HiFill® PET GF/M40 BK

Polyethylene Terephthalate

Techmer Engineered Solutions

Message:

HiFill® PET GF/M40 BK is a Polyethylene Terephthalate (PET) product filled with 40% glass\mineral. It can be processed by injection molding and is available in North America.

Filler / ReinforcementGlass/Mineral/40% Filler by WeightAppearanceBlackFormsPelletsProcessing MethodInjection MoldingPhysicalNominal ValueUnitPhysicalSackSpecific Gravity1.63g/cm³Molding Shrinkage - Flow (3.18 mm)0.30%Oxiding Shrinkage - Flow (3.18 mm)0.040%Mortinal ValueUnitTest MethodRockwell HardnessNominal ValueUnitRockwell Hardness (R-Scale)117STM D785MechanicalNominal ValueUnitTest MethodRockwell Hardness (R-Scale)1.5%ASTM D683Flexing Ib (Break)1.5%ASTM D683Flexing Ib (Break)1.5%ASTM D683Flexing Ib (Break)1.5MPaASTM D683Flexing Ib (Break)1.5MPaASTM D683Flexing Ib (Break)1.5MPaASTM D683Flexing Ib (Break)1.5MPaASTM D684Flexing Ib (Break)1.5MPaASTM D684Flexing Ib (Break)1.5MmaASTM D684Flexing Ib (Break)1.5MmaASTM D685Flexing Ib (Break)1.5MpaASTM D684Flexing Ib (Break)1.5MmaASTM D686Flexing Ib (Break)1.5MmaASTM D686Flexing Ib (Break)1.5MmaASTM D685Flexing Ib (Break)1.63MmaASTM D685Flexing Ib (Break)	General Information			
PromsPelletsProcessing MethodInjection MoldingPhysicalNominal ValueUnitTest MethodSpecific Gravity1.63g/cm³ASTM D792Molding Shrinkage - Flow (3.18 mm)0.30%ASTM D795Water Absorption (24 hr)0.40%ASTM D795Nardinal ValueUnitTest MethodRockwell Hardness (R-Scale)117ASTM D785MachanicalNominal ValueUnitTest MethodMoninal ValueUnitTest MethodRockwell Hardness (R-Scale)1.5%ASTM D638Tensile Etronght (Break)1.5%ASTM D638Tensile Etronght (Break)1.700MPaASTM D790Rockwell Augence1.700MPaASTM D790ImpactNominal ValueUnitTest MethodNothed Izod Impact (23°C, 3.18 mm)75J/mASTM D638Nothed Izod Impact (23°C, 3.18 mm)75J/mASTM D648Pelfection Temperature Under Load (1.8 Ma, Jammela Value)10tTest MethodDeflection Temperature Under Load (1.8 Ma, Jammela Value)10tTest MethodVolume Resistivity0.80.9ASTM D639InjectionNominal ValueUnitTest MethodVolume Resistivity0.80.9ASTM D639InjectionNominal ValueUnitTest MethodVolume Resistivity0.80.9ASTM D639InjectionNominal ValueUnitTest MethodVolume Re	Filler / Reinforcement	Glass\Mineral,40% Filler by	Weight	
Processing MethodInjection MoldingPhysicalNominal ValueUnitTest MethodSpecific Gravity1.63g/cm³ASTM D792Molding Shrinkage - Flow (3.18 mm)0.30%ASTM D795Water Absorption (24 hr)0.40%ASTM D795HardnessNominal ValueUnitTest MethodRockwell Hardness (R-Scale)17.ASTM D636Tensile Strength (Break)124MPaASTM D638Tensile Strength (Break)1.5%ASTM D638Flexural Modulus1.5%PaASTM D638Flexural Modulus1.00MPaASTM D638Rockwell Handness (R-Scale)1.01Test MethodProsensing (Break)1.5MPaASTM D638Flexural Modulus1.5MPaASTM D638Rockwell Auged Strength200MPaASTM D638Notched Izod Impact (23*C, 3.18 mm)75J/mASTM D636Nethold Cold Impact (23*C, 3.18 mm)213rcASTM D648PelfectinalNominal ValueUnitTest MethodDeflectin Temperature Model (13*C)514rcSTM D648PelfectinalNominal ValueUnitTest MethodDeflectin Temperature594-5cm/cm/rCASTM D639Volume Resistivity0.6*16Mominal ValueJIN D257Dielectric Strength ¹ 0.0Minal CalleMinal CalleNominal ValueMinal CalleMinal CalleJIN D257Dielectric Strength ¹ <td>Appearance</td> <td>Black</td> <td></td> <td></td>	Appearance	Black		
