



## Purisan™ Kynar® PVDF Mixers

Coating failures on chemical mixers always occur on the leading edge of the prop. Once the coating has failed, corrosion and process contamination became a rapid and serious issue.

Purisan™ mixers have a Kynar® PVDF injection molded impeller. This solid impeller is designed to resist harsh environments when exposed to combinations of corrosion, thermal cycling and mechanical stress. With a single digit Ra surface smoothness, Purisan™ mixers are ready for use in your most demanding applications.

Unlike thin or brittle coated options, Purisan™ impellers are a solid injection-molded shape and designed for durability and extended service life. Combined with a Kynar® PVDF coated shaft, Purisan mixers represent new approach to mixers. The shaft is reinforced with a pump shaft

quality (PSQ) 316 stainless steel core to provide mechanical stability and no wobble at high speeds. The shaft and impeller are joined together by a threaded connection which is sealed by an ISO 10993 approved FKM fluoroelastomer gasket. A universal thread size allows easy change out of either the impeller or shaft. Damaged shafts or impellers are replaced in a matter of minutes and not weeks.

We have created and built mixers that improve on past designs. It is clean and simple and made to last for years. Available in a natural color, Purisan™ mixers are manufactured without additives, fillers or stabilizers. Shafts are available in 0.75", 1", and 1.25" diameters with lengths up to 7 feet. Contact us with your custom mixing requirements. Most orders shipped in 24 hours.

**Purisan™ Kynar® PVDF Mixer Properties**

Part Number	Materials	Blade Diameter (in.)	Hub Diameter (mm)	Threaded Connection (mm)	USP Class VI	ISO 10993
40PF00M000	Kynar PVDF	4	22.4	16	Yes	Yes
50PF00M000	Kynar PVDF	5	26.3	16	Yes	Yes
60PF00M000	Kynar PVDF	6	31.5	16	Yes	Yes

## Kynar® PVDF Material Properties

Physical Properties	Standards	Units	Results
Refractive Index	ASTM D542	-	1.42
Specific Gravity	ASTM D742	-	1.77 - 1.80
Water Absorption	ASTM D570	%	0.03 - 0.05
Mechanical Properties			
Flexural Strength at 5% Strain	ASTM D790	psi	3,000 - 5,000
Flexural Modulus	ASTM D790	psi	150,000 - 180,000
Tensile Yield Elongation	ASTM D638	%	5 - 15
Tensile Yield Strength	ASTM D638	psi	4,500 - 6,000
Tensile Break Elongation	ASTM D638	%	30 - 200
Tensile Break Strength	ASTM D638	psi	4,000 - 7,000
Tensile Modulus	ASTM D638	psi	150,000 - 220,000
Deflection Temperature	ASTM D648 at 66 psi	°F	140 - 167
Hardness	ASTM D2240	Shore D	70 - 75
Thermal Properties			
Melting Temperature	ASTM D3418	°F	311 - 320
Thermal Conductivity	ASTM D433	BTU-in/hr.ft <sup>2</sup> F	1.0 - 1.25
Electrical Properties			
Dielectric Strength	ASTM D149	KV/mil	1.3 - 1.6
Volume Resistivity	ASTM D257	ohm-cm	2 x 10 <sup>14</sup>
Flame and Smoke Properties			
Burning Rate	UL/Bulletin 94	-	V - O
Limiting Oxygen Index	ASTM D2868	% O <sub>2</sub>	43/75

## Kynar® PVDF Chemical Resistance

Chemical	Concentration	Maximum Temperature °F
Acetic Acid	50% in water	200
Acetone		Not Recommended
Brine		275
Bromine, liquid		150
Chlorine, liquid		175
Chromic Acid	Up to 40% in water	175
Hydrochloric Acid	Up to "concentrated"	275
Hydrofluoric Acid	41 - 100%	200
Nitric Acid	11 - 70% in water	150
Phosphoric Acid	Less than 85% in water	275
Sulfuric Acid	Up to 60% in water	250



Purisan™ Kynar® PVDF Mixers are manufactured and assembled in the USA by Nile Polymers, Inc.  
**Contact us at (801) 203-3756 or sales@nilepolymers.com**

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