# ESPREE™ ABS20GF

## Acrylonitrile Butadiene Styrene

#### **SABIC Innovative Plastics**

#### Message:

ESPREE<sup>TM</sup> ABS20GF is an Acrylonitrile Butadiene Styrene (ABS) product filled with 20% glass fiber. It can be processed by injection molding and is available in North America. Primary characteristic: flame rated.

Filler   Reinforcement   Glass Fiber, 20% Filler by Weight	General Information			
Forms         Pellets           Processing Method         Injection Molding           Physical         Nominal Value         Unit         Test Method           Specific Gravity         1.20         g/cm³         ASTM D792           Molding Shrinkage - Flow         0.10 to 0.20         %         ASTM D955           Mechanical         Nominal Value         Unit         Test Method           Tensile Strength <sup>1</sup> (Yield, 3.18 mm)         68.9         MPa         ASTM D538           Flexural Modulus <sup>2</sup> (3.18 mm)         5170         MPa         ASTM D790           Flexural Strength <sup>3</sup> (3.18 mm)         89.6         MPa         ASTM D790           Flexural Strength <sup>3</sup> (3.18 mm)         89.6         MPa         ASTM D790           Impact         Nominal Value         Unit         Test Method           Impact         Nominal Value         Unit         Test Method           Deflection Temperature Under Load (1.8 MPa, Unannealed, 6.35 mm)         98.9         *C         ASTM D648           Flammability         Nominal Value         Unit         Test Method           Flammability         Nominal Value         Unit         Unit           Unity of Temperature         9.7         ASTM D648         *C	UL YellowCard	E121562-100305627		
Processing Method         Injection Molding           Physical         Nominal Value         Unit         Test Method           Specific Gravity         1.20         g/cm³         ASTM D792           Molding Shrinkage - Flow         0.10 to 0.20         %         ASTM D955           Mechanical         Nominal Value         Unit         Test Method           Tensile Strength ¹ (Yield, 3.18 mm)         68.9         MPa         ASTM D638           Flexural Modulus ² (3.18 mm)         5170         MPa         ASTM D790           Flexural Strength ² (3.18 mm)         89.6         MPa         ASTM D790           Impact         Nominal Value         Unit         Test Method           Notched Izod Impact (23°C, 3.18 mm)         53         J/m         ASTM D256           Thermal         Nominal Value         Unit         Test Method           Deflection Temperature Under Load (1.8 MPa, Unannealed, 6.35 mm)         98.9         °C         ASTM D648           Flammability         Nominal Value         Unit         Use Method           Flamma Rating (1.50 mm, BLK)         HB         °C         ASTM D44           Injection         Nominal Value         Unit         Unit           Drying Time, Maximum         4.0	Filler / Reinforcement	Glass Fiber,20% Filler by Weight		
Physical         Nominal Value         Unit         Test Method           Specific Gravity         1.20         g/cm³         ASTM D792           Molding Shrinkage - Flow         0.10 to 0.20         %         ASTM D955           Mechanical         Nominal Value         Unit         Test Method           Tensile Strength ¹ (Yield, 3.18 mm)         68.9         MPa         ASTM D638           Flexural Modulus ² (3.18 mm)         5170         MPa         ASTM D790           Impact         Nominal Value         Unit         Test Method           Notched Izod Impact (23°C, 3.18 mm)         53         J/m         ASTM D256           Thermal         Nominal Value         Unit         Test Method           Deflection Temperature Under Load (1.8 mp², Unit)         MP²         ASTM D648           Flammability         Nominal Value         Unit         Test Method           Flammability         Nominal Value         Unit         Unit           Unjudy         Flammability         Vominal Value         Unit           Unjudy         Flammability         Unit         Unit           Unjudy         Flammability         Vominal Value         Unit           Unjudy         Flammability         Vominal Value	Forms	Pellets		
