

Durethan DPAKV50H2.0EF 900116

PA 66, 50% glass fibers, injection molding, improved flowability, heat-aging stabilized

ISO Shortname: ISO 16396-PA 66,GF50,GHR,S14-160

Rheological properties C Moding shrinkage, parallel 60x60x2; 290 °C / MT 80 % ISO 294-4 0.4 C Moding shrinkage, transverse 60x60x2; 290 °C / MT 80 % ISO 294-4 0.75 Post- shrinkage, parallel 60x60x2; 120 °C; 4 h % ISO 294-4 0.05 Post- shrinkage, transverse 60x60x2; 120 °C; 4 h % ISO 294-4 0.05 Post- shrinkage, parallel 60x60x2; 120 °C; 4 h % ISO 294-4 0.05 Post- shrinkage, transverse 60x60x2; 120 °C; 4 h % ISO 294-4 0.05 Mechanical properties (23 °C/50 % r. h.) W ISO 294-4 0.05 Mechanical properties (23 °C/50 % r. h.) W ISO 294-4 0.05 Tensile Stress at break 5 mm/min MPa ISO 527-1-2 15200 10000 Tensile Stress at break 5 mm/min MPa ISO 527-1-2 1520 10000 C Branzy impact strength 23 °C k.//m² ISO 179-1e0 80 80 C Charpy impact strength 23 °C k.//m² ISO 179-1eA 15 20 C Charpy notched impact strength 23	Property	Test Condition	Unit	Standard	guide value _{d.a.m.}	cond.
Cholding shrinkage, transverse	Rheological properties					
Post: shrinkage, parallel	C Molding shrinkage, parallel		%	ISO 294-4	0.4	
Post-shrinkage, transverse	C Molding shrinkage, transverse		%	ISO 294-4	0.75	
Mechanical properties (23 °C/50 % r. h.) CTensile modulus	Post- shrinkage, parallel	60x60x2; 120 °C; 4 h	%	ISO 294-4	0.05	
CTensile modulus 1 mm/min MPa ISO 527-1,-2 15200 10000 CTensile Stress at break 5 mm/min MPa ISO 527-1,-2 195 135 CTensile Strein at break 5 mm/min % ISO 527-1,-2 2.5 4 C Charpy impact strength 23 °C kJ/m² ISO 179-1eU 80 80 C Charpy impact strength -30 °C kJ/m² ISO 179-1eU 75 65 C Charpy notched impact strength -30 °C kJ/m² ISO 179-1eA 15 20 C Charpy notched impact strength -30 °C kJ/m² ISO 180-1U 75 65 C Charpy notched impact strength -30 °C kJ/m² ISO 180-1U 75 75 Izod impact strength -30 °C kJ/m² ISO 180-1U 75 75 Izod impact strength -30 °C kJ/m² ISO 180-1U 75 65 Izod notched impact strength -30 °C kJ/m² ISO 180-1U 75 65 Izod notched impact strength -30 °C	Post- shrinkage, transverse	60x60x2; 120 °C; 4 h	%	ISO 294-4	0.05	
CTensile Stress at break 5 mm/min MPa ISO 527-1,-2 195 135 CTensile Strain at break 5 mm/min % ISO 527-1,-2 2.5 4 CCharpy impact strength 23 °C kJ/m² ISO 179-1eU 80 80 CCharpy impact strength -30 °C kJ/m² ISO 179-1eA 15 20 CCharpy notched impact strength -30 °C kJ/m² ISO 179-1eA 15 20 CCharpy notched impact strength -30 °C kJ/m² ISO 179-1eA 15 20 CCharpy notched impact strength -30 °C kJ/m² ISO 180-1U 75 75 Izod impact strength -30 °C kJ/m² ISO 180-1U 75 65 Izod notched impact strength -30 °C kJ/m² ISO 180-1A 15 20 Izod notched impact strength -30 °C kJ/m² ISO 180-1A 15 20 Izod notched impact strength -30 °C kJ/m² ISO 180-1A 13 13 Izod notched impact strength -30 °C<	Mechanical properties (23 °C/50 % r. h.)	,	'		,	
CTensile Strain at break 5 mm/min % ISO 527-1,-2 2.5 4 C Charpy impact strength 23 °C kJ/m² ISO 179-1eU 80 80 C Charpy impact strength -30 °C kJ/m² ISO 179-1eA 15 20 C Charpy notched impact strength -30 °C kJ/m² ISO 179-1eA 15 20 C Charpy notched impact strength -30 °C kJ/m² ISO 180-1U 75 75 Izod impact strength -30 °C kJ/m² ISO 180-1U 75 75 Izod impact strength -30 °C kJ/m² ISO 180-1U 75 65 Izod notched impact strength -30 °C kJ/m² ISO 180-1U 75 65 Izod notched impact strength -30 °C kJ/m² ISO 180-1A 15 20 Izod notched impact strength -30 °C kJ/m² ISO 180-1A 13 13 Flexural strength -30 °C kJ/m² ISO 180-1A 13 13 Flexural strength 2 mm/min MPa	C Tensile modulus	1 mm/min	MPa	ISO 527-1,-2	15200	10000
CCharpy impact strength	C Tensile Stress at break	5 mm/min	MPa	ISO 527-1,-2	195	135
Charpy impact strength	C Tensile Strain at break	5 mm/min	%	ISO 527-1,-2	2.5	4
Charpy notched impact strength	C Charpy impact strength	23 °C	kJ/m²	ISO 179-1eU	80	80
