4358A RESIN
4358B HARDENER

FILAMENT WINDING EPOXY RESIN SYSTEM

TECHNICAL DATA BULLETIN

SYSTEM BENEFITS:

CPD 4358A Resin with CPD 4358B Hardener is an NSF/ANSI/CAN 61 Certified low viscosity, moderate gel time, modified aliphatic amine cured epoxy resin system designed for use in manufacturing reverse osmosis filter canisters. It produces a tough chemical resistant laminate that satisfies the criteria of both 21 CFR 175.105 and 21 CFR 175.300. The resin system is clear to light yellow and available with colored indicators upon request. NSF/ANSI 61: Drinking Water System Components – Health Effects is an American National Standard that establishes minimum health-effects requirements for the chemical contaminants and impurities that are indirectly imparted to drinking water from products, components and materials used in drinking water systems.

Certified to NSF/ANSI/CAN 61

- Filament winding
- Medium gel time
- Reverse osmosis water filters

HANDLING PROPERTIES	CPD 4358B	Test Method
Resin Color	Clear to Light Yellow	Visual
Hardener Color	Clear to Light Yellow	Visual
Resin Density at 25°C, g/cm^3	1.12	ASTM D1475
Hardener Density at 25°C, g/cm^3	1.00	ASTM D1475
Resin Viscosity at 75°F, RV2 at 20 RPM, cP	1,100 – 1,300	ASTM D2196
Hardener Viscosity at 25°C, RV2 at 20 RPM, cP	100 – 300	ASTM D2196
Mix Ratio by Weight	100A : 50B	Calculated
Mix Ratio by Volume	100A : 56B	Calculated
Initial Mixed Viscosity 25°C, RV2 at 20 RPM, cP	550 – 850	ASTM D2196
Pot Life at 75°F, 150g mass, minutes	35 – 45	
Gel Time at 25°C, 150g mass, minutes	40 – 45	ASTM D2471
Demold Time at 25°C, 150g mass, hours	4 – 6	

PHYSICAL PROPERTIES	CPD 4358B	Test Method
Color	Clear to Light Yellow	Visual
Tensile Strength, psi	9,500	ASTM D638
Tensile Modulus, psi	430,000	ASTM D638
Tensile Elongation, %	4.0	ASTM D638
HDT, Room Temp Cure, °F	140	ASTM D648
HDT, Post Cure, °F	150	ASTM D648
Compressive Strength, psi	11,000	ASTM D695
Flexural Strength, psi	12,500	ASTM D790
Flexural Modulus, psi	435,000	ASTM D790
Cured Density, g/cm^3 (lbs/gal)	1.14 (9.51)	ASTM D792
Hardness, Shore D	72 - 92	ASTM D2240

SYSTEM POST CURE OPTIONS:

Select one of the following cure schedules depending on the available time, the physical properties of the mold and the desired physical properties of the final part. Post cure the part to obtain maximum physical and thermal properties of the system. The recommended post cure temperature ramp rate between stages is up 5°F per minute for heating and down 1-2°F per minute for cooling. Heating and cooling ramp rates can vary based on size and thickness of the part. For larger thicker parts use a more conservative ramp. If you need to deviate from the recommended post cure schedule, please contact our technical service department.

CURE INCREMENTS:

CPD 4358B	24 Hours at 77°F (25°C)	7 Days at 77°F (25°C)	4 Hours at 150°F (66°C)	2 Hours at 200°F (93°C)
Room Temperature Cure	Supported	Unsupported		
Post Cure	Supported		Unsupported	Unsupported

MIXING AND SURFACE PREP:

Always use the recommended mix ratio for the system. Do not deviate in an attempt to speed up or slow down gel time. Mix together thoroughly, scraping sides and bottom of mixing container, until no streaks or striations are visible, then use immediately. Use only clean dry tools for mixing and applying. Do not mix or apply below 60°F. All surfaces must be clean, dry, and free of any surface contamination. Molds and patterns should be treated with release or parting agents.

STORAGE AND CRYSTALLIZATION:

Store between 60-90°F in a dry place. After use, tightly reseal all containers and store products on a raised surface during cold weather and avoid storing near outside walls or doors. If available, Purge with dry nitrogen to preserve color and minimize moisture contamination. Do not allow to freeze during winter storage. Do not use material with any signs of crystallization such as solid chunks, grainy texture or white color. Crystallization can be reversed by heating the material to 125-140°F, and stirring occasionally, until all crystals dissolve.

SAFETY HANDLING:

Wear protective gloves, clothing, and eye/face protection. Use only outdoors or in a well-ventilated area. Avoid contact to the skin and eyes. Avoid breathing dust, fumes, gas mist, vapors and spray. Wash hands thoroughly after handling. Take off contaminated clothing and wash before reuse. These products may cause skin and respiratory allergic reactions. Consult product Safety Data Sheets for complete precautions for use of this product.

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