

Stand: 12.04.2018



-  **Kleinteile jederzeit im Blick**
-  **angenehmer Tragekomfort**
-  **leicht, robust und stoßfest**
-  **flexibel durch Entnahme einzelner Insetboxen**

1. Abmessungen

Außenmaße (B x T x H)
440 x 350 x 80 mm

Innenmaße (B x T x H)
437 x 301 x 60 mm

2. Leergewicht

1,6 kg

4. Materialien*

Deckel:	PC (Lexan 161R)
Boden:	PP (Sabic DS 56M10)
Verschlussschnapper:	PP (PP+33% GF)
Tragegriff:	ABS (General Purpose ABS Ploylac PA727)

*weitere Informationen zu den eingesetzten Materialien können dem Anhang entnommen werden

5. Maximale Beladung

10,4 kg

4. Temperaturbeständigkeit

Die T-BOXX ist einsetzbar von -30 °C bis +80 °C

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5. Anhang

Deckel

PC Lexan* Resin 161R

Europe-Africa-Middle East: COMMERCIAL

LEXAN 161R is a medium viscosity multi purpose grade and contains a release agent to ensure easy processing. LEXAN 161R is available in transparent, translucent and opaque colours.

TYPICAL PROPERTIES ¹ TYPICAL VALUE UNIT STANDARD

MECHANICAL

Taber Abrasion, CS-17, 1 kg 10 mg/1000cy SABIC Method

Tensile Stress, yield, 50 mm/min 63 MPa ISO 527

Tensile Stress, break, 50 mm/min 70 MPa ISO 527

Tensile Strain, yield, 50 mm/min 6 % ISO 527

Tensile Strain, break, 50 mm/min 120 % ISO 527

Tensile Modulus, 1 mm/min 2350 MPa ISO 527

Flexural Stress, yield, 2 mm/min 90 MPa ISO 178

Flexural Modulus, 2 mm/min 2300 MPa ISO 178

Hardness, H358/30 95 MPa ISO 2039-1

IMPACT

Izod Impact, unnotched 80*10*3 +23°C NB kJ/m² ISO 180/1U

Izod Impact, unnotched 80*10*3 -30°C NB kJ/m² ISO 180/1U

Izod Impact, notched 80*10*3 +23°C 70 kJ/m² ISO 180/1A

Izod Impact, notched 80*10*3 -30°C 12 kJ/m² ISO 180/1A

Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm 73 kJ/m² ISO 179/1eA

Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm 14 kJ/m² ISO 179/1eA

Charpy 23°C, Unnotch Edgew 80*10*3 sp=62mm NB kJ/m² ISO 179/1eU

Charpy -30°C, Unnotch Edgew 80*10*3 sp=62mm NB kJ/m² ISO 179/1eU

Charpy Impact, notched, 23°C 35 kJ/m² ISO 179/2C

THERMAL

Thermal Conductivity 0.2 W/m-°C ISO 8302

CTE, 23°C to 80°C, flow 7.E-05 1/°C ISO 11359-2

Ball Pressure Test, 125°C +/- 2°C PASSES - IEC 60695-10-2

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Deckel

PC-Lexan 161R

TYPICAL PROPERTIES ¹ TYPICAL VALUE UNIT STANDARD

THERMAL

Vicat Softening Temp, Rate B/50 143 °C ISO 306
Vicat Softening Temp, Rate B/120 145 °C ISO 306
HDT/Be, 0.45MPa Edgew 120*10*4 sp=100mm 138 °C ISO 75/Be
HDT/Ae, 1.8 MPa Edgew 120*10*4 sp=100mm 127 °C ISO 75/Ae
Relative Temp Index, Elec 130 °C UL 746B
Relative Temp Index, Mech w/impact 125 °C UL 746B
Relative Temp Index, Mech w/o impact 125 °C UL 746B

PHYSICAL

Mold Shrinkage on Tensile Bar, flow (2) 0.5 - 0.7 % SABIC Method
Density 1.2 g/cm³ ISO 1183
Water Absorption, (23°C/sat) 0.35 % ISO 62
Moisture Absorption (23°C / 50% RH) 0.15 % ISO 62
Melt Volume Rate, MVR at 300°C/1.2 kg 9 cm³/10 min ISO 1133