Charpy notched impact strength	C Charpy impact strength	-30 °C	kJ/m²	ISO 179-1eU	75	65
Izod impact strength	C Charpy notched impact strength	23 °C	kJ/m²	ISO 179-1eA	15	20
Izod impact strength	C Charpy notched impact strength	-30 °C	kJ/m²	ISO 179-1eA	13	13
Izod notched impact strength	Izod impact strength	23 °C	kJ/m²	ISO 180-1U	75	75
Izod notched impact strength	Izod impact strength	-30 °C	kJ/m²	ISO 180-1U	75	65
Flexural modulus	Izod notched impact strength	23 °C	kJ/m²	ISO 180-1A	15	20
Flexural strength	Izod notched impact strength	-30 °C	kJ/m²	ISO 180-1A	13	13
Flexural strain at flexural strength	Flexural modulus	2 mm/min	MPa	ISO 178-A	14000	9500
Flexural stress at 3.5 % strain 2 mm/min MPa ISO 178-A 195	Flexural strength	2 mm/min	MPa	ISO 178-A	305	200
C Puncture maximum force 23 °C N ISO 6603-2 1100 C Puncture maximum force -30 °C N ISO 6603-2 1000 C Puncture energy 23 °C J ISO 6603-2 4.2 C Puncture energy -30 °C J ISO 6603-2 3.4 Thermal properties C Melting temperature 10 °C/min °C ISO 11357-1,-3 261 C Temperature of deflection under load 1.80 MPa °C ISO 75-1,-2 245 C Temperature of deflection under load 0.45 MPa °C ISO 75-1,-2 250 C Coefficient of linear thermal expansion, parallel 23 to 55 °C 10°4/K ISO 11359-1,-2 0.15 C Coefficient of linear thermal expansion, transverse 23 to 55 °C 10°4/K ISO 11359-1,-2 0.85 Other properties (23 °C) C Water absorption (Saturation value) Water at 23 °C % ISO 62 4.7 C Water absorption (Equilibrium value) 23 °C; 50 % RH % ISO 62 1.3 C Density kg/m³ IS	Flexural strain at flexural strength	2 mm/min	%	ISO 178-A	3.2	4
C Puncture maximum force -30 °C N ISO 6603-2 1000 C Puncture energy 23 °C J ISO 6603-2 4.2 C Puncture energy -30 °C J ISO 6603-2 3.4 Thermal properties C Melting temperature 10 °C/min °C ISO 11357-1,-3 261 C Temperature of deflection under load 1.80 MPa °C ISO 75-1,-2 245 C Temperature of deflection under load 0.45 MPa °C ISO 75-1,-2 250 C Coefficient of linear thermal expansion, parallel 23 to 55 °C 10 ⁴/K ISO 11359-1,-2 0.15 C Coefficient of linear thermal expansion, transverse 23 to 55 °C 10 ⁴/K ISO 11359-1,-2 0.85 Other properties (23 °C) C Water absorption (Saturation value) Water at 23 °C % ISO 62 4.7 C Density kg/m³ ISO 62 1.3 C Density kg/m³ ISO 60 700 Processing conditions for test specimens	Flexural stress at 3.5 % strain	2 mm/min	MPa	ISO 178-A	1	195
C Puncture energy 23 °C J ISO 6603-2 4.2 C Puncture energy -30 °C J ISO 6603-2 3.4 Thermal properties C Melting temperature 10 °C/min °C ISO 11357-1,-3 261 C Temperature of deflection under load 1.80 MPa °C ISO 75-1,-2 245 C Temperature of deflection under load 0.45 MPa °C ISO 75-1,-2 250 C Coefficient of linear thermal expansion, parallel 23 to 55 °C 10 °/K ISO 11359-1,-2 0.15 C Coefficient of linear thermal expansion, transverse 23 to 55 °C 10 °/K ISO 11359-1,-2 0.85 Other properties (23 °C) C Water absorption (Saturation value) Water at 23 °C % ISO 62 4.7 C Density kg/m³ ISO 62 1.3 Bulk density kg/m³ ISO 60 700	C Puncture maximum force	23 °C	N	ISO 6603-2	1100	
C Puncture energy	C Puncture maximum force	-30 °C	N	ISO 6603-2	1000	
Thermal properties C Melting temperature 10 °C/min °C ISO 11357-1,-3 261 C Temperature of deflection under load 1.80 MPa °C ISO 75-1,-2 245 C Temperature of deflection under load 0.45 MPa °C ISO 75-1,-2 250 C Coefficient of linear thermal expansion, parallel 23 to 55 °C 10 °4/K ISO 11359-1,-2 0.15 C Coefficient of linear thermal expansion, transverse 23 to 55 °C 10 °4/K ISO 11359-1,-2 0.85 Other properties (23 °C) C Water absorption (Saturation value) Water at 23 °C % ISO 62 4.7 C Water absorption (Equilibrium value) 23 °C; 50 % RH % ISO 62 1.3 C Density kg/m³ ISO 1183 1535 Bulk density kg/m³ ISO 60 700 Processing conditions for test specimens	C Puncture energy	23 °C	J	ISO 6603-2	4.2	
