Makroblend DP UT3905

PC+PBT Blends, elastomer modified / Non reinforced

(PC+PBT)-blend, high flow, impact modified, easy release, injection molding grade. Makroblend DP UT3905* offers superior flowability, good impact strength and excellent chemical resistance.

ISO Shortname

	Property	Test Condition	Unit	Standard	Value
Rheological properties					
C	Melt volume-flow rate	260 °C; 5 kg	cm³/10 min	ISO 1133	44
	Molding shrinkage, parallel/normal	Value range based on general practical experience (600bar)	%	b.o. ISO 2577	0.7 - 0.9
	Post- shrinkage, parallel/normal	Value range based on general practical experience (1h; 90°C)	%	b.o. ISO 2577	0.1 - 0.2
Mechanical properties (23 °C/50 % r. h.)					
C	Tensile modulus	1 mm/min	MPa	ISO 527-1,-2	2200
C	Yield stress	50 mm/min	MPa	ISO 527-1,-2	60
C	Yield strain	50 mm/min	%	ISO 527-1,-2	5
C	Nominal strain at break	50 mm/min	%	ISO 527-1,-2	>100
	Stress at break	50 mm/min	MPa	ISO 527-1,-2	50
C	Charpy impact strength	23 °C	kJ/m²	ISO 179-1eU	N
C	Charpy impact strength	-30 °C	kJ/m²	ISO 179-1eU	N
C	Charpy notched impact strength	23 °C	kJ/m²	ISO 179-1eA	55
C	Charpy notched impact strength	-30 °C	kJ/m²	ISO 179-1eA	25
C	Puncture maximum force	23 °C	N	ISO 6603-2	3600
C	Puncture maximum force	-30 °C	N	ISO 6603-2	4800
C	Puncture energy	23 °C	J	ISO 6603-2	45
C	Puncture energy	-30 °C	J	ISO 6603-2	55
	Izod impact strength	23 °C	kJ/m²	ISO 180-U	N
	Izod impact strength	-30 °C	kJ/m²	ISO 180-U	N
	Izod notched impact strength	23 °C	kJ/m²	ISO 180-A	40
	Izod notched impact strength	-20 °C	kJ/m²	ISO 180-A	35
	Izod notched impact strength	-30 °C	kJ/m²	ISO 180-A	25
	Izod notched impact strength	-40 °C	kJ/m²	ISO 180-A	20
	Flexural modulus	2 mm/min	MPa	ISO 178	2150
	Flexural strength	2 mm/min	MPa	ISO 178	80
	Flexural strain at flexural strength	2 mm/min	%	ISO 178	6
	Flexural stress at 3.5 % strain	2 mm/min	MPa	ISO 178	70
	Ball indentation hardness		N/mm²	ISO 2039-1	107
Thermal properties					
C	Temperature of deflection under load	1.80 MPa	°C	ISO 75-1,-2	82
C	Temperature of deflection under load	0.45 MPa	°C	ISO 75-1,-2	105
	Vicat softening temperature	50 N; 120 °C/h	°C	ISO 306	122
C	Coefficient of linear thermal expansion, parallel	23 to 55 °C	10^{-4}/K	ISO 11359-1,-2	0.9
C	Coefficient of linear thermal expansion, transverse	23 to 55 °C	10^{-4}/K	ISO 11359-1,-2	0.9
C	Burning behavior UL 94 (1.5 mm)	1.6 mm	Class	UL 94	HB (Bayer)
C	Oxygen index	Method A	%	ISO 4589-2	21
	Thermal conductivity	23 °C	W/(m·K)	ISO 8302	0.2
	Glow wire test (GWFI)	2.0 mm	°C	IEC 60695-2-12	750
	Coefficient of linear thermal expansion, parallel	23 to 55 °C	10^{-4}/K	ISO 11359-1,-2	0.9
	Coefficient of linear thermal expansion, transverse	23 to 55 °C	10^{-4}/K	ISO 11359-1,-2	0.9

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	Property	Test Condition	Unit	Standard	Value
Electrical properties (23 °C/50 % r. h.)					
C	Relative permittivity	100 Hz	-	IEC 60250	3.2
C	Relative permittivity	1 MHz	-	IEC 60250	3.0
C	Dissipation factor	100 Hz	10^{-4}	IEC 60250	6
C	Dissipation factor	1 MHz	10^{-4}	IEC 60250	45
C	Volume resistivity		Ohm·m	IEC 60093	>1E15
C	Surface resistivity		Ohm	IEC 60093	>1E17
C	Electrical strength	1 mm	kV/mm	IEC 60243-1	30
C	Comparative tracking index CTI	Solution A	Rating	IEC 60112	600
	Comparative tracking index CTI M	Solution B	Rating	IEC 60112	125
Other properties (23 °C)					
C	Water absorption (saturation value)	Water at 23 °C	%	ISO 62	0.5
C	Water absorption (equilibrium value)	23 °C; 50 % r. h.	%	ISO 62	0.2
C	Density		kg/m³	ISO 1183-1	1200
	Bulk density		g/cm³	ISO 60	0,65
Processing conditions for test specimens					
C	Injection molding-Melt temperature		°C	ISO 294	260
C	Injection molding-Mold temperature		°C	ISO 294	70
C	Injection molding-Injection velocity		mm/s	ISO 294	200

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.

Impact properties: N = non-break, P = partial break, C = complete break

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Disclaimer

Disclaimer for Developmental products

* This is a developmental product. Further information, including amended or supplementary data on hazards associated with its use, may be compiled in the future. For this reason, no assurances are given as to type conformity, processability, long-term performance characteristics or other production or application parameters. Therefore, the purchaser/user uses the product entirely at his own risk without having been given any warranty or guarantee and agrees that the supplier shall not be liable for any damage, of whatever nature, arising out of such use.

Test values

Unless specified to the contrary, the values given have been established on standardized test specimens at room temperature. The figures should be regarded as guide values only and not as binding minimum values. Please note that, under certain conditions, the properties can be affected to a considerable extent by the design of the mold/die, the processing conditions and coloring.

Processing note

Under the recommended processing conditions small quantities of decomposition product may be given off during processing.To preclude any risk to the health and well-being of the machine operatives, tolerance limits for the work environment must be ensured by the provision of efficient exhaust ventilation and fresh air at the workplace in accordance with the Safety Data Sheet. In order to prevent the partial decomposition of the polymer and the generation of volatile decomposition products, the prescribed processing temperatures should not be substantially exceeded.

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Bayer MaterialScience AG,

D-51368 Leverkusen,

www.bayermaterialscience.com

pcs-info@bayermaterialscience.com