

# CCP PBT Compound

## PBT (Polybutylene Terephthalate)



### Quality Specifications

Physical property	Analysis Method	Unit	Grade					
			PBT1100	PBT1200	PBT2000	PBT2100	PBT3015	PBT3020
Tensile Strength	ASTM D638	kg/cm <sup>2</sup>	500-600	500-600	500-700	500-700	800-1000	900-1200
Tensile Elongation	ASTM D638	%	120-180	50-90	7-9	4-8	3-5	3-5
Flextural Strength	ASTM D790	kg/cm <sup>2</sup>	700-850	750-850	700-800	800-1200	1300-1500	1700-2000
Flextural Modulus	ASTM D790	kg/cm <sup>2</sup>	>=20000	>=22000	>=20000	>=25000	>=40000	>=60000
Izod Impact Strength ---notched 1/4"	ASTM D256	kg/cm <sup>2</sup>	5-6	4.5-5.5	2.5-3.5	2.5-6.0	4-7	5-8
Dielectric constant	ASTM D150	60 Hz	3.3	3.2	3.2	3.3	3.4	3.7
Dissipation factor	ASTM D150	60 Hz	0.001	0.001	0.001	0.001	0.001	0.001
Volume resistivity	ASTM D257	ohm-cm	10 <sup>15</sup>	10 <sup>15</sup>	10 <sup>15</sup>	10 <sup>15</sup>	10 <sup>15</sup>	10 <sup>15</sup>
Surface resistivity	ASTM D257	ohm	10 <sup>13</sup>	10 <sup>13</sup>	10 <sup>13</sup>	10 <sup>13</sup>	10 <sup>13</sup>	10 <sup>13</sup>
Sdielectric Strength, 2mm	ASTM D149	KV/mm	>20	>20	>20	>20	>20	>20
Arc resistance	ASTM D495	sec	120	120	120	130	130	130
Melting Point	DSC	°C	225	225	225	225	225	225
Heat Deflection Temp. --18.6 kg/cm <sup>2</sup>	ASTM D648	°C	60	60	65	65	206	206
--4.6 kg/cm <sup>2</sup>			155	155	165	165	220	220
Coefficient of Thermal Expansion	ASTM D696	10 <sup>-5</sup>	9	9	9	9	5	4
Flammability		UL94	HB	HB	V-0(0.8mm)	V-0(0.8mm)	HB	HB
Specific Gravity	ASTM D792	-	1.30-1.32	1.30-1.32	1.39-1.45	1.42-1.45	1.39-1.43	1.44-1.46
Water Absorption	ASTM D570	%	0.06	0.06	0.05	0.05	0.04	0.04
Mould Shrinkage, 1.6 mm -- in flow direction	ASTM D955	%	0.8-1.8	0.8-2.0	1.1-1.9	1.1-1.9	0.2-0.6	0.1-0.5
--in transverse direction			1.0-2.0	1.3-2.1	1.3-2.1	1.3-2.1	0.9-1.3	0.8-1.2
Glass Fiber Content	-	%	0	0	0	0	15	20



