Product Information

TROGAMID® myCX high flow

MICROCRYSTALLINE, PERMANENTLY TRANSPARENT POLYAMIDE

TROGAMID® myCX high flow is a microcrystalline transparent polyamide for the manufacture of parts in the optical industry, like lenses according the injection molding procedure.

TROGAMID® myCX high flow is supplied as spherical pellets in moisture-proof packaging.

Pigmentation may affect values.

Key Features

Industrial Sector
Optics, Sports and Lifestyle

Processing
Injection molding, Extrusion

Optics
Transparent, High gloss, X-ray transparent

Resistance to
Heat (thermal stability), Hydrolysis / hot water, UV / light / weathering, Fatigue resistance

Conformity
Food contact

Additives
Unfilled

LCA-values	dry	Unit	Test Standard
LCA name of certificate	TROGAMID® microcrystalline	-	ISO 14040, 14044
LCA certifier	TÜV Rheinland	-	ISO 14040, 14044
Blue water consumption	**12.4**	kg	ISO 14040, 14044
Global Warming Potential incl. bio. C incl. LUC	**7.8**	kg CO_2 eq./kg	ISO 14040, 14044
Global Warming Potential excl. bio. C incl. LUC	**7.8**	kg CO_2 eq./kg	ISO 14040, 14044

Land use (ReCiPe 2016)	**0**	Annual crop eq. y	ISO 14040, 14044

Mechanical properties ISO	dry / cond	Unit	Test Standard
Tensile modulus	**215000 / 216000**	psi	ISO 527
Tensile strength	**8560 / 9140**	psi	ISO 527
Yield stress	**8560 / 9140**	psi	ISO 527
Yield strain	**8 / 7**	%	ISO 527
Stress at 50% strain	**6090 / 5660**	psi	ISO 527
Stress at break	**9430 / 8700**	psi	ISO 527
Nominal strain at break, tB	**180 / 185**	%	ISO 527
Charpy impact strength, +23°C	**N / N**	ftlb/in^2	ISO 179/1eU
Charpy impact strength, -30°C	**N / N**	ftlb/in^2	ISO 179/1eU
Charpy notched impact strength, +23°C	**5.23 / 5.71**	ftlb/in^2	ISO 179/1eA
Type of failure	**C / C**	-	-
Charpy notched impact strength, -30°C	**5.23 / 5.71**	ftlb/in^2	ISO 179/1eA
Type of failure	**C / C**	-	-
Flexural modulus, 23°C	**212000 / 218000**	psi	ISO 178
Flexural stress at conv. deflection, 23°C	**7540 / 7830**	psi	ISO 178
Flexural strength, 23°C	**11700 / 12800**	psi	ISO 178
Flexural strain at flexural strength, 23°C	**8 / 8**	%	ISO 178
Flexural stress at break, 23°C	**N / N**	psi	ISO 178
Flexural strain at break, 23°C	**N / N**	%	ISO 178

Thermal properties	dry / cond	Unit	Test Standard
Melting temperature	**477 / ***	°F	ISO 11357-1/-3
Glass transition temperature, DSC	**275 / ***	°F	ISO 11357-1/-2
Temp. of deflection under load A, 1.80 MPa	**216 / ***	°F	ISO 75-1/-2
Temp. of deflection under load B, 0.45 MPa	**248 / ***	°F	ISO 75-1/-2

Vicat softening temperature A, 10 N, 50 K/h	**271 / ***	°F	ISO 306
Vicat softening temperature B, 50 N, 50 K/h	**261 / ***	°F	ISO 306
Coeff. of linear therm. expansion, 23°C to 55 °C, parallel	**5.11E-5 / ***	in/in/°F	ISO 11359-1/-2
Coeff. of linear therm. expansion, 23°C to 55 °C, normal	**5.33E-5 / ***	in/in/°F	ISO 11359-1/-2
Melting Temperature	**477**	°F	ASTM D 3418

Physical properties	dry / cond	Unit	Test Standard
Density	**1.02 / -**	g/cm³	ISO 1183
Water absorption	**3 / ***	%	Sim. to ISO 62
Humidity absorption	**2 / ***	%	Sim. to ISO 62
Shore D hardness	**81**[b] **/ -**	-	ISO 7619-1
Density	**1.02**	g/cm³	ASTM D 792

b: 3 seconds

Optical properties	dry	Unit	Test Standard
Haze	**2.1**	%	ASTM D 1003
Haze Thickness tested	**0.0787**	in	-
Light Transmittance	**92**	%	ASTM D 1003
Light Transmittance Thickness tested	**0.0787**	in	ASTM D 1003

Rheological properties	dry / cond	Unit	Test Standard
Melt volume-flow rate, MVR	**11 / ***	cm³/10min	ISO 1133
Temperature	**280 / ***	°C	-
Load	**2.16 / ***	kg	-
Molding shrinkage, parallel	**0.7 / ***	%	ISO 294-4, 2577
Molding shrinkage, normal	**0.7 / ***	%	ISO 294-4, 2577
Mold temperature	**176 / ***	°F	-
Melt temperature	**536 / ***	°F	-
Flow length, flow spiral	**11.6**	in	Evonik standard

Flow cross section	**6 x 2**	mm^2	Evonik standard
Mold temperature, flow spiral	**176**	°F	Evonik standard
Melt temperature, flow spiral	**536**	°F	Evonik standard
Injection pressure, flow spiral	**14500**	psi	Evonik standard
Flow length, flow spiral	**18.3**	in	Evonik standard
Flow cross section	**6 x 2**	mm^2	Evonik standard
Mold temperature, flow spiral	**176**	°F	Evonik standard
Melt temperature, flow spiral	**572**	°F	Evonik standard
Injection pressure, flow spiral	**14500**	psi	Evonik standard

Test specimen production	dry	Unit	Test Standard
Injection Molding, melt temperature	**536**	°F	ISO 294
Injection Molding, mold temperature	**176**	°F	ISO 294
Injection Molding, injection velocity	**7.87**	in/s	ISO 294

Characteristics

Applications
Fiber optic cable, (Sun-) glasses, Hygiene and cosmetics, Lenses, Monofilament

Processing
Film extrusion

Special Characteristics
Halogen-free, Phosphorus-free, High impact strength, Low viscosity

Features
optical UV-protection, Weldable, Low birefringence, Non-corrosive, Dishwasher detergents resistant

Regulatory
Food contact 10/2011/EC

Color
Natural color

Delivery form
Spherical pellets