C Melting temperature 10 °C/min °C ISO 11357-1,-3 261 C Temperature of deflection under load 1.80 MPa °C ISO 75-1,-2 245 C Temperature of deflection under load 0.45 MPa °C ISO 75-1,-2 250 C Coefficient of linear thermal expansion, parallel 23 to 55 °C 10 °/K ISO 11359-1,-2 0.15 C Coefficient of linear thermal expansion, transverse 23 to 55 °C 10 °/K ISO 11359-1,-2 0.85 Other properties (23 °C) C Water absorption (Saturation value) Water at 23 °C % ISO 62 4.7 C Water absorption (Equilibrium value) 23 °C; 50 % RH % ISO 62 1.3 C Density kg/m³ ISO 1183 1535 Bulk density kg/m³ ISO 60 700 Processing conditions for test specimens	C Puncture energy	-30 °C	J	ISO 6603-2	3.4	
C Melting temperature 10 °C/min °C ISO 11357-1,-3 261 C Temperature of deflection under load 1.80 MPa °C ISO 75-1,-2 245 C Temperature of deflection under load 0.45 MPa °C ISO 75-1,-2 250 C Coefficient of linear thermal expansion, parallel 23 to 55 °C 10 °/K ISO 11359-1,-2 0.15 C Coefficient of linear thermal expansion, transverse 23 to 55 °C 10 °/K ISO 11359-1,-2 0.85 Other properties (23 °C) C Water absorption (Saturation value) Water at 23 °C % ISO 62 4.7 C Water absorption (Equilibrium value) 23 °C; 50 % RH % ISO 62 1.3 C Density kg/m³ ISO 1183 1535 Bulk density kg/m³ ISO 60 700 Processing conditions for test specimens	Thermal properties				'	
C Temperature of deflection under load O.45 MPa °C ISO 75-1,-2 250 C Coefficient of linear thermal expansion, parallel 23 to 55 °C 10 ⁴ /K ISO 11359-1,-2 0.15 C Coefficient of linear thermal expansion, transverse 23 to 55 °C 10 ⁴ /K ISO 11359-1,-2 0.85 Other properties (23 °C) C Water absorption (Saturation value) Water at 23 °C Water absorption (Equilibrium value) 23 °C; 50 % RH % ISO 62 4.7 C Water absorption (Equilibrium value) Kg/m³ ISO 1183 1535 Bulk density Processing conditions for test specimens	C Melting temperature	10 °C/min	°C	ISO 11357-1,-3	261	
C Coefficient of linear thermal expansion, parallel 23 to 55 °C 10 ⁴ /K ISO 11359-1,-2 0.15 C Coefficient of linear thermal expansion, transverse 23 to 55 °C 10 ⁴ /K ISO 11359-1,-2 0.85 Other properties (23 °C) C Water absorption (Saturation value) Water at 23 °C % ISO 62 4.7 C Water absorption (Equilibrium value) 23 °C; 50 % RH % ISO 62 1.3 C Density kg/m³ ISO 1183 1535 Bulk density kg/m³ ISO 60 700 Processing conditions for test specimens	C Temperature of deflection under load	1.80 MPa	°C	ISO 75-1,-2	245	,
C Coefficient of linear thermal expansion, transverse 23 to 55 °C 10 ⁴ /K ISO 11359-1,-2 0.85 Other properties (23 °C) C Water absorption (Saturation value) Water at 23 °C % ISO 62 4.7 C Water absorption (Equilibrium value) 23 °C; 50 % RH % ISO 62 1.3 C Density kg/m³ ISO 1183 1535 Bulk density kg/m³ ISO 60 700 Processing conditions for test specimens	C Temperature of deflection under load	0.45 MPa	°C	ISO 75-1,-2	250	
Other properties (23 °C) C Water absorption (Saturation value) Water at 23 °C % ISO 62 4.7 C Water absorption (Equilibrium value) 23 °C; 50 % RH % ISO 62 1.3 C Density kg/m³ ISO 1183 1535 Bulk density kg/m³ ISO 60 700 Processing conditions for test specimens	C Coefficient of linear thermal expansion, parallel	23 to 55 °C	10 ⁻⁴ /K	ISO 11359-1,-2	0.15	
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C Density kg/m³ ISO 1183 1535 Bulk density kg/m³ ISO 60 700 Processing conditions for test specimens	C Water absorption (Saturation value)	Water at 23 °C	%	ISO 62	4.7	
C Density kg/m³ ISO 1183 1535 Bulk density kg/m³ ISO 60 700 Processing conditions for test specimens	C Water absorption (Equilibrium value)	23 °C; 50 % RH	%	ISO 62	1.3	
Bulk density kg/m³ ISO 60 700 Processing conditions for test specimens			kg/m³			
Processing conditions for test specimens					700	
·		,				
			°C	ISO 294	290	



