

Epoxy Coating Comparison Chart

	Amine Epoxies	Polyamide Epoxies	Amidoamine Epoxies	Epoxy Phenolics/Novolacs
Description	Form very hard, adherent films with excellent chemical and corrosion resistance. Amine cured epoxies are often used as protective coatings and linings in highly corrosive environments. Amine epoxies require care in handling since the amines can be moderately irritating to the skin, and may cause allergic reactions.	Polyamide epoxies generally offer the widest latitude in coating formulation. They are considered more resilient and flexible, and have better weathering resistance and a longer pot life than amine cured epoxies. Polyamide epoxies generally have less solvent and acid resistance than amine cured epoxies.	Amidoamines are reaction products of a polyamine and a fatty acid. Their properties generally fall between those of amines and polyamides. They have good water and corrosion resistance like amines, and good toughness like polyamides. They have relatively small molecular size giving them low viscosities and making them very good surface wetters.	These coatings allow wide range formulating latitude. Novolac epoxy resin increases chemical resistance and solvent resistance. Increasing the level of phenolic increases the chemical and solvent resistance, but the coating loses flexibility. Some phenolics require heat curing.
Advantages	<ul style="list-style-type: none"> • Excellent alkali and water resistance • Very good acid resistance • Excellent solvent resistance • Hard, abrasion resistant film • Excellent corrosion resistance • Excellent wetting of substrate • Chemical/moisture barrier 	<ul style="list-style-type: none"> • Very good alkali and water resistance • Good acid resistance • Longer pot life than amines • Easy to apply • Cures more quickly than amines • Good weathering characteristics • Good film flexibility • Excellent adhesion 	<ul style="list-style-type: none"> • Excellent surface wetting • Excellent adhesion • Excellent water resistance • Low viscosity • Longer pot life than amines • Good gloss retention 	<ul style="list-style-type: none"> • High heat resistance • Excellent chemical resistance • Excellent solvent resistance • Excellent corrosion resistance • Hard, abrasion resistant film
Disadvantages/ Limitations	<ul style="list-style-type: none"> • Amines can be irritating/toxic • Relatively short recoat time • Relatively short pot life • Slower dry than normal polyamides • Chalks/may discolor 	<ul style="list-style-type: none"> • Faster dry than amines • Chalks • High viscosity • Temperature dependent • Slow cure 	<ul style="list-style-type: none"> • Slow cure • Fair color retention • Temperature dependent 	<ul style="list-style-type: none"> • Some may require heat cure • Relatively slow air cure • Chalks/may discolor • Relatively brittle
Primary Uses • Refer to product data sheets for specific use information	<ul style="list-style-type: none"> • Severe chemical resistant coating • Barrier coating • Offshore structures • Storage tanks, structural steel • Bridges, power plants • Tank linings • Secondary containment 	<ul style="list-style-type: none"> • Water immersion • General industrial • Offshore structures • Storage tanks, structural steel • Water/wastewater plants • Tank linings • Bridges, power plants • Secondary containment 	<ul style="list-style-type: none"> • Barrier coating • Surface tolerant coating • Where chemical and moisture resistance is required • General industrial • Refineries • Bridges, power plants 	<ul style="list-style-type: none"> • Severe chemical resistance • Tank linings • Secondary containment • General industrial • Refineries • Bridges, power plants
S-W Products	<p>Amines</p> <ul style="list-style-type: none"> Shelcote II Epoxy Shelcote II Flake Filled Dura-Plate UHS Tank Clad HS Epoxy Sher-Glass FF <p>Ketimines</p> <ul style="list-style-type: none"> Dura-Plate MT Macropoxy 920 PrePrime <p>Phenalkamines</p> <ul style="list-style-type: none"> Dura-Plate 235 <p>Water-Based</p> <ul style="list-style-type: none"> Water-Based Tile-Clad Zinc Clad VI Fast Clad DTM Waterbased Epoxy 	<ul style="list-style-type: none"> Kem Cati-Coat HS Filler/Sealer Tile-Clad High Solids Recoatable Epoxy Primer Copoxy Shop Primer Zinc Clad IV Zinc Clad III HS Hi-Solids Catalyzed Epoxy Macropoxy 646 Fast Cure Macropoxy 846 Winter Grade Epolon II Primer Epolon II Multi-Mil Macropoxy HS Epoxy Pro Industrial High Performance Epoxy 	<ul style="list-style-type: none"> Epoxy Mastic Aluminum II 	<ul style="list-style-type: none"> Phenicon HS Epoxy Phenicon Flake Filled Epo-Phen Nova-Plate UHS

