

# CompaMid® PA 6 HI

Polyamide 6  
DimeLika Plast GmbH

## Message:

Our new crosslinkable CompaMid® PA 6 compounds are thermoplastic polymers which behave like elastomers over a wide temperature range as a result of beta radiation cross-linking. Thanks to crosslinking, the originally thermoplastic material can withstand significantly higher temperatures of up to 350 °C, thus providing greater shape retention under thermal load. Due to its excellent performance profile, crosslinkable CompaMid® PA 6 can replace costly high-performance plastics such as PPA, PPS or LCP in many cases. No mould changes are required when switching from standard PA 6 to CompaMid® PA 6, and the process parameters also remain the same.

### Electrical Applications

Thanks to their outstanding electrical and mechanical properties, crosslinkable CompaMid® PA 6 compounds are ideally suited for applications in the electrical and electronics industries.

### Automotive Applications

Crosslinked components made of CompaMid® PA 6 are used in the engine bay and exhaust system, where requirements are the toughest for heat resistance and shape retention, as well as resistance to salts, chemicals and corrosive media.

General Information				
Features		Crosslinkable		
		Good Electrical Properties		
		High Impact Resistance		
Physical	Dry	Conditioned	Unit	Test Method
Density	1.10	--	g/cm <sup>3</sup>	ISO 1183
Molding Shrinkage <sup>1</sup>				ISO 294-4
Across Flow : 80°C	1.3	--	%	
Flow : 80°C	1.0	--	%	
Water Absorption				ISO 62
Saturation, 23°C	9.0	--	%	
Equilibrium, 23°C, 50% RH	3.0	--	%	
Viscosity Number	150	--	cm <sup>3</sup> /g	ISO 307
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus	2500	900	MPa	ISO 527-2/1
Tensile Stress				ISO 527-2/50
Yield	70.0	40.0	MPa	
Break	45.0	45.0	MPa	
Tensile Strain				ISO 527-2/50
Yield	4.5	15	%	
Break	35	> 50	%	
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179/1eA
-30°C	6.0	6.0	kJ/m <sup>2</sup>	
23°C	10	30	kJ/m <sup>2</sup>	

Charpy Unnotched Impact Strength			ISO 179/1eU	
-30°C	No Break	--		
23°C	No Break	No Break		
Thermal	Dry	Conditioned	Unit	Test Method
Heat Deflection Temperature				
0.45 MPa, Unannealed	165	--	°C	ISO 75-2/B
1.8 MPa, Unannealed	60.0	--	°C	ISO 75-2/A
Vicat Softening Temperature	190	--	°C	ISO 306/B120
Melting Temperature	222	--	°C	ISO 11357-3
CLTE				ISO 11359-2
Flow : 23 to 80°C	7.0E-5 to 1.0E-4	--	cm/cm/°C	
Transverse : 23 to 80°C	1.0E-4 to 1.3E-4	--	cm/cm/°C	
Heat Distortion	< 350	< 350	°C	
Electrical	Dry	Conditioned	Unit	Test Method
Surface Resistivity	1.0E+13	--	ohms	IEC 60093
Volume Resistivity	1.0E+15	--	ohms·cm	IEC 60093
Electric Strength (1.00 mm)	33	--	kV/mm	IEC 60243-1
Relative Permittivity (1 MHz)	3.50	--		IEC 60250
Comparative Tracking Index (Solution A)	600	--	V	IEC 60112
Flammability	Dry	Conditioned	Unit	Test Method
Flame Rating (0.800 mm)	V-2	--		UL 94
NOTE				

1. 260 °CWZ, 600 Bar

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