

CYREX® Protect

Polycarbonate + Acrylic (PMMA)

Evonik Cyro LLC

Message:

CYREX® Protect is an opaque acrylic-polycarbonate alloy providing antimicrobial capabilities* against a variety of microorganisms commonly found in healthcare facilities. It is the latest addition to the family of Evonik Cyro's advanced polymers for antimicrobial medical device applications. Offering outstanding impact strength and toughness, CYREX® alloys empower designers to create better-than-ever medical devices.

Typical Medical Applications

- Luer fittings
- Spikes
- Protection caps and covers
- Adapters
- Fittings
- Valve assemblies
- Sharp needle dispenser receptacle

General Information			
Features	Alcohol Resistant		
	Bondability		
	E-beam Sterilizable		
	Ethylene Oxide Sterilizable		
	Good Processability		
	Good Toughness		
	High Impact Resistance		
	Medium Heat Resistance		
	Microbe Resistant		
	Radiation Sterilizable		
Uses	Caps		
	Fittings		
	Medical/Healthcare Applications		
	Valves/Valve Parts		
Agency Ratings	USP Class VI		
Appearance	Opaque		
Forms	Pellets		
Processing Method	Extrusion		
	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.16	g/cm ³	ASTM D792
Melt Mass-Flow Rate (MFR) (230°C/3.8 kg)	3.0	g/10 min	ASTM D1238
Water Absorption (Equilibrium)	< 0.26	%	ASTM D570

Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (M-Scale)	45		ASTM D785
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	2140	MPa	ASTM D638
Tensile Strength	54.5	MPa	ASTM D638
Tensile Elongation			ASTM D638
Yield	4.0	%	
Break	25	%	
Flexural Modulus	2070	MPa	ASTM D790
Flexural Strength	92.4	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (23°C, 3.18 mm)	640	J/m	ASTM D256
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (1.8 MPa, Annealed, 6.35 mm)	96.1	°C	ASTM D648
Vicat Softening Temperature	130	°C	ASTM D1525
Injection	Nominal Value	Unit	
Drying Temperature	82.0	°C	
Drying Time	3.0 to 4.0	hr	
Processing (Melt) Temp	238 to 260	°C	
Mold Temperature	65.0 to 99.0	°C	

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