



PRODUCT INFORMATION

OC® ME 3021 MULTI-END CONTINUOUS ROVING

MULTI-END CONTINUOUS ROVING FOR SPRAY-UP PROCESSES

PRODUCT INTRODUCTION



OC® ME 3021 Multi-End Continuous Roving is designed for excellent performance in spray-up operations using standard or filled resin systems. This includes marine, tub/shower, septic tank, heavy truck, and utility box applications. *OC ME 3021* is produced using Owens Corning

Advantex® glass fiber reinforcements. *Advantex* glass fiber reinforcements combine the electrical and mechanical properties of traditional E glass with the acid resistance of E-CR glass. *Advantex* glass fiber reinforcements meet the following glass standards: ASTM D578, DIN 1259, & ISO 2078. Processability and production characteristics of *Advantex* glass fiber reinforcements are comparable to traditional E glass and E-CR glass formulations. *OC Multi-End Continuous Roving* doffs are square-edged, cylindrical packages that are firmly and evenly wound and have a

constant traverse length. The packages are designed to provide a smooth run out, and their geometry is controlled to maintain the desired run out performance.

PRODUCT DESCRIPTION

OC ME 3021 is manufactured with state of the art equipment and innovative chemistry. *OC ME 3021* is manufactured following a quality management system that has been certified to meet ISO 9002 standards. *OC ME 3021* is produced from a collection of continuous glass filaments, gathered without mechanical twist, into a single bundle. The filaments, which make up the bundle, are bonded together with a high performance polyester and vinyl ester compatible size. Multiple bundles are then pulled together to form a strand. The strand is wound into a tubeless package that is ready for use in customer applications.

FEATURES

- Outstanding runnability
- Optimum dispersion and low static
- Excellent glass lay down
- Wetting properties

BENEFITS

- The Owens Corning product design, coupled with state-of-the-art manufacturing processes, translate into packages that run with minimal interruptions. The Tack-Pak® packaging allows the product to run out fully meaning uninterrupted transfers from package to package. This results in few spray-up gun stops and improvements in productivity
- *OC ME 3021* requires minimum force for cutting strands cleanly, resulting in even, flat dispersion characteristics that help eliminate clumping. Low static helps ensure maximum gun operator comfort and safety in the workplace
- *OC ME 3021* is designed to spray onto a mold with minimal fluffing and virtually no haystacking. This good lay-down characteristic makes it easier for gun operators to estimate laminate thickness during the spray-up process. Better lay-down reduces time for roll out as well.
- *OC ME 3021* is designed as a fast wetting product. The fast wetting characteristics will decrease the time needed to roll and achieve a consolidated matrix.
- Fast wetting enhances part production time, which increases productivity and enhancing your competitive position in the market place. In addition, less pre-wetting and post-wetting are needed, resulting in less sliding of the matrix when sprayed on vertical surfaces.
- Faster wet through and wet out may allow for slightly higher glass contents, potentially reducing resin costs.
- *OC ME 3021* may appear wetter than it actually is prior to roll out. Glass to resin ratio should always be calibrated before making any adjustments.
- *OC ME 3021* is suitable when working with lower styrene resin systems.

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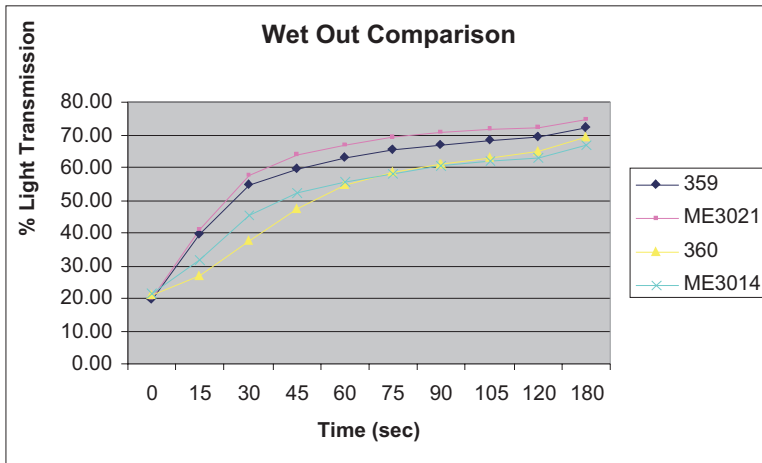
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FEATURES (CONT.)

