Elvacite® 2552C

High Gloss Acrylic Resin

Elvacite® 2552C is a solid bead thermoplastic methacrylate copolymer intended for use in solvent-based coating systems where high gloss and apparent depth of finish are important. This specially designed polymer is internally plasticized to resist cold cracking and crazing and to provide flexibility over a broad range of temperatures. Elvacite® 2552C exhibits excellent outdoor durability and resistance to ultraviolet degradation and chemical attack from solvents such as alcohol or gasoline.

The resin may be used in refinish applications and transportation finishes such as automotive, motorcycle, and bicycle in multiple coats as a high gloss clear top coat, or as the main binder in high gloss glamour type pigmented base coats. Elvacite® 2552C demonstrates excellent adhesion to plastic substrates such as PS, ABS, and PVC, as well as interlayer integrity and adhesion in multiple coat applications used to achieve depth. Solvent systems containing alcohol, methyl ethyl ketone, and toluene work well with Elvacite® 2552C whether the coating is applied mechanically or as an aerosol.

Performance Features and Key Benefits

- Treated for use in reactive systems
- Easily soluble in alcohol, ketone, and hydrocarbon systems
- Internally plasticized to resist cold cracking and crazing
- Exceptional resistance to abrasion and moisture
- Superior ultraviolet and chemical resistance
- Flexible over a broad range of temperatures
- Excellent adhesion and interlayer integrity
- Forms very clear high gloss films

Typical Properties[a]	
Appearance	Solid bead
Specific Gravity, 25° C	1.08
Glass Transition Temp, onset (calculated)	76°C
Molecular Weight (Mw)	65,000
Acid Number (mg KOH/g Resin)	0

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.*

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.

Solvent Solubility

Table depicts the solubility of Elvacite® 2552C at 30% solids in various solvents.

Solubility of Elvacite® 2552C		
Solvent	**Solubility**	**Rating**
Toluene	S	C
Acetone	S	C
Methyl ethyl ketone	S	C
Dimethyl carbonate	S	C
Methyl isobutyl ketone	S	C
n-Butyl acetate	S	C
t-Butyl acetate	S	C
Ethyl acetate	S	C
n-Propyl acetate	S	C
Methyl acetate	S	C
n-propanol	S	C
(S = Soluble, H = Cloudy/hazy solution, C= Clear solution, I = Insoluble)		

Viscosity

The table below illustrates typical viscosities of Elvacite® 2552C in varying solvents at 30% solids.

Solvent	Viscosity (cP)
Acetone	179
Methyl ethyl ketone	106
Methyl isobutyl ketone	488
n-Butyl acetate	808
Ethyl acetate	161
n-Propyl acetate	298
Methyl acetate	123
Dimethyl carbonate	243

Typical Formulation

The following formulation is given as a starting point only. The final formulation will be determined by the coating properties desired. Please see solution preparation on the next page.

High Gloss Clear Acrylic Lacquer based on Elvacite® 2552C

Ingredients	w/w
Elvacite® 2552C solution (1)	62.45
Propylene Glycol Monomethyl Ether Acetate	8.47
Toluene	8.96
TXIB	0.97
Tinuvin 328	0.24
Silicone solution (2)	0.03
Cellulose Acetate Butyrate Solution (3)	18.88
	100.00

Prepare the following solutions for the formulation on the previous page:

(1)	Elvacite® 2552C	w/w
	Toluene	40.00
	Methyl Ethyl Ketone	36.00
		24.00
		100.00
(2)	Dimethyl Silicone Fluid SF69	2.00
	Xylene	98.00
		100.00
(3)	Cellulose Acetate Butyrate (CAB-381-2, Eastman)	25.00
	Propylene Glycol Monomethyl Ether Acetate	5.15
	Acetone	69.85
		100.00

Preparation:

Mix well, filter and dilute to spray viscosity (17 seconds in #2 Zahn Cup).
Air dry or force dry at 200^0F (93^0C) for 30 minutes.

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

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