PhysicalNominal ValueUnitTest MethodSpecific Gravity1.63g/cm³ASTM D792Molding Shrinkage - Flow (3.18 mm)0.30%ASTM D555Water Absorption (24 hr)0.40%ASTM D570HardnessNominal ValueUnitTest MethodRockwell Hardness (R-Scale)117ASTM D785MechanicalNominal ValueUnitTest MethodTensile Strength (Break)124MPaASTM D638Tensile Strength (Break)1.5%ASTM D638Plexural Modulus11700MPaASTM D790ImpactNominal ValueUnitTest MethodNothed Izod Impact (23°C, 3.18 mm)75J/mASTM D790Nothed Izod Impact (23°C, 3.18 mm)75J/mASTM D566Defection Temperature Under Load (1.8 MPa, Unannealed)1.82"CSTM D648Defection Temperature Under Load (1.8 MPa, Unannealed)1.92STM D56STM D569CLTE - Flow5.92-5cm/cm/°CASTM D569STM D569DelectricalNominal ValueUnitTest MethodVolume Resistivity1.02 + 16ohms·cmASTM D570Dielectric Strength 10.162 + 16ohms·cmASTM D570Dielectric Strength 21.92 + 16ohms·cmASTM D570Dielectric Strength 10.162 + 16ohms·cmASTM D570Dielectric Strength 10.162 + 16ohms·cmASTM D570Dielectric Strength 10.102 + 16ohms·cmASTM D5	Forms	Pellets		
Specific Gravity1.63g/cm³ASTM D792Molding Shrinkage - Flow (3.18 mm)0.30%ASTM D595Water Absorption (24 hr)0.040%ASTM D570HardnessNominal ValueUnitTest MethodRockwell Hardness (R-Scale)117STM D785MechanicalNominal ValueUnitTest MethodTensile Strength (Break)124MPaASTM D538Tensile Elongation (Break)1.5% PaASTM D53Flexural Strength (Break)1.700MPaASTM D790ImpactNominal ValueUnitTest MethodNotchel Zoll Strength200MPaASTM D790ImpactNominal ValueUnitTest MethodNotchel Zoll Strength75J/manASTM D790Deflection Temperature Under Load (1%)213CStM D648Melting Temperature Under Load (1%)213CStM D648Melting Temperature Under Load (1%)254CCCITE - Flow59E-5m/marcMarcASTM D696Deflection Temperature Under Load (1%)10E+16mmarcASTM D696Method10E+16mmarcASTM D696Test MethodDifferengerature10Minar CancSTM D696Differengerature10Minar CancSTM D696Differengerature10Minar CancSTM D696Differengerature10Minar CancSTM D696Differengerature10Minar CancSTM D696 <t< td=""><td>Processing Method</td><td>Injection Molding</td><td></td><td></td></t<>	Processing Method	Injection Molding		
Noticing Shrinkage - Flow (3.18 mm)0.30%ASTM D955Water Absorption (24 hr)0.040%ASTM D570HardnessNominal ValueUnitTest MethodRockwell Hardness (R-Scale)117.ASTM D785MechanicalNominal ValueUnitTest MethodTensile Strength (Break)124MPaASTM D638Tensile Elongation (Break)1.5%ASTM D638Flexural Modulus11700MPaASTM D638Flexural Strength200MPaASTM D790ImpactNominal ValueUnitTest MethodNotched Izod Impact (23°C, 3.18 mm)75J/mASTM D256ThermalNominal ValueUnitTest MethodDeflection Temperature Under Load (1.8 MPa, Unannealed)213°CASTM D648Wetling Temperature254°CCCCLTE + Flow5.9E-5cm/cm/°CASTM D649MethodVolume Resistivity1.0E+16ohms·cmASTM D257Dielectric Strength 10.0Norinal ValueUnitTest MethodVolume Resistivity121°CCCDirigtion4.0Norinal ValueUnitTest MethodNominal ValueUnitTest MethodSSDielectric Strength 10.0E+16ohms·cmASTM D257Dielectric Strength 11.0E+16ohms·cmASTM D257Dirigtion121°CCCDirigtion2.110 288°C	Physical	Nominal Value	Unit	Test Method
