

## Evonik Corporation Trogamid® CX9701 Transparent Nylon

Category : Polymer , Thermoplastic , Nylon , Nylon, Amorphous Transparent Alloy

### Material Notes:

Description: TROGAMID® CX compounds round off the product range of High Performance Polymers to include semicrystalline polyamides, the crystallites of which are so small that they do not scatter visible light—a property known as microcrystallinity. The compounds are therefore as clear as glass. They possess higher resistance to chemicals and stress cracking than amorphous transparent plastics, in addition to the mechanical advantages of amorphous compounds. The outstanding properties of TROGAMID® CX are: crystal-clear, permanent transparency; high transmission superior chemical and stress cracking resistance high level of UV resistance low water absorption, which leaves the mechanical properties virtually unaffected high dimensional stability balanced mechanical property profile high impact resistance, even at low temperature high level of dynamic strength (e.g., for internally pressurized parts) abrasion and scratch resistance high glass transition temperature very low isotropic shrinkage easy processing The unique combination of properties in TROGAMID® CX compounds permits their use over a broad application spectrum. Areas of application can be as diverse as water management, filter technology, laboratory and medical technology, the manufacture of eyeglasses, or bottles for the cosmetics industry. Specific Notes for this Material: Highly viscous, permanently transparent polyamide for extrusion, with an external mold release agent Information provided by degussa.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Evonik-Corporation-Trogamid-CX9701-Transparent-Nylon.php](http://www.lookpolymers.com/polymer_Evonik-Corporation-Trogamid-CX9701-Transparent-Nylon.php)

Physical Properties	Metric	English	Comments
Density	1.02 g/cc	0.0368 lb/in <sup>3</sup>	ISO 1183
Viscosity Test	180 - 200 cm <sup>2</sup> /g	180 - 200 cm <sup>2</sup> /g	Viscosity Number; ISO 307

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	81	81	ISO 868
Ball Indentation Hardness	108 MPa	15700 psi	H30; ISO 2039-1
Tensile Strength at Break	>= 50.0 MPa	>= 7250 psi	50 mm/min; ISO 527-1/2
Tensile Strength, Yield	60.0 MPa	8700 psi	50 mm/min; ISO 527-1/2
Elongation at Break	>= 150 %	>= 150 %	50 mm/min; ISO 527-1/2
Elongation at Yield	8.0 %	8.0 %	50 mm/min; ISO 527-1/2
	9.0 %	9.0 %	5 mm/min, Outer fiber strain at maximum stress; ISO 178
Tensile Modulus	1.50 GPa	218 ksi	ISO 527-1/2
Flexural Strength	50.0 MPa	7250 psi	5 mm/min, at 3.5% Strain; ISO 178
	90.0 MPa	13100 psi	5 mm/min; ISO 178

Flexural Modulus Mechanical Properties	1.70 GPa Metric	247 ksi English	ISO 178 Comments
Charpy Impact Unnotched	NB	NB	ISO 179/1eU
	@Temperature 0.000 °C	@Temperature 32.0 °F	
	NB	NB	ISO 179/1eU
Charpy Impact, Notched	1.60 J/cm <sup>2</sup>	7.61 ft-lb/in <sup>2</sup>	ISO 179/1eA
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	1.70 J/cm <sup>2</sup>	8.09 ft-lb/in <sup>2</sup>	ISO 179/1eA
Tensile Creep Modulus, 1 hour	1400 MPa	203000 psi	ISO 899-1
	700 MPa	102000 psi	ISO 899-1
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Thermal Properties	Metric	English	Comments
CTE, linear	90.0 µm/m-°C	50.0 µin/in-°F	Longitudinal; ISO 11359
	@Temperature 23.0 - 80.0 °C	@Temperature 73.4 - 176 °F	
CTE, linear, Transverse to Flow	90.0 µm/m-°C	50.0 µin/in-°F	ISO 11359
	@Temperature 23.0 - 80.0 °C	@Temperature 73.4 - 176 °F	
Melting Point	250 °C	482 °F	10 K/min
Maximum Service Temperature, Air	100 °C	212 °F	Temperature Index (Criterion: stress and yield); IEC 216
Deflection Temperature at 0.46 MPa (66 psi)	126 °C	259 °F	ISO 75-1/2
Deflection Temperature at 1.8 MPa (264 psi)	110 °C	230 °F	ISO 75-1/2
Vicat Softening Point	129 °C	264 °F	50N; ISO 306
	136 °C	277 °F	10N; ISO 306
Glass Transition Temp, Tg	140 °C	284 °F	Tg, 10 K/min

Thermal Properties	HB Metric	HB English	Comments
	@Thickness 1.60 mm	@Thickness 0.0630 in	
	HB	HB	
	@Thickness 0.800 mm	@Thickness 0.0315 in	
Glow Wire Test	850 °C	1560 °F	IEC 60695-2-1/0-3
	@Thickness 1.00 mm	@Thickness 0.0394 in	

Optical Properties	Metric	English	Comments
Transmission, Visible	90 %	90 %	transparent; thickness not quantified

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 1.00e+17 ohm-cm	>= 1.00e+17 ohm-cm	IEC 60093
Surface Resistance	>= 1.00e+13 ohm	>= 1.00e+13 ohm	IEC 60093
	>= 1.00e+15 ohm	>= 1.00e+15 ohm	Spec.; IEC 60093
Dielectric Constant	3.2	3.2	IEC 60250 DIN VDE 0303-Part 4
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	
	3.6	3.6	IEC 60250 DIN VDE 0303-Part 4
	@Frequency 100 Hz	@Frequency 100 Hz	
Dielectric Strength	27.0 kV/mm	686 kV/in	K20/P50; IEC 60243-1
Dissipation Factor	0.0115	0.0115	IEC 60250 DIN VDE 0303-Part 4
	@Frequency 100 Hz	@Frequency 100 Hz	
	0.0325	0.0325	IEC 60250 DIN VDE 0303-Part 4
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	
Comparative Tracking Index	575 V	575 V	Test Solution A, 100 drops; IEC 60112
	600 V	600 V	Test Solution A; IEC 60112

## Contact Songhan Plastic Technology Co.,Ltd.

Website : [www.lookpolymers.com](http://www.lookpolymers.com)

Email : [sales@lookpolymers.com](mailto:sales@lookpolymers.com)

Tel : +86 021-51131842

Mobile : +86 13061808058

Skype : lookpolymers

**Address : United North Road 215,Fengxian District, Shanghai City,China**