OPTICAL

Light Transmission 88 - 90 % ASTM D 1003
Haze <0.8 % ASTM D 1003
Refractive Index 1.586 - ISO 489

ELECTRICAL

Volume Resistivity >1.E+15 Ohm-cm IEC 60093
Surface Resistivity, ROA >1.E+15 Ohm IEC 60093
Dielectric Strength, in oil, 0.8 mm 35 kV/mm IEC 60243-1
Dielectric Strength, in oil, 1.6 mm 27 kV/mm IEC 60243-1
Dielectric Strength, in oil, 3.2 mm 17 kV/mm IEC 60243-1
Relative Permittivity, 50/60 Hz 2.7 - IEC 60250
Relative Permittivity, 1 MHz 2.7 - IEC 60250
Dissipation Factor, 50/60 Hz 0.001 - IEC 60250
Dissipation Factor, 1 MHz 0.01 - IEC 60250
Comparative Tracking Index 225 V IEC 60112

FLAME CHARACTERISTICS

UL Recognized, 94HB Flame Class Rating (3) 1.1 mm UL 94
UL Recognized, 94HB Flame Class Rating 2nd value (3) 3 mm UL 94
Glow Wire Flammability Index 850°C, passes at 1 mm IEC 60695-2-12
Oxygen Index (LOI) 25 % ISO 4589

Injection Molding

Drying Temperature 120 °C
Drying Time 2 - 4 hrs
Maximum Moisture Content 0.02 %
Melt Temperature 280 - 310 °C
Nozzle Temperature 270 - 290 °C
Front - Zone 3 Temperature 280 - 310 °C
Middle - Zone 2 Temperature 270 - 290 °C
Rear - Zone 1 Temperature 260 - 280 °C
Hopper Temperature 60 - 80 °C
Mold Temperature 80 - 110 °C

1) Typical values only. Variations within normal tolerances are possible for variose colours. All values are measured at least after 48 hours storage at 23°C/50% relative humidity.

All properties, except the melt volume rate are measured on injection moulded samples.
All samples are prepared according to ISO 294.

2) Only typical data for material selection purpose. Not to be used for part or tool design.

3) This rating is not intended to reflect hazards presented by this or any other material under actual fire conditions.

4) Own measurement according to UL.

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Verschlussschnapper

PP H GF 833

Polycompound

Polypropylen Homopolymer, 33% Glasfaser

Eigenschaft Einheit Norm Bedingungen Wert

Dichte g/ml ISO 1183 23°C 1,13

Schmelzindex g/10 min ISO 1133 230/2,16 7 ± 1

Verarbeitungsschwindung % ISO 294-4 längs
quer -

MECHANISCH

Zugfestigkeit MPa ISO 527 50mm/min 86,2

Bruchdehnung % ISO 527 50mm/min 3,1

Zug-E-Modul MPa ISO 527 1mm/min 6.700

CHARPY-Schlagzähigkeit kJ/m² ISO

179/1eU 23°C 51,2

CHARPY-Kerbschlagzähigkeit kJ/m² ISO

179/1eA 23°C 10,2

THERMISCH

Formbeständigkeitstemp.

HDT/A °C ISO 75 1,8 MPa -

ELEKTRISCH

spezifischer

Oberflächenwiderstand Ω ISO 93 Platte 1mm -

spezifischer

Durchgangswiderstand Ω x cm ISO 93 Platte 1mm -

Spezifische

Durchschlagfestigkeit kV/mm DIN VDE

303 T2 -

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Boden

SABIC® PP 56M10

PP block copolymer for Injection moulding

Description:

This grade has a high impact resistance, even at low temperatures, and a high stiffness. It is used in a variety of applications e.g. containers and crates & boxes. It is also used in automotive components, like for example battery cases.