Specific Gravity         1.20         g/cm³         ASTM D792           Molding Shrinkage - Flow         0.10 to 0.20         %         ASTM D955           Mechanical         Nominal Value         Unit         Test Method           Tensile Strength ¹ (Yield, 3.18 mm)         68.9         MPa         ASTM D638           Flexural Modulus ² (3.18 mm)         5170         MPa         ASTM D790           Impact         Nominal Value         Unit         Test Method           Notched Izod Impact (23°C, 3.18 mm)         53         J/m         ASTM D256           Thermal         Nominal Value         Unit         Test Method           Deflection Temperature Under Load (1.8 MP2, Unannealed, 6.35 mm)         98.9         °C         ASTM D648           Flammability         Nominal Value         Unit         Test Method           Flame Rating (1.50 mm, BLK)         HB         Unit         UL 94           Unjug Temperature         87.8         °C         ASTM D648           Processing (Melt) Temp         232 to 260         °C           Mold Temperature         48.9 to 65.6         °C           Back Pressure         0.689 to 2.07         MPa           Screw Speed         30 to 60         rpm           NOTE	Processing Method	Injection Molding		
Molding Shrinkage - Flow         0.10 to 0.20         %         ASTM D955           Mechanical         Nominal Value         Unit         Test Method           Tensile Strength <sup>1</sup> (Yield, 3.18 mm)         68.9         MPa         ASTM D638           Flexural Modulus <sup>2</sup> (3.18 mm)         5170         MPa         ASTM D790           Impact         Nominal Value         Unit         Test Method           Impact         Nominal Value         Unit         Test Method           Notched Izod Impact (23°C, 3.18 mm)         53         J/m         ASTM D256           Thermal         Nominal Value         Unit         Test Method           Deflection Temperature Under Load (1.8 MPa, Unannealed, 6.35 mm)         98.9         °C         ASTM D648           Flammability         Nominal Value         Unit         Test Method           Flamma Rating (1.50 mm, BLK)         HB         Unit         UL 94           Injection         Nominal Value         Unit         UL 94           Injection         Nominal Value         Unit         UL 94           Injection         Nominal Value         Unit         Unit         Unit           Drying Time, Maximum         4.0         hr         Unit         Unit         Unit         <	Physical	Nominal Value	Unit	Test Method
Mechanical         Nominal Value         Unit         Test Method           Tensile Strength <sup>1</sup> (Yield, 3.18 mm)         68.9         MPa         ASTM D638           Flexural Modulus <sup>2</sup> (3.18 mm)         5170         MPa         ASTM D790           Impact         Nominal Value         Unit         Test Method           Impact         Nominal Value         Unit         Test Method           Notched Izod Impact (23°C, 3.18 mm)         53         J/m         ASTM D256           Thermal         Nominal Value         Unit         Test Method           Deflection Temperature Under Load (1.8 MPa, Unannealed, 6.35 mm)         98.9         °C         ASTM D648           Flammability         Nominal Value         Test Method           Flame Rating (1.50 mm, BLK)         HB         Ut 94           Injection         Nominal Value         Unit           Drying Temperature         87.8         °C           Drying Time, Maximum         4.0         hr           Processing (Meth) Temp         232 to 260         °C           Mold Imperature         48.9 to 65.6         °C           Back Pressure         0.689 to 2.07         MPa           Screw Speed         30 to 60         rpm           NOTE	Specific Gravity	1.20	g/cm³	ASTM D792
Tensile Strength <sup>1</sup> (Yield, 3.18 mm)         68.9         MPa         ASTM D638           Flexural Modulus <sup>2</sup> (3.18 mm)         5170         MPa         ASTM D790           Flexural Strength <sup>3</sup> (3.18 mm)         89.6         MPa         ASTM D790           Impact         Nominal Value         Unit         Test Method           Notched Izod Impact (23°C, 3.18 mm)         53         J/m         ASTM D256           Thermal         Nominal Value         Unit         Test Method           Deflection Temperature Under Load (1.8 MPa, Unannealed, 6.35 mm)         98.9         °C         ASTM D648           Flammability         Nominal Value         Unit         Test Method           Flame Rating (1.50 mm, BLK)         HB         Unit         Unit           Drying Temperature         87.8         °C         V           Drying Time         2.0         hr         P           Drying Time, Maximum         4.0         hr         P           Processing (Melt) Temp         232 to 260         °C         C           Mold Temperature         48.9 to 65.6         °C         C           Back Pressure         0.689 to 2.07         MPa         WPa           Screw Speed         30 to 60         rpm	Molding Shrinkage - Flow	0.10 to 0.20	%	ASTM D955
