NAN YA FR-PBT MATERIAL SPECIFICATION

GRADE : 1210G6 ABK1 – 30% Glass Fiber Reinforced PBT

PROPERTIES	TEST METHOD	UNIT	REF. VALUE
1.Physical			
Tensile Strength at yield	**ASTM D-638**	**kg/cm^2**	*1350*
Elongation	**ASTM D-638**	**%**	*3.0*
Flexural Strength	**ASTM D-790**	**kg/cm^2**	*1800*
Flexural Modulus	**ASTM D-790**	**kg/cm^2**	*75000*
IZOD Impact(Notched 1/8)	**ASTM D-256**	**kg-cm/cm**	*8.0*
Rockwell Hardness	**ASTM D-785**	**R-Scale**	*120*
2.Thermal			
Melting Point	**DSC**	**°C**	*224*
H.D.T.(4.6kg/cm^2)	**ASTM D-648**	**°C**	*210*
Melting Flow Index(MFI)	**ASTM D-1238**	**g/10 min**	*15*
3.Electrical			
Volume Resistively	**ASTM D-257**	**. cm**	*10^{16}*
Dielectric Strength	**ASTM D-149**	**kv/mm**	*22*
Dielectric Constant(10^6MHZ)	**ASTM-D150**	**--**	*3.4*
Dissipation Factor(10^6MHZ)	**ASTM D-150**	**--**	*0.016*
Arc Resistance	**ASTM D-495**	**sec.**	*100*
4.Others			
Specific Gravity	**ASTM D-792**	**--**	*1.52*
Mold Shrinkage(MD)	**3 mmt**	**%**	*0.3~0.4*
Mold Shrinkage(TD)	**3 mmt**	**%**	*1.7~1.1*
Flammability	**UL94**	**--**	*HB*
Remarks	**UL FILE NO.: E130155(M)**		

Melting Flow Index Test Condition: 250°C×2.16Kg
The values in this table are for reference only.
April 20, 1997

REFERENCE MOLDING CONDITIONS		
Drying Time	**Hrs**	*4*
Drying Temp.	**°C**	*140*
Cylinder Temp.		
Rear	**°C**	*250*
Center	**°C**	*260*
Front	**°C**	*265*
Nozzle Temp.	**°C**	*270*
Mold Temp.	**°C**	*85*
Injection Pressure	**kg/cm^2**	*450~850*
Screw Rotation Speed	**rpm**	*160*
Injection Speed	**--**	*fast*

Injection M/C:ENGEL ES 50/150 2 oz
Mold : ASTM Test Bar
Gate Size: 5.8mm×1.2mm
Test Bar Thickness: 3.2mm
Test Condition: 23°C, 50%RH

NAN YA FR-PBT MATERIAL SPECIFICATION

GRADE : 1210G6 ANC1 -- 30% Glass Fiber Reinforced PBT

PROPERTIES	TEST METHOD	UNIT	REF. VALUE
1.Physical			
Tensile Strength at Yield	ASTM D-638	kg/cm^2	*1350*
Elongation	ASTM D-638	%	*3.5*
Flexural Strength	ASTM D-790	kg/cm^2	*2000*
Flexural Modulus	ASTM D-790	kg/cm^2	*75000*
IZOD Impact (Notched 1/8)	ASTM D-256	kg-cm/cm	*9.0*
Rockwell Hardness	ASTM D-785	R-Scale	*120*
2.Thermal			
Melting Point	DSC	°C	*224*
H.D.T.(18.6 kg/cm^2)	ASTM D-648	°C	*210*
Melting Flow Index (MFI)	ASTM D-1238	g/10 min	*16*
3.Electrical			
Volume Resistivity	ASTM D-257	cm	10^{16}
Dielectric Strength	ASTM D-149	kv/mm	*22*
Dielectric Constant(10^6HZ)	ASTM D-150	--	*3.4*
Dissipation Factor(10^6HZ)	ASTM D-150	--	*0.016*
Arc Resistance	ASTM D-495	sec.	*100*
4.Others			
Specific Gravity	ASTM D-792	--	*1.52*
Mold Shrinkage (MD)	3 mmt	%	*0.3~0.4*
Mold Shrinkage (TD)	3 mmt	%	*0.7~1.1*
Flammability	UL 94	--	*HB*
Remarks	UL FILE NO. :E130155(M)		

REFERENCE MOLDING CONDITIONS		
Drying Time	Hrs	*4*
Drying Temp.	°C	*140*
Cylinder Temp.		
Rear	°C	*250*
Center	°C	*260*
Front	°C	*265*
Nozzle Temp.	°C	*270*
Mold Temp.	°C	*85*
Injection Pressure	kg/cm^2	*450～850*
Screw Rotation speed	rpm	*160*
Injection Speed	--	*fast*

Injection M/C : ENGEL ES 50/150 2 oz

Mold : ASTM Test Bar

Gate Size: 5.8mm×1.2mm

Test Bar Thickness : 3.2mm

Test Condition: 23℃, 50%RH

Melting Flow Index Test Condition: 250℃2.16Kg

The values in this table are for reference only.

