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MECHANICAL PROPERTIES OF THE ANODIC FILM

Hardness	The film is ceramic in nature and will resist surface scratches and abrasion.
Flexibility	Ductile wire and strip will wind around a mandrel four times the thickness of the conductor without flanking or cracking the insulation.
Fatigue	There is no stress concentration between the metal and the film.
Strength	Tensile Strength and elongation are not altered by the anodic film. It is insensitive to thermal shock. The insulated conductor can safely carry short term overload currents while in high ambient temperature.
Corona	When exposed to Corona, the film will not suffer any erosion.
High Temperature	The insulation properties of oxide film improve as the temperature increases as the moisture factor is eliminated and is safely employed up to the melting point of the conductor.
Radiation	The recovery rate of the oxide insulation, under an influence of 10^7 roentgen/sec, is 10 to 100 microseconds when exposed to gamma pulses and showed no deleterious effects.
Low Temperature	Aluminum wire with oxide film excels in super cold environments. High thermal conductivity of the film makes it especially effective in high-energy absorption.
Frequency	No significant change over a wide frequency range. At frequencies above 1 KHz/S, capacitance is nearly constant at 0-99µ F/cm² is a fair representation of the impedance component.
Vibration	Coils with oxide insulated flat ribbon fewer than 24G vibrations at frequencies between 50 cps and 5000 cps for one hour each axis shows no change in resistivity and only a very slight change in inductance.
Impregnated Films	A good agent for mechanical bonding since the pores allows a penetration of any organic or inorganic material. In the manufacture of self-supporting coils, a bonding agent can be used for a quasi-cured state and when subjected to heat, the turns bond together to form a solid structure.