DuPont™ Crastin® PC164 NC010

THERMOPLASTIC POLYESTER RESIN

Product Information				
Crastin® PC164 NC010 (Complete Data) is an Unreinforced Low Viscosity Polybutylene Terephthalate				
General information	Value	Unit	Test Standard	
Resin Identification	PBT	-	ISO 1043	
Part Marking Code	PBT	-	ISO 11469	
Rheological properties	Value	Unit	Test Standard	
Melt mass-flow rate	33	g/10min	ISO 1133	
Melt mass-flow rate, Temperature	250	°C	ISO 1133	
Melt mass-flow rate, Load	2.16	kg	ISO 1133	
Moulding shrinkage, parallel	1.6	%	ISO 294-4, 2577	
Moulding shrinkage, normal	1.6	%	ISO 294-4, 2577	
Mechanical properties	Value	Unit	Test Standard	
Tensile Modulus	2400	MPa	ISO 527-1/-2	
Yield stress	55	MPa	ISO 527-1/-2	
Yield strain	4	%	ISO 527-1/-2	
Nominal strain at break	30	%	ISO 527-1/-2	
Poisson's ratio	0.38	-	ISO 527-1/-2	
Tensile creep modulus			ISO 899-1	
1h	2600	MPa		OT
1000h	1800	MPa		OT
Charpy impact strength, 23°C	N	kJ/m²	ISO 179/1eU	
Charpy notched impact strength			ISO 179/1eA	
23°C	4	kJ/m²		
-30°C	4	kJ/m²		
OT: One time tested				
Thermal properties	Value	Unit	Test Standard	
Melting temperature, 10°C/min	225	°C	ISO 11357-1/-3	
Glass transition temperature, 10°C/min	55	°C	ISO 11357-1/-2	
Temp. of deflection under load			ISO 75-1/-2	
1.8 MPa	50	°C		
0.45 MPa	115	°C		
0.45 MPa, annealed	180	°C		
1.8 MPa, annealed	60	°C		
Vicat softening temperature, 50°C/h, 10N	175	°C	ISO 306	
Coeff. of linear therm. expansion, parallel	110	E-6/K	ISO 11359-1/-2	
Coeff. of linear therm. expansion, normal	120	E-6/K	ISO 11359-1/-2	
Thermal conductivity of melt	0.21	W/(m K)	-	
Spec. heat capacity of melt	2110	J/(kg K)	-	
Flammability	Value	Unit	Test Standard	
Burning Behav. at 1.5mm nom. thickn.	HB	class	IEC 60695-11-10	
Thickness tested	1.5	mm	IEC 60695-11-10	
Oxygen index	22	%	ISO 4589-1/-2	
Electrical properties	Value	Unit	Test Standard	
Relative permittivity, 1MHz	3.2	-	IEC 62631-2-1	
Dissipation factor			IEC 62631-2-1	
100Hz	20	E-4		
1MHz	200	E-4		
Volume resistivity	>1E13	Ohm*m	IEC 62631-3-1	
Surface resistivity	1E12	Ohm	IEC 62631-3-2	
Electric strength	26	kV/mm	IEC 60243-1	
Other properties	Value	Unit	Test Standard	
Humidity absorption, 2mm	0.2	%	Sim. to ISO 62	
Water absorption, 2mm	0.4	%	Sim. to ISO 62	

To find out more, visit DuPont Performance Polymers or contact nearest DuPont location.

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Density	1310	kg/m³	ISO 1183
Density of melt	1110	kg/m³	-
Injection	**Value**	**Unit**	**Test Standard**
Drying Recommended	yes	-	-
Drying Temperature	≥120	°C	-
Drying Time, Dehumidified Dryer	2 - 4	h	-
Processing Moisture Content	≤0.04	%	-
Melt Temperature Optimum	250	°C	-
Min. melt temperature	240	°C	-
Max. melt temperature	260	°C	-
Mold Temperature Optimum	80	°C	-
Min. mould temperature	30	°C	-
Max. mould temperature	130	°C	-
Hold pressure range	≥60	MPa	-
Hold pressure time	4	s/mm	-
Back pressure	As low as possible		-
Ejection temperature	170	°C	-

