

Bonding Plastics

	CTE 10 ⁻⁶ in./in./°F	Critical Surface Tension dynes/cm, or mJ/m ²	Pre-Treatment Improve Bondability	Locbond® Adhesive Solution
Acetal	45	47	ND	ND
Acrylic (PMMA)	60	37.5	Not require	CA, UV, MMA, Epoxy
Acrylic-Styrene-Acrylonitrile (ASA)	ND	ND	ND	ND
Acrylonitrile-Butadiene Styrene (ABS)	56	38.5	Not require	CA, MMA, Epoxy
Allylic Ester (DAP, DAIP)	ND	ND	ND	ND
Cellulosic Acetate Propionate (CAP)	90	37.5	Not require	ND
Epoxy	ND	44.5	Not require	CA, UV, MMA, Epoxy
Fluoropolymers (PTFE, FEP, PFA, ETFE)	55	19.4	PlasmaTreat, CorronaTreat	ND
Ionomer	ND	ND	ND	ND
Liquid Crystal Polymer (LCP)	ND	ND	ND	ND
Phenolic	23	52	ND	ND
Polyamide (Nylon)	50	42.2	Not require	CA, MMA, Epoxy
Polybutylene Terephthalate (PBT)	53	ND	ND	ND
Polycarbonate (PC)	38	44	Not require	CA, UV, Epoxy, MMA
Polyester	ND	ND	ND	ND
Polyetheretherketone (PEEK)	26	ND	ND	ND
Polyetherimide (PEI)	ND	ND	ND	ND
Polyethersulfone (PES)	31	ND	ND	ND
Polyethylene (PE)	167	31.6	PlasmaTreat, CorronaTreat	CA + Primer, MMA
Polyethylene terephthalate (PET)	39	39	Not require	ND
Polyimide (PI)	30	40	ND	ND
Polymethylpentene (PMP)	ND	ND	ND	ND
Polyphenylene Oxide (PPO)	ND	47	Not require	ND
Polyphenylene Sulfide (PPS)	30	38	Not require	ND
Polypropylene (PP)	58	30.5	PlasmaTreat, CorronaTreat	CA + primer, MMA
Polystyrene (PS)	48	34	ND	ND
Polyurethane (PU)	ND	ND	Not require	ND
Polyvinyl Chloride (PVC)	32	39	Not require	CA, MMA, Epoxy
Styrene-Acrylonitrile (SAN)	ND	ND	ND	ND

ND

ND - Stand for " No Data"

CTE (in/in/°F or cm/cm/°C)

The coefficient of linear thermal expansion measures the change in length per unit length of a material per unit change in temperature. Expressed as in/in/°F or cm/cm/°C, the CTE is used to calculate the dimensional change resulting from thermal expansion. CTE is especially important when components of an assembly have widely varying thermal expansion coefficients.

Critical Surface Tension (in mJ/m², or equivalents to Dynes/cm)

Generally determined by the wetting tension method (using solutions of 2-ethoxyethanol and formamide, per ASTM Std. D-2578).

PreTreatment

See more detail, on the surface treatment session (page 31)

Locbond's Solutions - Choices of Adhesives & Primers

- CA - Cyanoacrylate Adhesives
- UV - UV Adhesives (based on methacrylate or urethane)
- MMA - Methyl Methacrylate
- Epoxy - 2Parts Epoxy System
- Primer - Cyanoacrylate Primers

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