Water Absorption (24 hr)0.040%ASTM D570HardnessNominal ValueUnitTest MethodRockwell Hardness (R-Scale)117Karth D785MechanicalNominal ValueUnitTest MethodTensile Strength (Break)124MPaASTM D638Tensile Elongation (Break)1.5% A GATM D638Flexural Modulus11700MPaASTM D638Flexural Strength200MPaASTM D790ImpactNominal ValueUnitTest MethodNotched Izod Impact (23°C, 3.18 mm)75J/mASTM D256ThermalNominal ValueUnitTest MethodDeflection Temperature Under Load (1.8 MPa, Unannealed)213°CSTATM D648Clift E - Flow5.9E-5cm/cm/°CASTM D696ElectricalNominal ValueUnitTest MethodVolume Resistivity10E+16ohms-cmASTM D257Dielectric Strength 120K//mmASTM D257Dielectric Strength 120ki//mmASTM D257Dielectric Strength 120ki//mmASTM D257Dielectric Strength 120ki//mmASTM D257Dielectric Strength 1201ki//mmASTM D257Dielectric Strength 1201ki//mmASTM D257Dielectric Strength 1201ki//mmASTM D257Dielectric Strength 1201ki//mmASTM D257Dirig Time 4.0Nominal ValueVolumKi//mmRear Temperature<	Specific Gravity	1.63	g/cm³	ASTM D792
HardnessNominal ValueUnitTest MethodRockwell Hardness (R-Scale)117ASTM D785MechanicalNominal ValueUnitTest MethodTensile Strength (Break)124MPaASTM D638Tensile Stength (Break)1.5%ASTM D638Flexural Modulus11700MPaASTM D790Flexural Strength200MPaASTM D790ImpactNominal ValueUnitTest MethodNotched Izod Impact (23°C, 3.18 mm)75J/mASTM D256ThermalNominal ValueUnitTest MethodDeflection Temperature Under Load (1.8 MPa, Unannealed)213°CASTM D648Meting Temperature254°CSTM D648CLT E - FlowS.9E-5cm/cm/°CASTM D696DeflectricalNominal ValueUnitTest MethodVolume Resistivity1.0E+16ohms-cmASTM D257Dielectric Strength 120KV/mmASTM D257Dielectric Strength 1211°CSTM D149Drying Temperature121°CSTM D149Drying Temperature271 to 288°CSTM D149Middle Temperature271 to 288°CSTM D149Processing (Melty) Temp271 to 288°CSTM D149Processing (Melty) Temp271 to 288°CSTM D149Processing (Melty) Temp274°CSTM D149Processing (Melty) Temp274°CSTM D149StM D140StM D140 <t< td=""><td>Molding Shrinkage - Flow (3.18 mm)</td><td>0.30</td><td>%</td><td>ASTM D955</td></t<>	Molding Shrinkage - Flow (3.18 mm)	0.30	%	ASTM D955
Rockwell Hardness (R-Scale)17ASTM D785MechanicalNominal ValueUnitTest MethodTensile Strength (Break)124MPaASTM D638Tensile Elongation (Break)15%ASTM D638Flexural Modulus1700MPaASTM D790Flexural Strength00MPaASTM D790ImpactNominal ValueUnitTest MethodNotched Izod Impact (23°C, 318 mm)75J/mASTM D256ThermalNominal ValueUnitTest MethodDeflection Temperature Under Load (1.8) MPa, Unannealed)254CStrCLT E - Flow59E-5cn/cm/°CASTM D698DeflectricalNominal ValueUnitTest MethodVolume Resistivity1.0E + 16ohms · cmASTM D257Dielectric Strength ¹ 0Norial ValueV/mmASTM D257Dirigotion1.0E + 16ohms · cmASTM D257Dirigotion1.0E + 16ohms · cmohms · cmDirigotion1.0E + 16ohms · cmohms · cmRear Tempera	Water Absorption (24 hr)	0.040	%	ASTM D570
