁺⁴ & O ₂
Dissolution Voltage, Volts	< 2	>> 12	> 8 - 12
Design Basis, Amps/SM (Amps/SF)	55 (5)	> 55 (> 5)	55 (5)
Measure Wear ?	Readily	n/a	No
Resistance to X-Factor	Poor	Best	Good
Application	No X-Factor Epoxy ED Paints	Med - High X-Factor Light/Acrylic ED Paints	Low X-Factor Light/Acrylic ED Paints
Wear Rates (No X-Factor)	Generally < 0.065 microns/HR < 0.003 mil/HR	n/a	n/a
Detect Wear Thru Visual Inspection ?	Yes	Yes	Not Revealing
Life Expectancy, Hours	20k	>> 20k	> 20k

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