



## Isophthalic Polyester Resin

Part # - 90

Durable and Stable Resin

#90 Iso Polyester is perfect for making dimensionally stable polyester molds, corrosive service part fabrication, and as a durable repair material for tank linings. #90 permits fast wet-out in spray or hand laminates. It's 225 degree F service temperature also resists exotherm and post cure problems. Properly fabricated parts may be used in food contact applications.

Formulated for 1.25% MEKP.

#90 is fully compatible with all Fibre Glast gel coats, pigments and fillers. Clean tools with #9 Acetone. Do not use with Styrofoam.

- High molecular weight isophthalic polymer for good corrosion resistance and strength retention at elevated temperatures
- Contains no esterification catalyst for improved hydrolytic stability
- Chemical components listed under FDA 177.2420 Title 21 making it usable in food and beverage contact applications
- Laminates based on DION® 6631 can meet BS6920 requirements, usable in many potable water applications
- Laminates can meet MIL-R-7575C Grade A and B with Class 0 and 3 electrical properties, approved for use in military applications
- Manufactured using statistical controls in ISO-9002 certified plants for consistent batch to batch performance

Typical Cure Schedule	
Gel Time at 77°F	13.5 – 16.5 min*
Time to Peak at 77°F	24 – 31 Min*
Peak Exotherm °F	330 – 360*

\*Catalyzed with 1.25% by weight with MEKP

Typical Product Properties	
Viscosity	450 – 650 CPS
Thixotropic Index	2 -3
Specific Gravity	1.04 – 1.08
BarWeight % NV	50 - 53

Typical Mechanical Characteristics			
Property	Test Method	1/8" Clear Casting	1/8" Laminate
Barcol Hardness	D-2583	40	45*
Heat Deflection Temperature, °F (°C)	D-648	225 (107.2)	N/A
Flexural Strength @ 77°F, psi	D-790	16,600	31,400*
Flexural Modulus @ 77°F, x 10 <sup>6</sup> psi	D-790	0.52	1.3*
Tensile Strength @ 77°F, psi	D-638	9,300	17,900*
Tensile Modulus @ 77°F, x 10 <sup>6</sup> psi	D-638	0.59	1.2*
Tensile Elongation @ Break, %	D-638	2.4	N/A
Compressive Strength @ 77°F, psi	D-695	N/A	28,400*
@ -45°F			
Flexural Strength, psi	D-790	N/A	36,200**
Flexural Modulus, x 10 <sup>6</sup> psi	D-790	N/A	1.391**
Tensile Strength, psi	D-638	N/A	18,400**
Tensile Modulus, x 10 <sup>6</sup> psi	D-638	N/A	1.522**
Tensile Elongation at Break, %	D-638	N/A	1.79**
Compressive Strength, psi	D-695	N/A	28,900**
Compressive Modulus, x 10 <sup>6</sup> psi	D-695	N/A	1.925**
@ -90°F			
Flexural Strength, psi	D-790	N/A	38,400**
Flexural Modulus, x 10 <sup>6</sup> psi	D-790	N/A	1.363**
Tensile Strength, psi	D-638	N/A	17,900**
Tensile Modulus, x 10 <sup>6</sup> psi	D-638	N/A	13510**
Tensile Elongation at Break, %	D-638	N/A	2.12**
Compressive Strength, psi	D-695	N/A	32,900**
Compressive Modulus x 10 <sup>6</sup> psi	D-695	N/A	2.190**

\*Laminate construction: 4 plies of 1.5 oz/ft2 chopped strand mat. Glass content: 35% by weight; Thickness: 0.125"  
 \*\*Laminate construction: 3 plies of 1.5 oz/ft2 chopped strand mat. Glass content: 32.4% by weight; Thickness 0.090"

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Typical Laminate Performance at Elevated Temperatures				
Temperature °F	Flexural Strength, psi	Flexural Modulus, x 10 <sup>6</sup> psi	Tensile Strength, psi	Tensile Modulus, x 10 <sup>6</sup> psi
77	31,000	1.38	19,900	1.63
150	28,600	1.20	22,500	1.51
200	24,000	0.85	25,000	1.38
250	14,700	0.50	17,000	0.87
300	4,300	0.30	13,200	0.87

Laminate Construction: V/M/MWR/MWR/MM Thickness: 0.25", Glass content: 40% by weight  
(V = 10-mil C-glass veil, M = 1.5 oz/ft<sup>2</sup> chopped strand mat, WR = 24-oz/yd<sup>2</sup> woven roving)

### Mixing Directions

Shake well before using. To initiate hardening add #69 MEKP Hardener in a ratio of 1.25%. For easy measure use one teaspoon (5cc) of hardener per pint (pound) of resin, two teaspoons (10cc) per quart, nine teaspoons (40cc) per gallon. For small quantities, add 13 drops of hardener per ounce of resin. Measure the components carefully!

At a temperature of 72°F the resin will begin to harden in about 24 minutes and be sandable in about 6 hours. Full cure will take at least 48 hours. At cooler temperatures the mixture will take longer to harden and at warmer temperatures it will take less time. The ratio of hardener may be adjusted to compensate for temperature extremes. Add up to 50% more hardener when cooler temperatures exist and correspondingly less when warmer.

Do not attempt to use this resin when temperatures are below 55°F. Mix only small quantities when the temperature is above 85°F as hardening will occur very rapidly. Never apply in direct sunlight. Mix in clean glass, paper, plastic or metal containers. Do not use foam containers. Mix no more than you can use before the resin will begin to harden. Start with small batches and let experience be your guide thereafter. Do not return mixed (catalyzed) resin to container.