MechanicalNominal ValueUnitTest MethodTensile Strength (Break)124MPaASTM D638Tensile Elongation (Break)1.5% OASTM D638Flexural Modulus11700MPaASTM D790Flexural Modulus200MPaASTM D790Impact200MPaASTM D790ImpactNominal ValueUnitTest MethodNotched Izod Impact (23°C, 3.18 ml)75J/mASTM D256ThermalNominal ValueUnitTest MethodDeflection Temperature Under Load (1.8 MPa, Unannealed)'CASTM D648CLTE - Flow59E-5cn/crvm"CASTM D696ElectricalNominal ValueUnitTest MethodVolume Resistivity1.0E+16ohms : cmASTM D257Dielectric Strength 10.0E+16ohms : cmASTM D257Dielectric Strength 21.0E+16ohms : cmASTM D257Dielectric Strength 10.0E+16ohms : cmASTM D257Dielectric Strength 11.0E+16ohms : cmASTM D257Dielectric Strength 11.0E+16initIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	Hardness	Nominal Value	Unit	Test Method
Tensile Strength (Break)124MPaASTM D638Tensile Elongation (Break)1.5%ASTM D638Flexural Modulus11700MPaASTM D790Elexural Modulus200MPaASTM D790ImpactNominal ValueUnitTest MethodNotchel Izod Impact (23°C, 3.18 mm)75J/mASTM D256ThermalNominal ValueUnitTest MethodDeflection Temperature Under Load (1.8 MPa, Unannealed)213°CASTM D648Deflection Temperature59E-5cn/cm/°CASTM D696ElectricalNominal ValueUnitTest MethodVolume Resistivity1.0E+16ohms·cmASTM D257Dielectric Strength 10.0E+16ohms·cmASTM D257Dirig Temperature21°C·CDying Time4.0Mit·CDrying Time4.0rc·CRear Temperature271 to 288°C·CFront Temperature271 to 288<	Rockwell Hardness (R-Scale)	117		ASTM D785
Tensile Elongation (Break)1.5%ASTM D638Rexural Modulus11700MPaASTM D790Rexural Strength200MPaASTM D790ImpactNominal ValueUnitTest MethodNotched Izod Impact (23°C, 3.18 mm)75J/mASTM D256ThermalNominal ValueUnitTest MethodDeffection Temperature Under Load (1.8 MPa, Unannealed)213°CASTM D648ElectricalS9E-5cm/cm/°CASTM D696ElectricalNominal ValueUnitTest MethodOlume Resistivity1.0E+16ohms cmASTM D257Dielectric Strength 120kV/mmASTM D257Digg Temperature1.0E+16ohms cmASTM D257Dielectric Strength 120kV/mmASTM D257Digg Temperature1.0E+16ohms cmASTM D149Drying Time20kV/mmASTM D257Diging Temperature211°CCDrying Time4.0hrCRear Temperature271 to 288°CCMiddle Temperature271 to 288°CCFront Temperature271 to 288°CCFront Temperature271 to 288°CCProcessing (Meth) Temp274°CCProcessing (Meth Temperature274°CCProcessing (Meth Temperature274°CCProcessing (Meth Temperature274°CCProcessing Method274 <td>Mechanical</td> <td>Nominal Value</td> <td>Unit</td> <td>Test Method</td>	Mechanical	Nominal Value	Unit	Test Method
Flexural Modulus11700MPaASTM D790Flexural Strength200MPaASTM D790ImpactNominal ValueUnitTest MethodNotched Izod Impact (23°C, 3.18 mm)75//mASTM D256ThermalNominal ValueUnitTest MethodDeffection Temperature Under Load (1.8 MPa, Unannealed)213°CASTM D648Melting Temperature254°CCCLTE - Flow59E-5cm/cm/°CASTM D696ElectricalNominal ValueUnitTest MethodVolume Resistivity1.0E+16ohms cmASTM D257Dielectric Strength 120KV/mmASTM D257Dirig Temperature1.0E+16ohms cmASTM D149Drying Temperature121°CCDrying Temperature271 to 288°CCMiddle Temperature271 to 288°CCFront Temperature271 to 288°CCProcessing (Melt) Temp274°CC	Tensile Strength (Break)	124	MPa	ASTM D638