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Property	Test Condition	Unit	Standard	guide value d.a.m. cond.
C Injection molding-Mold temperature		°C	ISO 294	80
Processing recommendations				
Drying temperature dry air dryer		°C	-	80
Drying time dry air dryer		h	-	2-6
Residual moisture content		%	Acc. to Karl Fischer	0.03-0.12
Melt temperature (Tmin - Tmax)		°C	-	280-300
Mold temperature		°C	-	80-120

C These property characteristics are taken from the CAMPUS plastics data bank and are based on the international catalogue of basic data for plastics according to ISO 10350.





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Standard Disclaimer

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Typical Properties

Property data is provided as general information only. Property values are approximate and are not part of the product specifications.

Flammability

Flammability results are based on small-scale laboratory tests for purposes of relative comparison and are not intended to reflect the hazards presented by this or any other material under actual fire conditions.

Health and Safety

Appropriate literature has been assembled which provides information concerning the health and safety precautions that must be observed when handling LANXESS products mentioned in this publication. Before working with these products, you must read and become familiar with the available information on their hazards, proper use, and handling. This cannot be overemphasized. Information is available in several forms, e.g., material safety data sheets (MSDS) and product labels. Consult your LANXESS Corporation representative or contact the Product Safety and Regulatory Affairs Department at LANXESS. For materials that are not LANXESS products, appropriate industrial hygiene and other safety precautions recommended by their manufacturer(s) must be followed.

Regulatory Compliance

Some of the end uses of the products described in this brochure must comply with applicable regulations, such as the FDA, NSF, USDA and CPSC. If you have any questions on the regulatory status of any LANXESS engineering thermoplastic, consult your LANXESS Corporation representative or contact the LANXESS Regulatory Affairs Manager.

Color and Visual Effects

Type and quantity of pigments or additives used to obtain certain colors and special visual effects can affect mechanical properties.

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