

PRODUCT DATA SHEET



TENCATE ADVANCED COMPOSITES

TenCate Cetex® MC1100 PPS Thermoplastic BMC

PRODUCT TYPE

Polyphenylene sulfide thermoplastic bulk molding compound

TYPICAL APPLICATIONS

- Metal to composite replacement
- Interior structures
- Automotive underhood applications
- Oil & Gas gaskets and pipe
- Aircraft brackets and structures
- Secondary access doors and enclosures

SHELF LIFE

Stable indefinitely at 77°F (25°C)

PRODUCT DESCRIPTION: TENCATE CETEX MC1100 PPS

TenCate Cetex® MC1100 PPS is a thermoplastic bulk molding compound based upon TenCate Cetex TC1100 PPS thermoplastic unitape. TenCate Cetex MC1100 PPS is offered on standard modulus fibers in lengths of up to 1 inch. (Intermediate modulus fibers and alternative lengths may also be available.) Thermoplastic bulk molding compound allows part fabrication with short cycle times. This product also allows complex shapes to be made with varying wall thickness, integrated ribs and reinforcing structure. Many composite compression molded parts are used to replace metal parts for weight savings or they replace plastic injection molded parts where higher strengths or stiffness are required. "TenCate Cetex MC1100-4A, PPS, 1 inch" represents standard modulus AS-4 fiber chopped to one inch (25.4mm) in length.

PRODUCT BENEFITS/FEATURES: TENCATE CETEX MC1100 PPS

- Rapid processing
- Allows easy fabrication of complex shapes
- Easily processible with compression molding or thermforming processes
- Fire-retardant resin system, surpasses 35/35 OSU requirements
- Excellent solvent resistance
- Low void content with good structural performance
- Ambient temperature storage
- Resin system has a Tg of 194°F (90°C)
- Remoldable

NEAT RESIN PHYSICAL PROPERTIES

Density	1.35 g/cc
Melt Temperature	536°F (280°C)
Recommended Processing Temperature	625°F (330°C)
Moisture absorption	< 1%
Flammability.....	V-0
Tensile strength.....	13.1 ksi (90.3MPa)
Tensile modulus	0.551 Msi (3.8 GPa)
Elongation at yield	3%
Poisson's ratio	0.36
Compression strength	21.5 ksi (148MPa)
Compression modulus.....	0.43 Msi (3.0 GPa)
Flexural strength	18.1 ksi (125MPa)
Flexural modulus.....	0.54 Msi (3.7 GPa)
Izod unnotched.....	94.6 ft-lb/in ² (199kJ/m ²)
Izod notched.....	7.4 ft-lb/in ² (15.6kJ/m ²)
CTE	29 ppm/°F (52.2ppm/°C)

PRODUCT DATA SHEET



TENCATE ADVANCED COMPOSITES

TenCate Cetex® MC1100 PPS Thermoplastic BMC

TENCATE CETEX MC1100-4A, PPS, 1" FIBER LENGTH. STANDARD MODULUS AS-4

Properties	Condition	Method	Results	
Tensile Strength	RTD	ASTM D3039	30 ksi	207 MPa
Tensile Modulus	RTD	ASTM D3039	6.0 Msi	41.4 GPa
Flexural Strength	RTD	ASTM D790	72 ksi	496 MPa
Flexural Modulus	RTD	ASTM D790	4.9 Msi	33.8 GPa

TYPICAL CONSOLIDATION PARAMETERS: TENCATE CETEX MC1100 PPS Thermoplastic BMC Molding Guidelines:

1. Pre-weigh the desired amount of molding compound
2. Apply high temperature resistant mold release to mold cavity.
3. Distribute molding compound in mold cavity as desired (bulk factor is approximately 4-8 to 1)
4. Heat mold or material to 625°F (330°C).
5. Apply one or more "debulk" pressure cycles as required. Apply pressure to 500 psi (34 bar), release, apply pressure to 1000 psi (69 bar), release, apply pressure 1500 psi (103 bar)
6. Consolidation Cycle: Pressurize to 500-1500 psi. Hold until all material has reached a temperature of 625°F (330°C) for 10 minutes.
7. Cool Cycle: Cool mold under pressure at 5-20°C/minute to maintain crystallinity for best solvent resistance. Release pressure when part temperatures is below material Tg.

Revised 1/2017

All data given is based on representative samples of the materials in question. Since the method and circumstances under which these materials are processed and tested are key to their performance, and TenCate Advanced Composites has no assurance of how its customers will use the material, the corporation cannot guarantee these properties.

TenCate, [TenCate] Cetex® and all other related characters, logos and trade names are claims and/or registered trademarks of Koninklijke Ten Cate B.V. and/or its subsidiaries in one or more country. Use of trademarks, trade names and other IP rights of TenCate without express written approval of TenCate is strictly prohibited.



TENCATE ADVANCED COMPOSITES

18410 Butterfield Blvd.
Morgan Hill, CA 95037 USA
Tel: +1 408 776 0700

2450 Cordelia Road
Fairfield, CA 94534 USA
Tel: +1 707 359 3400

Amber Drive, Langley Mill
Nottingham, NG16 4BE UK
Tel: +44 (0)1773 530899

www.tencateadvancedcomposites.com

info@tcac-usa.com (USA)
tcacsales@tencate.com (Europe)