Flexural Strength200MPaASTM D790ImpactNominal ValueUnitTest MethodNotched Izod Impact (23°C, 3.18 mm)75J/mASTM D256ThermalNominal ValueUnitTest MethodDeflection Temperature Under Load (1.8 MPa, Unannealed)213°CASTM D648Mething Temperature254°CSTM D648CLTE - Flow59E-5cm/cm/°CASTM D696ElectricalNominal ValueUnitTest MethodVolume Resistivity1.0E+16ohms · cmASTM D257Dielectric Strength 120kV/mmASTM D257Drying Temperature121°C·Drying Temperature211°C·Drying Time4.0hr·Rear Temperature711 to 288°C·Middle Temperature271 to 288°C·Front Temperature271 to 288°C·Processing (Meth) Temp74°C·	Tensile Elongation (Break)	1.5	%	ASTM D638
ImpactNominal ValueUnitTest MethodNotched Izod Impact (23°C, 3.18 mm)75//mASTM D256ThermalNominal ValueUnitTest MethodDeffection Temperature Under Load (1.8 MPa, Unannealed)213°CASTM D648CLTE - Flow59E-5cm/cm/°CASTM D696ElectricalNominal ValueUnitTest MethodCLTE - Flow5.9E-5cm/cm/°CASTM D696ElectricalNominal ValueUnitTest MethodVolume Resistivity1.0E+16ohms·cmASTM D257Dielectric Strength 120kV/mmASTM D149InjectionNominal ValueUnitTest MethodDrying Temperature121°CCDrying Time4.0hr-Rear Temperature271 to 288°C-Middle Temperature271 to 288°C-Front Temperature271 to 288°C-Processing (Mett) Temp274°C-Processing (Mett) Temp274°C-	Flexural Modulus	11700	MPa	ASTM D790
Notched Izod Impact (23°C, 3.18 mm)75J/mASTM D256ThermalNominal ValueUnitTest MethodDeflection Temperature Under Load (1.8 MPa, Unannealed)213°CASTM D648Melting Temperature254°CCCLTE - Flow59E-5cm/cm/°C (2000)ASTM D696ElectricalNominal ValueUnitTest MethodVolume Resistivity1.0E+16ohms·cmASTM D257Dielectric Strength 120kV/mmASTM D149InjgettonNominal ValueUnitTest MethodDrying Temperature121°CCDrying Time4.0hrCRear Temperature271 to 288°CCMiddle Temperature271 to 288°CCFront Temperature271 to 288°CCProcessing (Melt) Temp274°CCProcessing (Melt) Temp274°CC	Flexural Strength	200	MPa	ASTM D790
ThermalNominal ValueUnitTest MethodDeflection Temperature Under Load (1.8 MPA, Unannealed)213°CASTM D648Melting Temperature254°CCCLTE - Flow5.9E-5cm/cm/°CASTM D696ElectricalNominal ValueUnitTest MethodVolume Resistivity1.0E+16ohms · cmASTM D257Dielectric Strength 120KV/mmASTM D149InjectionNominal ValueUnitTest MethodDrying Temperature21°C·Drying Temperature211 0 288°C·Middle Temperature271 to 288°C·Front Temperature271 to 288°C·Processing (Melt) Temp274°C·	Impact	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (1.8 MPa, Unannealed)213°CASTM D648Melting Temperature254°CCCLTE - Flow5.9E-5cm/cm/°C AASTM D696ElectricalNominal ValueUnitTest MethodVolume Resistivity1.0E+16ohms · cmASTM D257Dielectric Strength ¹ 20KV/mmASTM D149InjectionNominal ValueUnitTert MethodInjectionNominal ValueUnitTert MethodDrying Temperature121°CTert MethodRear Temperature271 to 288°CTert MethodMiddle Temperature271 to 288°CTert MethodFront Temperature271 to 288°CTert MethodProcessing (Melt) Temp274°CTert Method	Notched Izod Impact (23°C, 3.18 mm)	75	J/m	ASTM D256
MPa, Unannealed)213°CASTM D648Melting Temperature254°C·CCLT - Flow5.9E-5cm/cm/°CASTM D696ElectricalNominal ValueUnitTest MethodVolume Resistivity1.0E+16ohms · cmASTM D257Dielectric Strength 120kV/mmASTM D149InjectionNominal ValueUnit	Thermal	Nominal Value	Unit	Test Method
