

Grilamid® XE 4076 black 9992

Polyamide 612

EMS-GRIVORY

Message:

Grilamid XE 4076 BLACK 9992 is a medium viscosity extrusion grade based on Polyamide 12. The product is adhesion and impact modified. It is designed to bond directly to EVOH and is suitable for the manufacturing of flexible multilayer tubes used in automotive and industrial applications. Grilamid XE 4076 Black 9992 is especially designed as outer layer material for multilayer EMS-EVX fuel line solutions in which the product is coextruded directly adjacent to EVOH barrier polymer.

General Information	
Additive	Impact modifier
Features	Impact modification
	Medium viscosity
Uses	Industrial application
	Pipe fittings
	Application in Automobile Field
	Fuel line
Appearance	Black
Forms	Particles
Processing Method	Co-extrusion molding
	Extrusion
	Profile extrusion molding

Physical	Dry	Conditioned	Unit	Test Method
Density	1.00	--	g/cm ³	ISO 1183
Water Absorption				ISO 62
Saturated, 23°C	2.8	--	%	ISO 62
Equilibrium, 23°C, 50% RH	0.90	--	%	ISO 62
Hardness	Dry	Conditioned	Unit	Test Method
Ball Indentation Hardness	25.0	--	MPa	ISO 2039-1
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus	650	450	MPa	ISO 527-2
Tensile Stress (Break)	40.0	40.0	MPa	ISO 527-2
Tensile Strain (Break)	> 50	> 50	%	ISO 527-2
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179/1eA
-30°C	70	80	kJ/m ²	ISO 179/1eA
23°C	No Break	No Break		ISO 179/1eA

Charpy Unnotched Impact Strength				ISO 179/1eU
-30°C	No Break	No Break		ISO 179/1eU
23°C	No Break	No Break		ISO 179/1eU
Thermal	Dry	Conditioned	Unit	Test Method
Heat Deflection Temperature				
0.45 MPa, not annealed	90.0	--	°C	ISO 75-2/B
1.8 MPa, not annealed	40.0	--	°C	ISO 75-2/A
Continuous Use Temperature				
-- ¹	100 - 120	--	°C	ISO 2578
-- ²	150	--	°C	Internal method
Melting Temperature ³	209	--	°C	ISO 11357-3
Linear thermal expansion coefficient				ISO 11359-2
Flow	1.6E-4	--	cm/cm/°C	ISO 11359-2
Lateral	1.9E-4	--	cm/cm/°C	ISO 11359-2
Electrical	Dry	Conditioned	Unit	Test Method
Surface Resistivity	--	1.0E+11	ohms	IEC 60093
Volume Resistivity	1.0E+12	1.0E+13	ohms·cm	IEC 60093
Dielectric Strength	35	35	kV/mm	IEC 60243-1
Comparative Tracking Index	600	--	V	IEC 60112
Flammability	Dry	Conditioned	Unit	Test Method
Flammability Classification (0.8 mm)	HB	--		IEC 60695-11-10, -20
NOTE				
1.	Long Term			
2.	Short Term			
3.	10°C/min			

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