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	Acrylic	Urethane	Epoxy	Silicone	Parylene	PTFE	Polyimide
Coating Quality	Good	Good	Good	Good	Excellent	Good	Good
Chemical Resistance	Good	Excellent	Excellent	Good	Excellent	Excellent	Excellent
Dielectric Strength	Good	Excellent	Excellent	Fair	Excellent	Good	Excellent
Adhesion	Good	Good	Excellent	Excellent	Excellent	Good	Good
Thermal Cycling	Fair	Good	Good	Excellent	Excellent	Excellent	Excellent
Abrasion Resistance	Good	Excellent	Excellent	Fair	Good	Fair	Good
Application Stress	High	High	High	Low	None	High	High
Cure Required	Yes	Yes	Yes	Yes	None	Yes	Yes
Water Resistance	Poor	Good	Good	Fair	Excellent	Excellent	Fair

Coating Type	Description	Use Cases	Advantages	Drawbacks
Electro Surgical Coatings	Coating designed for high temperature electrosurgical blades	Extend life of electro surgical tools	High hardness, high temp resistant (up to 840 F), gamma resistant	
Hydrophilic Coating	Able to absorb water easily, resulting in low friction when wet	Low friction wet situations	Very low friction when wet	May make coils stiffer
Parylene	Thin 'green' polymer conformal coating	Water proofing, biocompat-ability, chemical resistance	Low friction	Can be brittle, slow to apply Size restriction and IDs are difficult
Plastiglide	Gamma sterilization resistant coatings made from polyethylene	Lubricity for plastics	Resistant to wear, permanently bonded to substrates	
PTFE	Fluoropolymer non-stick coating	Corrosion resistance, lubricity	Low friction, chemical resistance, good low temperature performance	Needs lubrication for heavy loads, not gamma stable
Silicone	Siloxane polymer coating	High temperature	Moderately useful as a hydrophobic coating	Chemistry of coated part matters as it can affect the coating
Slick Sil® LSR	A replacement for low friction Parylene	Parylene replacement on silicone	Chemically bonded to coated silicone, excellent elongation, biocompatible	
VisiBond®	Fluorocarbon based polymer for color identification	Coating for color identification on electro surgical tools	Electrical surgical protective, high dielectric properties	Lower definition resolution
Polyimide	Polymer coatings designed to have good thermal resistance, and high stiffness.	Thermal stability and flexibility	High thermal range, Dielectric strength and physical strength	Difficult to produce in large quantities