LATAMID 66 H2 G/25-V0KB1

Polyamide 66 (PA66) based compound.
Heat stabilised. Glass fibres. UL94 V-0 classified, with red phosphorous.

PHYSICAL PROPERTIES	STANDARD	VALUE	MEASURE UNITS
Density	ISO 1183	1.32	g/cm³
Linear shrinkage at moulding			
Longitudinal (2.0mm/60MPa)	ISO 294-4	0.35 ÷ 0.65	%
Transversal (2.0mm/60MPa)	ISO 294-4	0.75 ÷ 1.05	%
Dimensional stability	---	50	
Moisture absorption (in air)			
after 24hrs	ISO 62-4	0.27	%

MECHANICAL PROPERTIES	STANDARD	VALUE	MEASURE UNITS
CHARPY impact strength			
Unnotched, at +23°C	ISO 179-1eU	55.0	kJ/m²
Notched, at +23°C	ISO 179-1eA	8.0	kJ/m²
Tensile elongation			
At yield (5 mm/min), 23°C	ISO 527 (1)	-	
At yield (5 mm/min), 60°C	ISO 527 (1)	-	
At yield (5 mm/min), 90°C	ISO 527 (1)	4.5	%
At yield (5 mm/min), 120°C	ISO 527 (1)	4.8	%
At yield (5 mm/min), 150°C	ISO 527 (1)	5.5	%
At break (5 mm/min), 23°C	ISO 527 (1)	3.1	%
At break (5 mm/min), 60°C	ISO 527 (1)	4.9	%
At break (5 mm/min), 90°C	ISO 527 (1)	7.2	%
At break (5 mm/min), 120°C	ISO 527 (1)	7.8	%
At break (5 mm/min), 150°C	ISO 527 (1)	8.3	%
Tensile strength			
At yield (5 mm/min), 23°C	ISO 527 (1)	-	
At yield (5 mm/min), 60°C	ISO 527 (1)	-	
At yield (5 mm/min), 90°C	ISO 527 (1)	85	MPa
At yield (5 mm/min), 120°C	ISO 527 (1)	65	MPa
At yield (5 mm/min), 150°C	ISO 527 (1)	55	MPa
At break (5 mm/min), 23°C	ISO 527 (1)	145	MPa
At break (5 mm/min), 60°C	ISO 527 (1)	115	MPa
At break (5 mm/min), 90°C	ISO 527 (1)	80	MPa
At break (5 mm/min), 120°C	ISO 527 (1)	65	MPa
At break (5 mm/min), 150°C	ISO 527 (1)	55	MPa
Elastic modulus			
Tensile (speed 1 mm/min), at 23°C	ISO 527 (1)	8400	MPa
Tensile (speed 1 mm/min), at 60°C	ISO 527 (1)	7100	MPa
Tensile (speed 1 mm/min), at 90°C	ISO 527 (1)	4800	MPa
Tensile (speed 1 mm/min), at 120°C	ISO 527 (1)	4000	MPa
Tensile (speed 1 mm/min), at 150°C	ISO 527 (1)	3300	MPa

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THERMAL PROPERTIES	STANDARD	VALUE	MEASURE UNITS
Coefficient of linear thermal expansion (CLTE)			
+30°C to +100°C (longitudinal)	ISO 11359-2	50	µm/(m·°C)
VICAT - Softening point			
50 N (heating rate 50°C/h)	ISO 306	245	°C
HDT - Heat Deflection Temperature			
0.45 MN/m²	ISO 75	255	°C
1.81 MN/m²	ISO 75	235	°C
C.U.T. - Continuous Use Temperature			
Long period (20,000h)	ASTM E1641/E1877	125	°C

FLAMMABILITY	STANDARD	VALUE	MEASURE UNITS
Oxygen Index	ASTM D 2863	27	%
Flammability rating			
3.00 mm thickness	UL 94	V-0	
1.50 mm thickness	UL 94	V-0	
0.75 mm thickness	UL 94	HB	
GWFI - Glow Wire Flammability Index			
	IEC 60695-2-12	960°C/1mm	
	IEC 60695-2-12	960°C/2mm	
GWIT - Glow Wire Ignition Test			
	IEC 60695-2-13	750°C/1mm	
	IEC 60695-2-13	750°C/2mm	

ELECTRICAL PROPERTIES	STANDARD	VALUE	MEASURE UNITS
CTI - Comparative Tracking Index			
solution A (without surfactant)	IEC 60112	400	V
Electrical resistivity			
Surface	ASTM D 257	1E12	ohm

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MATERIAL - STORAGE

Sealed, undamaged packages has to be kept in dry storage facilities, providing they are also able to protect them from weather and accidental damage.

HANDLING AND SAFETY

Detailed information about a safe treatment of the material are indicated in the "Material Safety Data Sheet" (MSDS) furnished with the first material supply. The MSDS may be also sent again in case of loss.

PREDRYING CONDITIONS — At least 3 hours at 90 ÷ 100°C

These are the suggested conditions to reduce the moisture content to adequate levels. Temperature and drying time can be reduced by using vacuum ovens. Particularly wet material may need a longer drying time.

ACTUAL MELT TEMPERATURE — 270 ÷ 290°C

The injection moulding machine settings needed to obtain the suggested melt temperature will depend greatly on shot size and machine capacity, as well as other moulding parameters such as: injection speed, screw RPM, back pressure, etc. On small machines, running short cycles, it is possible to use higher melt temperatures to improve plastification, fluidity and surface appearance, paying attention to any indication of material degradation.

MOULD TEMPERATURE — 70 ÷ 100°C

The mould temperature suggested above is the actual tool steel temperature. This can be significantly different from the tool settings, due to the cooling system efficiency and the accuracy of the temperature control on the tool.

INJECTION SPEED — Medium

The advisable injection speed greatly depends on cavity geometry and injection moulding machine size. The use of high injection speed can improve the surface appearance, but it can also cause outgassing and burn marks due to overheating through shear stress.

REGRIND USAGE

The use of regrind is possible, but should be assessed on the basis of the project, moulding parameters, and type of grinding used. The effect of using regrind on material properties must be evaluated by the customer on its specific project and process. High percentages of regrind may cause a reduction in viscosity and fibre length, reducing mechanical properties, first resilience. According to UL guideline, up to 25% of regrind is permitted, without affecting the ratings of the yellow card. However, LATI suggests that no more of 15% of regrind is used.

HOT RUNNER MOULDS

Hot runner moulds are not recommended, but they may be used when a very tight temperature control is assured, overall in the gate(s), and the cycle time is short.

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TO AVOID

Shut-off nozzles and internally heated hot runners have to be avoided. In order to prevent any material degradation, over-dimensioned machines should be avoided.

NOTES

The products mentioned herein are not suitable for applications in contact with foodstuff or for potable water transportation, or for toy manufacturing. The products mentioned herein are not suitable for applications in the pharmaceutical, medical or dental sector. The products mentioned herein must not be used to produce parts operating in hot (>70°C), very humid environments, or in contact with hot water, or in contact with overheated steam.

APPROVALS

USA (UL): Product versions approved according UL recommendations are available.

CONTACTS

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