CLTE - Flow5.9E-5cm/cm/°CASTM D696ElectricalNominal ValueUnitTest MethodVolume Resistivity1.0E+16ohms·cmASTM D257Dielectric Strength 120kV/mmASTM D149InjectionNominal ValueUnitCDrying Temperature121°CCRear Temperature271 to 288°CCMiddle Temperature271 to 288°CCFront Temperature271 to 288°CCProcessing (Melt) Temp274°CC		213	°C	ASTM D648
ElectricalNominal ValueUnitTest MethodVolume Resistivity1.0E+16ohms·cmASTM D257Dielectric Strength 120kV/mmASTM D149InjectionNominal ValueUnitSTM D149Drying Temperature121°CSTM D149Drying Time4.0hrSTM D149Rear Temperature271 to 288°CSTM D149Middle Temperature271 to 288°CSTM D149Front Temperature271 to 288°CSTM D149Processing (Melt) Temp274°CSTM D149	Melting Temperature	254	°C	
Volume Resistivity1.0E+16ohms·cmASTM D257Dielectric Strength 120kV/mmASTM D149InjectionNominal ValueUnitDrying Temperature121°CDrying Time4.0hrRear Temperature271 to 288°CMiddle Temperature271 to 288°CFront Temperature271 to 288°CProcessing (Melt) Temp274°C	CLTE - Flow	5.9E-5	cm/cm/°C	ASTM D696
Dielectric Strength 120kV/mmASTM D149InjectionNominal ValueUnitDrying Temperature121°CDrying Time4.0hrRear Temperature271 to 288°CMiddle Temperature271 to 288°CFront Temperature271 to 288°CFront Temperature271 to 288°CProcessing (Melt) Temp274°C	Electrical	Nominal Value	Unit	Test Method
InjectionNominal ValueUnitDrying Temperature121°CDrying Time4.0hrRear Temperature271 to 288°CMiddle Temperature271 to 288°CFront Temperature271 to 288°CProcessing (Melt) Temp274°C	Volume Resistivity	1.0E+16	ohms•cm	ASTM D257
Drying Temperature121°CDrying Time4.0hrRear Temperature271 to 288°CMiddle Temperature271 to 288°CFront Temperature271 to 288°CProcessing (Melt) Temp274°C	Dielectric Strength ¹	20	kV/mm	ASTM D149
Drying Time4.0hrRear Temperature271 to 288°CMiddle Temperature271 to 288°CFront Temperature271 to 288°CProcessing (Melt) Temp274°C	Injection	Nominal Value	Unit	
Rear Temperature271 to 288°CMiddle Temperature271 to 288°CFront Temperature271 to 288°CProcessing (Melt) Temp274°C	Drying Temperature	121	°C	
Niddle Temperature271 to 288°CFront Temperature271 to 288°CProcessing (Melt) Temp274°C	Drying Time	4.0	hr	
Front Temperature271 to 288°CProcessing (Melt) Temp274°C	Rear Temperature	271 to 288	°C	
Processing (Melt) Temp 274 °C	Middle Temperature	271 to 288	°C	
	Front Temperature	271 to 288	°C	
Mold Temperature 93.3 to 110 °C	Processing (Melt) Temp	274	°C	
	Mold Temperature	93.3 to 110	°C	

Back Pressure	0.345 to 0.689	МРа	
Screw Speed	30 to 60	rpm	
NOTE			
1.	Method A (Short-Time)		

The information and data on this page are provided by manufacturers and document providers. SHANGHAI SUSHENG assumes no legal liability. It is strongly recommended to verify all technical data with material suppliers before final material selection. All rights belong to the original authors. If any infringement occurs, please contact us immediately.

Recommended distributors for this material

Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China