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	Siloxane Epoxies	Coal Tar Epoxies	Water-Based Epoxies	Epoxy Esters
Description	Siloxane epoxies are relatively fast curing coatings with excellent stain and mar resistance. They have excellent color and gloss stability. Siloxane epoxies are typically used in high performance industrial applications. Also acceptable for architectural applications.	Coal tar epoxies are a combination of a basic epoxy resin and coal tar. The coal tar is in the form of a semi-liquid pitch and blended with the epoxy resin. The curing agents for coal tar epoxies are usually either amines or polyamides. Coal tar epoxies offer excellent resistance to fresh and salt water and are highly resistant to cathodic disbondment.	Generally consist of a non-yellowing acrylic resin dispersed in water mixed with an emulsified epoxy resin. They are relatively hard, durable coatings with moderate chemical resistance. They offer good stain resistance, abrasion resistance and resistance to most commercial cleaning agents and sanitizers. They can be used over previously applied conventional paints to upgrade the surface for better performance without wrinkling, lifting or bleeding.	A combination of epoxy resin and alkyd resin resulting in an air-drying coating. Epoxy esters provide a hard, durable film ideal as a machinery finish. Recommended for general atmospheric use in areas not considered severely corrosive.
Advantages	<ul style="list-style-type: none"> • Very good weathering resistance • Hard, abrasion resistant film • Very good acid resistance • Excellent color and gloss retention • Relatively fast dry 	<ul style="list-style-type: none"> • High film build with one coat • Excellent salt water resistance • Excellent water resistance • Excellent resistance to cathodic disbondment • Economical 	<ul style="list-style-type: none"> • Good chemical and solvent resistance • Hard, abrasion resistant film • Upgrades conventional systems to high performance • Water clean-up, low-odor • No strong solvents • Good adhesion • Very long pot-life • Good weathering 	<ul style="list-style-type: none"> • Hard, durable film • Easy to apply • One component • Good moisture resistance • Minimal surface preparation • Moderate cost • Low temperature application • Increased alkali resistance over alkyds
Disadvantages/ Limitations	<ul style="list-style-type: none"> • Solvent resistant • Heat resistant 	<ul style="list-style-type: none"> • Not for potable water • Black color • Critical recoat time/ difficult to recoat • Fair solvent resistance • Chalks/browns 	<ul style="list-style-type: none"> • Flash rusting on ferrous metal unless primed 	<ul style="list-style-type: none"> • Fair solvent resistance • Poor weathering characteristics • Poor exterior gloss retention
Primary Uses • Refer to product data sheets for specific use information	<ul style="list-style-type: none"> • Bridges • Marine • High performance finish coating • Kennels, • Schools, jails, hospitals • High moisture areas • Stain resistant coating 	<ul style="list-style-type: none"> • Liner for sewage treatment tanks • Not-potable water tanks • Pipe coating • Penstocks, dam gates • Offshore rigs • Paper mills • Chemical Plants • Secondary containment 	<ul style="list-style-type: none"> • Light/moderate industrial areas • Tile-like wall coating • Schools • Hospitals • Food plants • Office areas • Kitchens • Hallways • Nursing homes 	<ul style="list-style-type: none"> • Moisture resistance • Where odor or low temperature limitations prevent solvent-based epoxy use • Abrasion resistance
S-W Products	Polysiloxane XLE-80	Hi-Mil Sher-Tar Epoxy Tar-Guard Coal Tar Epoxy	Water-Based Epoxy Primer Water-Based Epoxy Pro Industrial Hi-Bild Waterbased Epoxy	