

## TenCate Cetex® MC1322 PEKK Thermoplastic BMC

### PRODUCT TYPE

Polyether-ketone-ketone (PEKK)  
thermoplastic bulk molding  
compound

### TYPICAL APPLICATIONS

- Aircraft interiors
- Aircraft brackets and ribs
- Primary flight structure
- Secondary flight structure
- Access panels, conduit, flooring

### SHELF LIFE

Stable indefinitely at 25°C (77°F).

### PRODUCT DESCRIPTION: TENCATE CETEX® MC1322 PEKK

TenCate Cetex® MC1322 is a thermoplastic bulk molding compound fabricated from TenCate Cetex® TC1320 PEKK thermoplastic carbon fiber unitape. It is based on a semi-crystalline thermoplastic polymer and as such has excellent resistance to chemicals and solvents. TenCate Cetex® MC1322 offers excellent elevated service performance, good hot/wet strength and offers superior performance in flammability properties.

TenCate Cetex® MC1322 PEKK is offered on standard modulus carbon 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 thicknesses, integrated ribs and reinforcing structures. Compression molded parts are used to replace metal parts for weight savings.

### PRODUCT BENEFITS/FEATURES:

- Excellent resistance to chemicals and solvents
- Excellent elevated temperature service performance
- Allows easy fabrication of complex shapes
- Good hot/wet strength
- Remoldable

### NEAT RESIN PHYSICAL PROPERTIES

Density .....	1.29 g/cc
Glass Transition Temperature .....	162°C (324°F)
Melt Temperature .....	331°C (628°F)
Recommended Processing Temp .....	380°C (715°F)
Tensile Strength .....	16 ksi (110 MPa)
Tensile Modulus .....	550 ksi (3.8 GPa)
Elongation at yield .....	5.20%
Compression Strength .....	21.6 ksi (149 MPa)
Compression Modulus .....	550 ksi (3.8 GPa)
Flex Strength .....	24.4 ksi (168 MPa)
Flex Modulus .....	570 ksi (3.9 GPa)
CTE .....	13 ppm/°F (24 ppm/°K)



# PRODUCT DATASHEET



TENCATE ADVANCED COMPOSITES

## TenCate Cetex® MC1322 PEKK Thermoplastic BMC

LAMINATES FABRICATED WITH TENCATE CETEX® MC1322 (PEKK) AS4D CHOPPED MOLDING MATERIAL.  
CHIP SIZE IS 1/16" X 1/2" (1.6 MM X 12.7MM)

Properties	Condition	Method	Results	
Flexural Strength	RTD	ASTM D 6272	79 ksi	541 MPa
Flexural Modulus	RTD	ASTM D 6272	5.6 Msi	38.8 Gpa
Open Hole Tension Strength	RTD	ASTM D 5766	42 ksi	291 Mpa
Open Hole Tension Modulus	RTD	ASTM D 5766	6.8 Msi	47 Gpa
Open Hole Compression Strength	RTD	ASTM D 6484	39 ksi	268 Mpa
Open Hole Compression Modulus	RTD	ASTM D 6484	5.5 Msi	37.7 Gpa
Bearing Strength	RTD	ASTM D 5961	119 ksi	820 Mpa

### TYPICAL CONSOLIDATION PARAMETERS: TENCATE CETEX® MC1322 PEKK

#### 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 6 to 1)
4. Heat mold or material to a minimum of 380°C (715°F).
5. Apply one or more "debulk" pressure cycles as required (optional step).  
Apply pressure to 500 psi (34 bar), release, repeat as necessary.
6. Consolidation Cycle: Pressurize to 500-1000 psi (34-68 bar). Hold until all material has reached a minimum temperature of 380°C (715°F) for 0-2 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 162°C (324°F).

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.

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