



BONDING GUIDE

Performance consideration	Adhesive Category								
	Cyanoacrylates	Epoxies	Hot Melts	Light Cure	Silicones	Elastomers	Urethanes	2-part Acrylics	2 step Acrylics
Benefits	Wide range of bonding applications	Wide range of formulations	Versatile, fast, large gap filling	Rapid cure/adhesion to plastics	Excellent temperature resistance	Flexible, paintable, bonder/sealant	Excellent toughness/flexibility	Good impact resistance/flexibility	Good impact resistance/ no-mix
Limitations	Low solvent resistance	Mixing required	Limited heat resistance	Light cure resistance	Low adhesion resistance	High temperature resistance	Sensitive to moisture	Mixing required	Primer required
Temperature resistance									
Typical for the category	-65°F to 180°F (-54°C to 82°C)	-65°F to 180°F (-54°C to 82°C)	-65°F to 250°F (-54°C to 121°C)	-65°F to 300°F (-54°C to 149°C)	-65°F to 400°F (-54°C to 204°C)	-65°F to 200°F (-54°C to 93°C)	-65°F to 250°F (-54°C to 121°C)	-65°F to 250°F (-54°C to 121°C)	-65°F to 300°F (-54°C to 149°C)
Environmental resistance									
Polar solvents (ex: water, ethylene glycol, isopropyl alcohol, acetone)	Poor (1)	Very Good	Good	Good	Good	Good	Good	Good	Good
Non-polar solvents (ex: motor oil, toluene, gasoline, ATF)	Good	Excellent	Good	Very Good	Poor to Fair	Poor	Good	Very Good	Very Good
Adhesion to substrates									
Metals	Very Good	Excellent	Good	Good	Good	Very Good	Good	Excellent	Excellent
Plastics (2)	Excellent	Fair	Very Good	Excellent	Fair	Good	Very Good	Excellent	Fair
Glass	Poor	Excellent	Good	Excellent	Very Good	Good	Good	Good	Excellent
Rubber	Very Good	Fair	Fair	Fair	Good	Poor	Good	Poor	Poor
Wood	Good	Very Good	Excellent	Poor	Fair	Very Good	Fair	Good	Good

Process consideration	Adhesive Category								
	Cyanoacrylates	Epoxies	Hot Melts	Light Cure	Silicones	Elastomers	Urethanes	2-part Acrylics	2 step Acrylics
Cure temperature	Room Temperature	Room Temperature	Room Temperature (3)	UV/Visible	Room Temperature	Room Temperature	Room Temperature	Room Temperature	Room Temperature
Fixture time									
Average	60 seconds	20 minutes	70 seconds	30 seconds	25 minutes	25 minutes	25 minutes	20 minutes	5 minutes
Full cure time	24 hours	12 to 24 hours	1 hour (or when cooled) (4)	30 to 60 seconds	1 to 7 days	1 to 7 days	24 hours	24 hours	24 hours

SUBSTRATE	GALVANIZED	STEEL, ALUMINUM, STAINLESS STEEL	POLYPROPYLENE, UHMW, HDPE, POLYETHYLENE, NYLON, ACETAL	ACRYLIC, POLYCARBONATE, STYRENE, PVC, ABS	FIBREGLASS, POLYESTER OR EPOXY	GLASS, CERAMIC	WOOD, LEATHER, CARDBOARD
GALVANIZED	H8600™	H8600™	U-05FL™	H8600™	H8600™	H8600™	E-20HP™
STEEL, ALUMINUM, STAINLESS STEEL	H8600™	H8000™, H3151™	U-05FL™	H8000™, U-05FL™	H8000™, H3151™, H3000™	E-20HP™	E-20HP™
POLYPROPYLENE, UHMW, HDPE, POLYETHYLENE, NYLON, ACETAL	U-05FL™	U-05FL™	U-05FL™	U-05FL™	U-05FL™	U-05FL™	Cyanoacrylates or Hot melt
ACRYLIC, POLYCARBONATE, STYRENE, PVC, ABS	H8600™	H8000™, U-05FL™	U-05FL™	H8000™, H3151™, H3000™	H8000™, H3000™	H8000™	Cyanoacrylates
FIBREGLASS, POLYESTER OR EPOXY	H8600	H8000™, H3151™, H3000™	U-05FL™	H8000™, H3000™	H8000™, H4800™, H3000™, E-20HP™	E-20HP™, E-30CL™, 330™ Depend®	E-20HP™
GLASS, CERAMIC	H8600™	E-20HP™	U-05FL™	H8000™	E-20HP™, E-30CL™, 330™ Depend®	E-30CL™, 330™ Depend®	E-20HP™
WOOD, LEATHER, CARDBOARD	E-20HP™	E-20HP™	Cyanoacrylates or Hot melt	Cyanoacrylates	E-20HP™	E-20HP™	E-20HP™

(1) Cyanoacrylates have very good moisture resistance on plastics

(2) Uncured liquid adhesives may cause stress cracking of certain thermoplastics, e.g., polycarbonate, acrylic and polysulfone.

(3) Elevated temperatures are required to dispense liquid Hot Melt Adhesives.

(4) Urethane Hot Melts require 24 hours for full cure.

PLEASE NOTE: This chart should not be used to specify products without specific testing.

It is recommended that you conduct on-part testing to ensure product performance before specifying any adhesive.