

Elvacite[®] 4347

Acrylic Resin for Excellent Metal Adhesion, Flexibility, Toughness and Outdoor Durability

Elvacite[®] 4347 thermoplastic acrylic resin provides excellent and durable adhesion to unprimed and untreated metals (steel, aluminum, copper, brass, bronze, zinc, tin, etc.). It produces a tough, flexible coating with excellent outdoor durability. It is soluble in common solvents such as toluene, xylene, acetone, t-butyl acetate, Aromatic 100, methyl ethyl ketone, etc.

Typical Properties^a

Appearance	Solid bead
Glass Transition Temp, onset	50°C
Molecular Weight (Mw)	140,000
Acid Number (mg KOH/g Resin)	7.5
Solubility Parameter	9.3
<i>a) Typical physical properties listed are approximate values and should not be considered manufacturer's release specifications. Manufacturer's release specifications are subject to change without notice, please contact your Elvacite[®] representative for the latest product specification details.</i>	

Preparing Solutions

Elvacite® resins dissolve at room temperature but require constant agitation to prevent solvent-swollen granules of polymer from forming agglomerates and sticking to the walls of the vessel.

Important: The polymer beads should be sifted directly into the vortex of the stirred solvent to speed wetting-out and dispersion. Continuous low-shear agitation for periods of 1-12 hours, depending on the grade and concentration of resin, is recommended.

After the solution appears clear in the tank, a sample should be spread out on a Leneta card or glass. After the solvent evaporates and a film forms on the card or glass, there should not be any resin seeds. If there are any seeds, the tank should be agitated further to fully dissolve the resin. Tank agitation should not be stopped (except for sampling) until the film test indicates there are no resin seeds. Any cloudiness or residue may indicate that some polymer remains undissolved. The presence of water in the system can also cause cloudiness.

Solution time can be reduced by heating; most common solvents can be heated to approximately 49°C (120°F) without the need for reflux equipment. High-shear agitation also cuts dissolving time, but requires care to avoid overheating and excessive solvent loss.

Solubility¹

Solvent	Solubility	Solvent	Solubility
Ethyl Acetate	Clear	Acetone	Clear
Propyl Acetate	Clear	MEK	Clear
n-Butyl Acetate	Clear	Mineral Spirits	Insoluble
t-Butyl Acetate	Clear	Isopar G	Insoluble
Toluene	Clear	Isopropyl Alcohol	Insoluble
Xylene	Clear	Isobutyl Alcohol	Insoluble
Aromatic 100	Clear	Heptane	Insoluble

¹Solubility properties are tested at 30% solids.

Metal Adhesion Performance in Clear Coatings²

Metal Adhesion Property				
Metal Type	Cross Hatch Adhesion ³	Knife Adhesion ³	Other Properties	
			Cold-Rolled Steel	5 (no failure)
Galvanized Steel	5	5	Gloss, 60°	85
Aluminum	5	5	Mustard Staining (30 min.)	Trace
Zinc	5	5	Gasoline Resistance (30 min.)	Slightly softens
Tin	5	5	Pencil Hardness	3H
Copper	5	5	Flexibility (1 week) ⁴	No cracks
Brass	5	5	Flexibility (4 weeks) ⁴	No cracks

²Coatings was formulated at 30% solids in toluene without external plasticizer. The properties are determined after being drawn down and dried at 300 °F for 30 minutes to simulate final properties of the resin.

³Adhesion is rated on a 0 (poor, >65% coating area removed) to 5 (excellent, no failure) scale as described in ASTM D3359.

⁴Flexibility is determined by the degree of cracking at a bend. The bend was performed after drying the coatings for one and four weeks at ambient temperature.

Pasadena, Texas, USA

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Mitsubishi Chemical America, Inc., Specialty Resins Division hereby certifies that the country chemical inventory status of Elvacite® 4347 is as follows.

US	CA	AU	CN	KR	NZ	PH	TW	JP	Russian Federation	TH	Vietnam
TSCA	DSL	AIIC	IECSC	KECI	NZIoC	PICCS	TCSI	ENCS	Unified list of chemicals	DIW	NCI
Listed as Active	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Y: Listed

N: Not Listed

For further information or samples, please contact your local distributor, or:

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