Health, Safety and Food Contact regulations:

Material Safety Data Sheets (MSDS) and Product Safety declarations are available on our Internet site
<http://www.SABIC-europe.com>

Properties Unit (Si) Values Test methods

Typical values Revision 20090604

Polymer properties

Melt flow rate (MFR) ISO 1133

at 230 °C and 2.16 kg g/10 min **6.2**

Density kg/m³ **905** ISO 1183

Mechanical properties

Tensile test ISO 527

stress at yield MPa **32**

stress at break MPa **30**

strain at break % **600**

Flexural test ASTM D 790

Flexural modulus MPa **1550**

Izod impact notched ISO 180/4A

at 23 °C kJ/m² **10**

at 0 °C kJ/m² **5.0**

at -20 °C kJ/m² **4.0**

Charpy impact notched ISO 179

at 23 °C kJ/m² **10**

at 0 °C kJ/m² **5.0**

at -20 °C kJ/m² **3.0**

Hardness Shore D - **68** ISO 868

Thermal properties

Heat deflection temperature

at 1.80 MPa (HDT/A) °C **53** ISO 75/A

at 0.45 MPa (HDT/B) °C **89** ISO 75/B

Vicat softening temperature

at 10 N (VST/A) °C **147** ISO 306/A

at 50 N (VST/B) °C **77** ISO 306/B

Quality:

SABIC Europe is fully certified in accordance with the internationally accepted quality standard ISO9001.

Storage and handling:

Avoid prolonged storage in open sunlight, high temperatures (<50 °C) and /or high humidity as this could well speed up alteration and consequently loss of quality of the material and /or its packaging. Keep material completely dry for good processing.

Disclaimer. The information contained herein may include typical properties of our products or their typical performances when used in certain typical applications. Actual properties of our products, in particular when used in conjunction with any third party material(s) or for any non-typical applications, may differ from typical properties. It is the customer's responsibility to inspect and test our product(s) in order to satisfy itself as to the suitability of the product(s) for its and its customers particular purposes. The customer is responsible for the appropriate, safe and legal use, processing and handling of all product(s) purchased from us. Nothing herein is intended to be nor shall it constitute a warranty whatsoever, in particular, warranty of merchantability or fitness for a particular purpose.

SABIC Europe as referred to herein means any legal entity belonging to the SABIC Europe group of companies.

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Tragegriff

General Purpose ABS Ploylac PA727

Typical Characteristics

Properties	Test Method	Test Condition	Unit	PA727
Tensile Strenght	ASTM D638	1/8" 6mm/min	Kg/cm ² (lb/in ²)	485 (6870)
Tensile Elongation	ASTM D638	1/8" 6mm/min	%	20
Flexural Strength	ASTM D790	1/4" 2,8mm/min	Kg/cm ² (lb/in ²)	780 (11000)
Flexural Modulus	ASTM D790	1/4" 2,8mm/min	Kg/cm ² (lb/in ²)	27000 (380000)
Izod Impact Strength (Notched)	ASTM D256	1/4" 23 °C	Kg/cm ² (lb/in ²)	23 (4,2)
		1/8" 23 °C	Kg/cm ² (lb/in ²)	26 (4,8)
Melt Flow Index	ASTM D1238	200°C 5Kg	g/10min.	1,8
Hardness	ASTM 785	1/2"	R Scale	110
Specigic Gravity	ASTM D792	23°C	-	1,04
Vicat Softening Temp	ASTM 1525	1/8" 50°C / hr	°C (°F)	105 (221)
HDT Annealed (85°C)X8hr Unannwaled	ASTM D648	1/4" 120°C / hr	°C (°F)	99 (210)
			°C (°F)	88 (190)
Flammability	UL 94	-	-	1/16"HB

The data are intended as a general guide only and do not necessarily represent results that may be obtained elsewhere.

Eigenschaften	Norm	Prüfbedingungen	Richtwert	Einheit
Dichte	ASTM D792	-	0,96	g/cm ²
Härte	ASTM D2240	Nach 3 Sek.	-	ShoreA
Härte	ASTM D2240	Nach 15 Sek.	66	ShoreA
Zugfestigkeit	ASTM D412-C	-	5,5	MPa
Bruchdehnung	ASTM D412-C	-	500	%
Modul bei 100%	ASTM D412-C	-	2,2	MPa
Modul bei 300%	ASTM D412-C	-	3,8	MPa
Druckverformungsrest	ASTM D395-B	23°C; 72h	-	%
Druckverformungsrest	ASTM D395-B	70°C; 22h	38	%
Druckverformungsrest	ASTM D395-B	100°C; 22h	44	%
Zugverformungsrest	ASTM D412	23°C; 100%	-	%
Weiterreisswiderstand	ASTM D624-C	-	22	N/mm ²
Abriebfestigkeit	DIN 53516	-	-	mm ³