Characteristics	
Processing	• Injection Moulding
Delivery form	• Pellets

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Chemical Media Resistance

Acids

- ✓ Acetic Acid (5% by mass) (23°C)
- ✓ Citric Acid solution (10% by mass) (23°C)
- ✓ Lactic Acid (10% by mass) (23°C)
- ✗ Hydrochloric Acid (36% by mass) (23°C)
- ✗ Nitric Acid (40% by mass) (23°C)
- ✗ Sulfuric Acid (38% by mass) (23°C)
- ✗ Sulfuric Acid (5% by mass) (23°C)
- ✗ Chromic Acid solution (40% by mass) (23°C)

Bases

- ✗ Sodium Hydroxide solution (35% by mass) (23°C)
- ✓ Sodium Hydroxide solution (1% by mass) (23°C)
- ✓ Ammonium Hydroxide solution (10% by mass) (23°C)

Alcohols

- ✓ Isopropyl alcohol (23°C)
- ✓ Methanol (23°C)
- ✓ Ethanol (23°C)

Hydrocarbons

- ✓ n-Hexane (23°C)
- ✓ Toluene (23°C)
- ✓ iso-Octane (23°C)

Ketones

- ✓ Acetone (23°C)

Ethers

- ✓ Diethyl ether (23°C)

Mineral oils

- ✓ SAE 10W40 multigrade motor oil (23°C)
- ✗ SAE 10W40 multigrade motor oil (130°C)
- ✗ SAE 80/90 hypoid-gear oil (130°C)
- ✓ Insulating Oil (23°C)

Standard Fuels

- ✗ ISO 1817 Liquid 1 - E5 (60°C)
- ✗ ISO 1817 Liquid 2 - M15E4 (60°C)
- ✗ ISO 1817 Liquid 3 - M3E7 (60°C)
- ✗ ISO 1817 Liquid 4 - M15 (60°C)
- ✓ Standard fuel without alcohol (pref. ISO 1817 Liquid C) (23°C)
- ✓ Standard fuel with alcohol (pref. ISO 1817 Liquid 4) (23°C)

✓	Diesel fuel (pref. ISO 1817 Liquid F) (23°C)
✓	Diesel fuel (pref. ISO 1817 Liquid F) (90°C)
✗	Diesel fuel (pref. ISO 1817 Liquid F) (>90°C)

Salt solutions

✓	Sodium Chloride solution (10% by mass) (23°C)
✓	Sodium Hypochlorite solution (10% by mass) (23°C)
✓	Sodium Carbonate solution (20% by mass) (23°C)
✓	Sodium Carbonate solution (2% by mass) (23°C)
✓	Zinc Chloride solution (50% by mass) (23°C)

Other

✓	Ethyl Acetate (23°C)
✗	Hydrogen peroxide (23°C)
✗	DOT No. 4 Brake fluid (130°C)
✗	Ethylene Glycol (50% by mass) in water (108°C)
✓	1% nonylphenoxy-polyethyleneoxy ethanol in water (23°C)
✓	50% Oleic acid + 50% Olive Oil (23°C)
✓	Water (23°C)
✗	Water (90°C)
✓	Phenol solution (5% by mass) (23°C)

Sterilisation methods

✓	Ethylene Oxyde

Symbols used:

✓ possibly resistant
Defined as: Supplier has sufficient indication that contact with chemical can be potentially accepted under the intended use conditions and expected service life. Criteria for assessment have to be indicated (e.g. surface aspect, volume change, property change).

✗ not recommended - see explanation
Defined as: Not recommended for general use. However, short-term exposure under certain restricted conditions could be acceptable (e.g. fast cleaning with thorough rinsing, spills, wiping, vapor exposure).

Contact DuPont for Material Safety Data Sheet, general guides and/or additional information about ventilation, handling, purging, drying, etc. ISO Mechanical properties measured at 4mm (Hytrel® measured at 2 mm), IEC Electrical properties measured at 2mm, all ASTM properties measured at 3.2mm, and test temperatures are 23°C unless otherwise stated.

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