LEIS POLYTECHNIK
POLYMERE WERKSTOFFE GMBH

+ very high strength
+ high form stability
+ high capacity to absorb kinetic energy under dynamic stress
+ high fatigue resistance to bending
+ excellent surface quality
+ simple processing

FEATURES

1 PRODUCT INFORMATION

NYLAFORCE® B 60

Door handles for cars have to withstand a practical test, in which a force of 2000 N is applied to the handles. They may not break under the test. Alongside the mechanical function, good paintability is also required.

NYLAFORCE® B 60 easily meets these requirements. Despite being reinforced with 60% glass fibre, the surface is totally smooth and clean. The photo shows an untreated doorhandle in the background, the door-handle in the fore is coated.

2 TECHNICAL DATA

NYLAFORCE® B 60

property	standard	unit	value
density	ISO 1183	g/cm³	1,7
tensile strength dry 23 °C	ISO 527	MPa	255
tensile strength conditioned 23 °C [1]	ISO 527	MPa	185
tensile strength 80 °C	ISO 527	MPa	145
tensile strength 120 °C	ISO 527	MPa	110
elongation at break dry 23 °C	ISO 527	%	3,0
elongation at break conditioned 23 °C [1]	ISO 527	%	4,8
elongation at break 80 °C	ISO 527	%	6,4
elongation at break 120 °C	ISO 527	%	5,4
tensile modulus dry 23 °C	ISO 527	MPa	21 000
tensile modulus conditioned 23 °C [1]	ISO 527	MPa	14 500
tensile modulus 80 °C	ISO 527	MPa	9 800
tensile modulus 120 °C	ISO 527	MPa	9 600
charpy impact strength unnotched dry	ISO 179/1eU	kJ/m²	95
charpy impact strength conditioned 23 °C [1]	ISO 179/1eU	kJ/m²	n. b.
charpy impact strength notched dry	ISO 179/1eA	kJ/m²	19
charpy impact strength notched conditioned 23 °C [1]	ISO 179/1eA	kJ/m²	29
melt temperature	ISO 3146 (10K/min)	°C	221
heat deflection temperature HDT/A	ISO 75	°C	> 200
moulding shrinkage [2]	294-4	%	0,1-0,4

[1] Conditioned based on EN ISO 1110.
[2] Internal test method (test specimen 60 mm x 60 mm x 2 mm).
These property values are guide values of uncoloured products and should only inform about application possibilities. The suitability for concrete application purposes will not be assured. It must be examined for each individual case. We also refer to our terms of sale and supply.

3 | TECHNICAL DATA

NYLAFORCE® B 60

Processing guidelines

NYLAFORCE® B 60 can be processed on all the usual injection moulding machines. The same processing conditions apply as for standard polyamides. It is essential for the plasticising unit to be made of a wear -resistant material because of the heavy abrasion caused by glass fibres. In order to achieve an even temperature throughout the solid mass and consistent geometry of components, the injection volume may only be a maximum of 70% of the machine's capacity. Open nozzles are preferable to closed nozzles. *NYLAFORCE*® B 60 is dry packed in moisture-proof packaging after manufacture. It should be stored in a dry, protected place.

Drying: For *NYLAFORCE*® B 60 we recommend drying in a vacuum or dry air oven. The drying time should be about 4 hours at a temperature of 80 to 90°C.

Recommended machine parameters | tool temperature

parameter	range	recommendation
solid mass temperature	250 to 320 °C	290 °C
filling pressure	800 to 1500 bar	1200 bar
injection speed	high	high
tool temperature	80 to 140 °C	140 °C

The technical data is only for orientation and advice. For any construction and especially for the required grade of part quality the necessary adjustments have to be done. Therefor no obligation can be derived from this data.