

# Makroblend® UT6005

PC+PBT Blends, elastomer modified / Non reinforced

(PC+PBT)-blend, impact modified, easy release, injection molding grade. Makroblend® UT6005 offers an exceptional low-temperature impact strength, good flowability and excellent chemical resistance.

## ISO Shortname

Property	Test Condition	Unit	Standard	typical Value
<b>Rheological properties</b>				
C Melt volume-flow rate	260 °C; 5 kg	cm <sup>3</sup> /10 min	ISO 1133	18
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
<b>Mechanical properties (23 °C/50 % r. h.)</b>				
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	> 50
Stress at break	50 mm/min	MPa	ISO 527-1,-2	50
Flexural modulus	2 mm/min	MPa	ISO 178	2150
Flexural strain at flexural strength	2 mm/min	%	ISO 178	6
Flexural stress at 3.5 % strain	2 mm/min	MPa	ISO 178	70
Flexural strength	2 mm/min	MPa	ISO 178	80
C Charpy impact strength	23 °C	kJ/m <sup>2</sup>	ISO 179-1eU	N
C Charpy impact strength	-30 °C	kJ/m <sup>2</sup>	ISO 179-1eU	N
C Charpy notched impact strength	23 °C	kJ/m <sup>2</sup>	ISO 179-1eA	60
C Charpy notched impact strength	-30 °C	kJ/m <sup>2</sup>	ISO 179-1eA	40
C Puncture maximum force	23 °C	N	ISO 6603-2	3800
C Puncture maximum force	-30 °C	N	ISO 6603-2	5000
C Puncture energy	23 °C	J	ISO 6603-2	47
C Puncture energy	-30 °C	J	ISO 6603-2	58
Izod impact strength	23 °C	kJ/m <sup>2</sup>	ISO 180-U	N
Izod impact strength	-30 °C	kJ/m <sup>2</sup>	ISO 180-U	N
Izod notched impact strength	23 °C	kJ/m <sup>2</sup>	ISO 180-A	50
Izod notched impact strength	-20 °C	kJ/m <sup>2</sup>	ISO 180-A	45
Izod notched impact strength	-30 °C	kJ/m <sup>2</sup>	ISO 180-A	35
Izod notched impact strength	-40 °C	kJ/m <sup>2</sup>	ISO 180-A	20
Ball indentation hardness		N/mm <sup>2</sup>	ISO 2039-1	108
<b>Thermal properties</b>				
C Temperature of deflection under load	1.80 MPa	°C	ISO 75-1,-2	85
C Temperature of deflection under load	0.45 MPa	°C	ISO 75-1,-2	110
Vicat softening temperature	50 N; 120 °C/h	°C	ISO 306	126
C Coefficient of linear thermal expansion, parallel	23 to 55 °C	10 <sup>-4</sup> /K	ISO 11359-1,-2	0.9
C Coefficient of linear thermal expansion, transverse	23 to 55 °C	10 <sup>-4</sup> /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, cross-flow	23 °C; 50 % r. h.	W/(m·K)	ISO 8302	0.2
Glow wire test (GWFI)	2.0 mm	°C	IEC 60695-2-12	750

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<b>Electrical properties (23 °C/50 % r. h.)</b>				
C Relative permittivity	100 Hz	-	IEC 60250	3.2
C Relative permittivity	1 MHz	-	IEC 60250	3.0
C Dissipation factor	100 Hz	10 <sup>-4</sup>	IEC 60250	7
C Dissipation factor	1 MHz	10 <sup>-4</sup>	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
C Comparative tracking index CTI M	Solution B	Rating	IEC 60112	125
<b>Other properties (23 °C)</b>				
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/m <sup>3</sup>	ISO 1183-1	1200
C Bulk density		g/cm <sup>3</sup>	ISO 60	0.65
<b>Processing conditions for test specimens</b>				
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

Information Impact properties

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

Typical value

These values are typical values only. Unless explicitly agreed in written form, they do not constitute a binding material specification or warranted values. Values may be affected by the design of the mold/die, the processing conditions and coloring/pigmentation of the product. Unless specified to the contrary, the property values given have been established on standardized test specimens at room temperature.

General

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Disclaimer Non Medical Grade

This product is not designated for the manufacture of a medical device or of intermediate products for medical devices (1). [This product is also not designated for Food Contact (2), including drinking water, or cosmetic applications. If the intended use of the product is for the manufacture of a medical device or of intermediate products for medical devices, for Food Contact products or cosmetic applications Covestro must be contacted in advance to provide its agreement to sell such product for such purpose.] Nonetheless, any determination as to whether a product is appropriate for use in a medical device or intermediate products for medical devices, for Food Contact products or cosmetic applications must be made solely by the purchaser of the product without relying upon any representations by Covestro. 1) Please see the "Guidance on Use of Covestro Products in a Medical Application" document. 2) As defined in Commission Regulation (EU) 1935/2004.

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 **Makroblend®**

ISO Datasheet