Makroblend® UT215 M

/	(PC+PET) Blend, 5% mineral filled, easy flow, easy release, good impact strength, for automotive applications
ISO Shortname	PC+PET-TD5

	Property	Test Condition	Unit	Standard	typical Value
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Rheological properties					
C	Melt volume-flow rate	270 °C/ 5 kg	cm³/10 min	ISO 1133	49
	Melt viscosity	1000 s^{-1}/ 270 °C	Pa·s	b.o. ISO 11443-A	205
	Molding shrinkage, parallel	150x105x3 mm/ 270 °C / MT 70°C/ 600 bar	%	b.o. ISO 2577	0.60-0.75
	Molding shrinkage, normal	150x105x3 mm/ 270 °C / MT 70°C/ 600 bar	%	b.o. ISO 2577	0.60-0.75
Mechanical properties (23 °C/50 % r. h.)					
C	Tensile modulus	1 mm/min	MPa	ISO 527-1,-2	3050
C	Yield stress	50 mm/min	MPa	ISO 527-1,-2	65
C	Yield strain	50 mm/min	%	ISO 527-1,-2	5.0
C	Nominal strain at break	50 mm/min	%	ISO 527-1,-2	70
	Stress at break	50 mm/min	MPa	ISO 527-1,-2	50
	Flexural modulus	2 mm/min	MPa	ISO 178	3100
	Flexural strain at flexural strength	2 mm/min	%	ISO 178	5.8
	Flexural stress at 3.5 % strain	2 mm/min	MPa	ISO 178	90
	Flexural strength	2 mm/min	MPa	ISO 178	105
C	Charpy impact strength	23 °C	kJ/m²	ISO 179/1eU	N
C	Charpy impact strength	-30 °C	kJ/m²	ISO 179/1eU	200
C	Charpy notched impact strength	23 °C	kJ/m²	ISO 179/1eA	6
C	Puncture impact properties - maximum force	23 °C	N	ISO 6603-2	4700
C	Puncture energy	23 °C	J	ISO 6603-2	45
	Izod impact strength	23 °C	kJ/m²	ISO 180/1C	N
	Izod impact strength	-30 °C	kJ/m²	ISO 180/1C	175
	Izod notched impact strength	23 °C	kJ/m²	ISO 180/A	6
Thermal properties					
C	Temperature of deflection under load	1.80 MPa	°C	ISO 75-1,-2	112
C	Temperature of deflection under load	0.45 MPa	°C	ISO 75-1,-2	130
	Vicat softening temperature	50 N; 120 °C/h	°C	ISO 306	140
C	Coefficient of linear thermal expansion, parallel	23 to 55 °C	10^{-4}/K	ISO 11359-1,-2	0.6
C	Coefficient of linear thermal expansion, normal	23 to 55 °C	10^{-4}/K	ISO 11359-1,-2	0.6
Other properties (23 °C)					
C	Water absorption (saturation value)	Water at 23 °C	%	ISO 62	0.45
C	Water absorption (equilibrium value)	23 °C; 50 % r. h.	%	ISO 62	0.20
C	Density		kg/m³	ISO 1183-1	1270
	Filler content	Method A	%	b.o. ISO 3451-1	5
Processing conditions for test specimens					
	Drying time		h	ISO 294	4-6
C	Injection molding - Melt temperature		°C	ISO 294	270
C	Injection molding - Mold temperature		°C	ISO 294	70
C	Injection molding - Injection velocity		mm/s	ISO 294	200

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	Property	Test Condition	Unit	Standard	typical Value
Recommended processing and drying conditions					
	Melt temperatures		°C	-	270-280
	Standard Melt temperature		°C	-	270
	Barrel Temperatures - Rear		°C	-	220-230
	Barrel Temperatures - Middle		°C	-	240-250
	Barrel Temperatures - Front		°C	-	260-270
	Barrel Temperatures - Nozzle		°C	-	270-280
	Mold Temperatures		°C	-	70-80
	Hold Pressure (% of injection pressure)		%	-	50-75
	Plastic Back Pressure (specific)		bar	-	50-100
	Peripheral Screw Speed		m/s	-	0.1-0.2
	Shot-to-Cylinder Size		%	-	30-70
	Dry Air Drying Temperature		°C	-	110
	Dry Air Drying Time		h	-	2-4
	Moisture Content max. (%)		%	-	<= 0.01
	Vent Depth		mm	-	0.02-0.03

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