Flexural Modulus 2 (3.18 mm)         5170         MPa         ASTM D790           Flexural Strength 3 (3.18 mm)         89.6         MPa         ASTM D790           Impact         Nominal Value         Unit         Test Method           Notched Izod Impact (23°C, 3.18 mm)         53         J/m         ASTM D256           Thermal         Nominal Value         Unit         Test Method           Deflection Temperature Under Load (1.8 MPa, Unannealed, 6.35 mm)         98.9         °C         ASTM D648           Flammability         Nominal Value         Unit         Test Method           Flame Rating (1.50 mm, BLK)         HB         Unit         Unit           Drying Temperature         87.8         °C         Veryong Time, Unit           Drying Time, Maximum         4.0         hr         Processing (Melt) Temp         232 to 260         °C           Mold Temperature         48.9 to 65.6         °C         MPa           Screw Speed         30 to 60         rpm           NOTE         1.3 mm/min         1.3 mm/min	Mechanical	Nominal Value	Unit	Test Method
Flexural Strength 3 (3.18 mm)         89.6         MPa         ASTM D790           Impact         Nominal Value         Unit         Test Method           Notched Izod Impact (23°C, 3.18 mm)         53         J/m         ASTM D256           Thermal         Nominal Value         Unit         Test Method           Deflection Temperature Under Load (1.8 MPa, Unannealed, 6.35 mm)         98.9         °C         ASTM D648           Flammability         Nominal Value         Unit         Test Method           Flame Rating (1.50 mm, BLK)         HB         Unit         Unit           Drying Temperature         87.8         °C         Vertical Control of the Contr	Tensile Strength <sup>1</sup> (Yield, 3.18 mm)	68.9	МРа	ASTM D638
Impact         Nominal Value         Unit         Test Method           Notched Izod Impact (23°C, 3.18 mm)         53         J/m         ASTM D256           Thermal         Nominal Value         Unit         Test Method           Deflection Temperature Under Load (1.8 MPa, Unannealed, 6.35 mm)         98.9         °C         ASTM D648           Flammability         Nominal Value         Test Method           Flame Rating (1.50 mm, BLK)         HB         UL 94           Injection         Nominal Value         Unit           Drying Temperature         87.8         °C           Drying Time         2.0         hr           Drying Time, Maximum         4.0         hr           Processing (Melt) Temp         232 to 260         °C           Mold Temperature         48.9 to 65.6         °C           Back Pressure         0.689 to 2.07         MPa           Screw Speed         30 to 60         rpm           NOTE         5.1 mm/min           2.         1.3 mm/min	Flexural Modulus <sup>2</sup> (3.18 mm)	5170	МРа	ASTM D790
Notched Izod Impact (23°C, 3.18 mm)         53         J/m         ASTM D256           Thermal         Nominal Value         Unit         Test Method           Deflection Temperature Under Load (1.8 MPa, Unannealed, 6.35 mm)         98.9         °C         ASTM D648           Flammability         Nominal Value         Test Method           Flame Rating (1.50 mm, BLK)         HB         Unit           Injection         Nominal Value         Unit           Drying Temperature         87.8         °C           Drying Time, Maximum         4.0         hr           Processing (Melt) Temp         232 to 260         °C           Mold Temperature         48.9 to 65.6         °C           Back Pressure         0.689 to 2.07         MPa           Screw Speed         30 to 60         rpm           NOTE         1.3 mm/min	Flexural Strength <sup>3</sup> (3.18 mm)	89.6	МРа	ASTM D790
Thermal         Nominal Value         Unit         Test Method           Deflection Temperature Under Load (1.8 MPa, Unannealed, 6.35 mm)         98.9         °C         ASTM D648           Flammability         Nominal Value         Test Method           Flame Rating (1.50 mm, BLK)         HB         UL 94           Injection         Nominal Value         Unit           Drying Temperature         87.8         °C           Drying Time         2.0         hr           Drying Time, Maximum         4.0         hr           Processing (Melt) Temp         232 to 260         °C           Mold Temperature         48.9 to 65.6         °C           Back Pressure         0.689 to 2.07         MPa           Screw Speed         30 to 60         rpm           NOTE           1.         5.1 mm/min           2.         1.3 mm/min	Impact	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (1.8 MPa, Unannealed, 6.35 mm)         98.9         °C         ASTM D648           Flammability         Nominal Value         Test Method           Injection         Nominal Value         Ul. 94           Injection         Nominal Value         Unit           Drying Temperature         87.8         °C           Drying Time         2.0         hr           Drying Time, Maximum         4.0         hr           Processing (Melt) Temp         232 to 260         °C           Mold Temperature         48.9 to 65.6         °C           Back Pressure         0.689 to 2.07         MPa           Screw Speed         30 to 60         rpm           NOTE         1.3 mm/min           2.         1.3 mm/min	Notched Izod Impact (23°C, 3.18 mm)	53	J/m	ASTM D256