Oct. 08, 2001

NAN YA FR-PBT MATERIAL SPECIFICATION

GRADE : 1210G3 ABK1 – 15% Glass Fiber Reinforced PBT

PROPERTIES	TEST METHOD	UNIT	REF. VALUE
1.Physical			
Tensile Strength at yield	**ASTM D-638**	**Kg/cm²**	*1000*
Elongation	**ASTM D-638**	**%**	*3.0*
Flexural Strength	**ASTM D-790**	**Kg/cm²**	*1400*
Flexural Modulus	**ASTM D-790**	**Kg/cm²**	*50000*
IZOD Impact(Notched 1/8)	**ASTM D-256**	**kg-cm/cm**	*5.0*
Rockwell Hardness	**ASTM D-785**	**R-Scale**	*120*
2.Thermal			
Melting Point	**DSC**	**°C**	*224*
H.D.T.(4.6kg/cm²)	**ASTM D-648**	**°C**	*200*
Melting Flow Index(MFI)	**ASTM D-1238**	**g/10 min**	*25*
3.Electrical			
Volume Resistively	**ASTM D-257**	**. cm**	*10^{16}*
Dielectric Strength	**ASTM D-149**	**kv/mm**	*22*
Dielectric Constant(10^6MHZ)	**ASTM-D150**	**--**	*3.2*
Dissipation Factor(10^6MHZ)	**ASTM D-150**	**--**	*0.016*
Arc Resistance	**ASTM D-495**	**sec.**	*110*
4.Others			
Specific Gravity	**ASTM D-792**	**--**	*1.42*
Mold Shrinkage(MD)	**3 mmt**	**%**	*0.4~0.5*
Mold Shrinkage(TD)	**3 mmt**	**%**	*1.0~1.2*
Flammability	**UL94**	**--**	*HB*
Remarks	**UL FILE NO.: E130155(M)**		

Melting Flow Index Test Condition: 250°C×2.16Kg
The values in this table are for reference only.
April 20, 1997

REFERENCE MOLDING CONDITIONS		
Drying Time	**Hrs**	*4*
Drying Temp.	**°C**	*140*
Cylinder Temp.		
Rear	**°C**	*235*
Center	**°C**	*245*
Front	**°C**	*250*
Nozzle Temp.	**°C**	*255*
Mold Temp.	**°C**	*70*
Injection Pressure	**kg/cm²**	*450~850*
Screw Rotation Speed	**rpm**	*160*
Injection Speed	**--**	*Fast*

Injection M/C:ENGEL ES 50/150 2 oz
Mold : ASTM Test Bar
Gate Size: 5.8mm×1.2mm
Test Bar Thickness: 3.2mm
Test Condition: 23°C, 50%RH

NAN YA FR-PBT MATERIAL SPECIFICATION

GRADE : 1210G3 ANC1 – 15% Glass Fiber Reinforced PBT

PROPERTIES	TEST METHOD	UNIT	REF. VALUE
1.Physical			
Tensile Strength at yield	**ASTM D-638**	**Kg/cm²**	*1000*
Elongation	**ASTM D-638**	**%**	*5.5*
Flexural Strength	**ASTM D-790**	**Kg/cm²**	*1550*
Flexural Modulus	**ASTM D-790**	**Kg/cm²**	*50,000*
IZOD Impact(Notched 1/8)	**ASTM D-256**	**kg-cm/cm**	*4.7*
Rockwell Hardness	**ASTM D-785**	**R-Scale**	*120*
2.Thermal			
Melting Point	**DSC**	**°C**	*224*
H.D.T.(4.6kg/cm²)	**ASTM D-648**	**°C**	*215*
Melting Flow Index(MFI)	**ASTM D-1238**	**g/10 min**	*37*
3.Electrical			
Volume Resistively	**ASTM D-257**	**. cm**	10^{16}
Dielectric Strength	**ASTM D-149**	**kv/mm**	*22*
Dielectric Constant(10^6MHZ)	**ASTM-D150**	**--**	*3.2*
Dissipation Factor(10^6MHZ)	**ASTM D-150**	**--**	*0.016*
Arc Resistance	**ASTM D-495**	**sec.**	*130*
4.Others			
Specific Gravity	**ASTM D-792**	**--**	*1.42*
Mold Shrinkage(MD)	**3 mmt**	**%**	*0.4~0.5*
Mold Shrinkage(TD)	**3 mmt**	**%**	*1.0~1.2*
Flammability	**UL94**	**--**	*HB*
Remarks	**UL FILE NO.: E130155(M)**		

Melting Flow Index Test Condition: 250°C×2.16Kg
The values in this table are for reference only.
April 20, 1997

REFERENCE MOLDING CONDITIONS		
Drying Time	**Hrs**	*4*
Drying Temp.	**°C**	*140*
Cylinder Temp.		
Rear	**°C**	*230*
Center	**°C**	*235*
Front	**°C**	*245*
Nozzle Temp.	**°C**	*250*
Mold Temp.	**°C**	*70*
Injection Pressure	**kg/cm²**	*450~850*
Screw Rotation Speed	**rpm**	*160*
Injection Speed	**--**	*Fast*

Injection M/C:ENGEL ES 50/150 2 oz
Mold : ASTM Test Bar
Gate Size: 5.8mm×1.2mm
Test Bar Thickness: 3.2mm
Test Condition: 23°C, 50%RH