Physical property	Analysis Method	Unit	Grade					
			PBT3030	PBT4115	PBT4120	PBT4130	PBT4140	PBT4815
Tensile Strength	ASTM D638	kg/cm <sup>2</sup>	1100-1400	900-1100	900-1200	1100-1400	1000-1400	800-1100
Tensile Elongation	ASTM D638	%	3-5	2.5-4.5	2.5-4.5	2.5-4.5	2.5-4.5	2.5-4.5
Flextural Strength	ASTM D790	kg/cm <sup>2</sup>	1800-2000	1400-1800	1400-1800	1500-2300	1500-2300	1400-1800
Flextural Modulus	ASTM D790	kg/cm <sup>2</sup>	>=70000	>=45000	>=50000	>=70000	>=70000	>=40000
Izod Impact Strength ---notched 1/4"	ASTM D256	kg/cm <sup>2</sup>	8-12	4-7	4-7	7-13	8-13	4-7
Dielectric constant	ASTM D150	60 Hz	5.5	4	3	3	5.5	4
Dissipation factor	ASTM D150	60 Hz	0.001	0.001	0.001	0.001	0.001	0.001
Volume resistivity	ASTM D257	ohm-cm	10 <sup>15</sup>	10 <sup>15</sup>	10 <sup>15</sup>	10 <sup>15</sup>	10 <sup>15</sup>	10 <sup>15</sup>
Surface resistivity	ASTM D257	ohm	10 <sup>13</sup>	10 <sup>13</sup>	10 <sup>13</sup>	10 <sup>13</sup>	10 <sup>13</sup>	10 <sup>13</sup>
Sdielectric Strength, 2mm	ASTM D149	KV/mm	>20	>20	>20	>20	>20	>20
Arc resistance	ASTM D495	sec	90	90	100	100	90	90
Melting Point	DSC	°C	225	225	225	225	225	225
Heat Deflection Temp.								
--18.6 kg/cm <sup>2</sup>	ASTM D648	°C	208	212	205	205	208	208
--4.6 kg/cm <sup>2</sup>			220	220	220	220	220	220
Coefficient of Thermal		10 <sup>-5</sup>						
Expansion	ASTM D696	cm/cm °C	3	5.5	4	3	3	5.5
Flammability	UL94		HB	V-0(0.8mm)	V-0(0.8mm)	V-0(0.8mm)	V-0(0.8mm)	V-0(0.8mm)
Specific Gravity	ASTM D792	-	1.52-1.54	1.50-1.56	1.52-1.58	1.62-1.68	1.74-1.80	1.46-1.52
Water Absorption	ASTM D570	%	0.04	0.03	0.03	0.03	0.03	0.03
Mould Shrinkage, 1.6 mm								
-- in flow direction	ASTM D955	%	0.1-0.4	0.2-0.6	0.1-0.5	0.1-0.4	0.1-0.3	0.2-0.6
--in transverse direction			0.8-1.1	0.9-1.3	0.8-1.2	0.8-1.1	0.7-1.0	0.9-1.3
Glass Fiber Content	-	%	30	15	20	30	40	15



Physical property	Analysis Method	Unit	Grade					
			PBT4820	PBT4830	PBT5115	PBT5130	PBT6730	
Tensile Strength	ASTM D638	kg/cm <sup>2</sup>	900-1200	1000-1400	800-1000	950-1250	950-1200	
Tensile Elongation	ASTM D638	%	2.5-4.5	2.5-4.5	2.5-4.5	2.5-4.5	2.5-4.5	
Flextural Strength	ASTM D790	kg/cm <sup>2</sup>	1400-1800	1500-2300	1300-1600	1500-1900	1450-1800	
Flextural Modulus	ASTM D790	kg/cm <sup>2</sup>	>=50000	>=70000	>=50000	>=70000	>=75000	
Izod Impact Strength ---notched 1/4"	ASTM D256	kg/cm <sup>2</sup>	4-7	7-11	4-7	7-11	6-10	
Dielectric constant	ASTM D150	60 Hz	3	3	3	3	3.5	
Dissipation factor	ASTM D150	60 Hz	0.001	0.01	0.01	0.01	0.001	
Volume resistivity	ASTM D257	ohm-cm	10 <sup>15</sup>	10 <sup>15</sup>	10 <sup>15</sup>	10 <sup>15</sup>	10 <sup>15</sup>	
Surface resistivity	ASTM D257	ohm	10 <sup>13</sup>	10 <sup>13</sup>	10 <sup>13</sup>	10 <sup>13</sup>	10 <sup>13</sup>	
Sdielectric Strength, 2mm	ASTM D149	KV/mm	>20	>20	>19	>19	>20	
Arc resistance	ASTM D495	sec	100	120	120	120	90	
Melting Point	DSC	°C	225	225	225	225	225	
Heat Deflection Temp.								
--18.6 kg/cm <sup>2</sup>	ASTM D648	°C	205	208	185	195	140	
--4.6 kg/cm <sup>2</sup>			220	220	205	210	200	
Coefficient of Thermal		10 <sup>-5</sup>						
Expansion	ASTM D696	cm/cm °C	4	3	5	3	2.5	
Flammability	UL94		V-0(0.3mm)	V-0(0.3mm)	V-0(0.8mm)	V-0(0.8mm)	V-0(0.8mm)	
Specific Gravity	ASTM D792	-	1.50-1.56	1.56-1.62	1.4-1.46	1.50-1.56	1.57-1.63	
Water Absorption	ASTM D570	%	0.03	0.03	0.03	0.03	0.03	
Mould Shrinkage, 1.6 mm								
-- in flow direction	ASTM D955	%	0.1-0.5	0.1-0.4	0.1-0.5	0.1-0.4	0.1-0.3	
--in transverse direction			0.8-1.2	0.8-1.1	0.8-1.3	0.8-1.1	0.3-0.6	
Glass Fiber Content	-	%	20	30	15	30	30	

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