MPa, Unannealed, 6.35 mm)         98.9         °C         ASTM D648           Flammability         Nominal Value         Test Method           Injection         Nominal Value         Unit           Drying Temperature         87.8         °C           Drying Time         2.0         hr           Drying Time, Maximum         4.0         hr           Processing (Melt) Temp         232 to 260         °C           Mold Temperature         48.9 to 65.6         °C           Back Pressure         0.689 to 2.07         MPa           Screw Speed         30 to 60         rpm           NOTE         1.3 mm/min           2.         1.3 mm/min	Thermal	Nominal Value	Unit	Test Method
Flame Rating (1.50 mm, BLK)         HB         Ul 94           Injection         Nominal Value         Unit           Drying Temperature         87.8         °C           Drying Time         2.0         hr           Drying Time, Maximum         4.0         hr           Processing (Melt) Temp         232 to 260         °C           Mold Temperature         48.9 to 65.6         °C           Back Pressure         0.689 to 2.07         MPa           Screw Speed         30 to 60         rpm           NOTE         1.3 mm/min	Deflection Temperature Under Load (1.8 MPa, Unannealed, 6.35 mm)	98.9	°C	ASTM D648
Injection         Nominal Value         Unit           Drying Temperature         87.8         °C           Drying Time         2.0         hr           Drying Time, Maximum         4.0         hr           Processing (Melt) Temp         232 to 260         °C           Mold Temperature         48.9 to 65.6         °C           Back Pressure         0.689 to 2.07         MPa           Screw Speed         30 to 60         rpm           NOTE         1.         5.1 mm/min           2.         1.3 mm/min         1.3 mm/min	Flammability	Nominal Value		Test Method
Drying Temperature         87.8         °C           Drying Time         2.0         hr           Drying Time, Maximum         4.0         hr           Processing (Melt) Temp         232 to 260         °C           Mold Temperature         48.9 to 65.6         °C           Back Pressure         0.689 to 2.07         MPa           Screw Speed         30 to 60         rpm           NOTE         1.         5.1 mm/min           2.         1.3 mm/min	Flame Rating (1.50 mm, BLK)	НВ		UL 94
Drying Time         2.0         hr           Drying Time, Maximum         4.0         hr           Processing (Melt) Temp         232 to 260         °C           Mold Temperature         48.9 to 65.6         °C           Back Pressure         0.689 to 2.07         MPa           Screw Speed         30 to 60         rpm           NOTE         1.         5.1 mm/min           2.         1.3 mm/min	Injection	Nominal Value	Unit	
Drying Time, Maximum       4.0       hr         Processing (Melt) Temp       232 to 260       °C         Mold Temperature       48.9 to 65.6       °C         Back Pressure       0.689 to 2.07       MPa         Screw Speed       30 to 60       rpm         NOTE       1.       5.1 mm/min         2.       1.3 mm/min	Drying Temperature	87.8	°C	
Processing (Melt) Temp       232 to 260       °C         Mold Temperature       48.9 to 65.6       °C         Back Pressure       0.689 to 2.07       MPa         Screw Speed       30 to 60       rpm         NOTE       1.       5.1 mm/min         2.       1.3 mm/min	Drying Time	2.0	hr	
Mold Temperature       48.9 to 65.6       °C         Back Pressure       0.689 to 2.07       MPa         Screw Speed       30 to 60       rpm         NOTE         1.       5.1 mm/min         2.       1.3 mm/min	Drying Time, Maximum	4.0	hr	
Back Pressure       0.689 to 2.07       MPa         Screw Speed       30 to 60       rpm         NOTE         1.       5.1 mm/min         2.       1.3 mm/min	Processing (Melt) Temp	232 to 260	°C	
Screw Speed         30 to 60         rpm           NOTE         1.         5.1 mm/min           2.         1.3 mm/min	Mold Temperature	48.9 to 65.6	°C	
NOTE  1. 5.1 mm/min 2. 1.3 mm/min	Back Pressure	0.689 to 2.07	МРа	
1. 5.1 mm/min 2. 1.3 mm/min	Screw Speed	30 to 60	rpm	
2. 1.3 mm/min	NOTE			
	1.	5.1 mm/min		
3. 1.3 mm/min	2.	1.3 mm/min		
	3.	1.3 mm/min		

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