- Superior air release
- Excellent Conformability

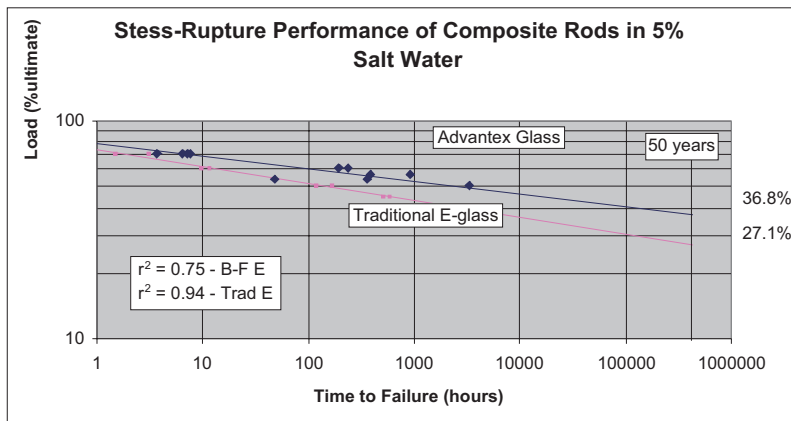
BENEFITS (CONT.)

- The combination of OC ME 3021 chemistry and strand geometry results in a product that releases air easily, improving laminate quality and reducing part fabrication time.
- OC ME 3021 chemistry and construction is designed for superior conformability



The above graph was generated using an internal Owens Corning customer mimic. This test is strictly comparative, and shows relative wet out differences between products. All products shown are Owens Corning products, and the information is to aid in finding the best product for the customer's process. Test equipment specified under ASTM

D-1494, test method for diffuse light, is used for the mimic. A glass preform of a given weight is placed over the light sensor, and measured amount of AOC E701 resin is poured onto the preform. Percent light transmission readings are taken every 15 seconds up to 120 seconds, and then a final reading is taken at 180 seconds.



Long-term durability in demanding operating conditions is one of the key features that defines the value of composite materials. To improve the understanding of long-term performance and provide a basis for structural design, stress-rupture tests were conducted on 0.25-inch (6.4-mm) diameter pultruded rods. Exposing the test coupons

to air, salt water, acid and cement extract while under load assessed the effect of environment on performance. Environmental stress rupture performance was evaluated for two sets of pultruded rod samples made with isothphthalic polyester resin: one set made with traditional boro-silicate E-glass reinforcements and the second set

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using boron-free, lower air pollutant-emitting E-glass fiber reinforcements, also known as *Advantex* glass fiber reinforcements. Results indicate that environment does have a significant impact on performance, and composite

materials reinforced with the *Advantex* glass fiber reinforcements demonstrated superior long term performance to composite materials made with traditional E-glass reinforcements. ***

***As documented in the paper, Pultruded Composites Durability – a Key Value., By Mark Greenwood, Composites 2001 Convention and Trade Show, Composites Fabricators Association October 3-6, 2001, Tampa, FL USA,

COMBINED TYPICAL LAMINATE PROPERTIES

ME 3021 Roving in a General Purpose Polyester Resin @ 35.5% Glass Content, No Filler

PROPERTY	DRY RANGE, MP	DRY RANGE, PSI
Tensile Strength (ASTM D 638)	59 - 98	8490 - 14182
Tensile Modulus (ASTM D 638)	7542 - 14893	1094000 - 2160000
Flexural Strength (ASTM D 790)	166 - 307	24048 - 44510
Flexural Modulus (ASTM D 790)	6939 - 12065	1006000 - 1750000
	WET* RANGE, MPA	WET* RANGE, PSI
Tensile Strength (ASTM D 638)	58 - 94	8450 - 13699
Tensile Modulus (ASTM D 638)	5626 - 11562	816000 - 1677000
Flexural Strength (ASTM D 790)	132 - 259	9282 - 37586
Flexural Modulus (ASTM D 790)	6053 - 13217	878000 - 1917000

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PACKAGING

OC ME 3021 is available in a single end internal pull package. Each pallet contains four layers with 12 doffs per layer (48 per pallet). All pallets are stretch wrapped. OC ME 3021 is available in Creel-Pak® packaging, which is a shipping pallet consisting of two carton tubes. Each tube contains 24 packages, four doffs high and three doffs wide. Two sets of 12 roving packages in each cell are tied together to allow continuous running, minimizing down time required for package changes. Each of the two cells can be tied together easily, affording greater time saving in the continuous run-out of all of the roving balls.

Package Number 4093

Package Type	Tubeless
Package Height, cm (in)	26 (10.25)
Package Weight, kg (lb)	23 (50)
Package Diameter, cm (in)	30 (12)
Packages per Pallet	48
Packages per Layer	12

Available in four-end runout *Creel-Pak* or closed top carton.

Pallet Dimensions

Pallet Height, cm (in)	120 (47)
Pallet Length, cm (in)	95 (38)
Pallet Width, cm (in)	130 (51)
Number of Layers	4
Pallet Weight, kg (lb)	1088 (2400)

PRODUCT DATA

Identification Number	Yield (Nom. Yds/Lb)	Linear Density (Nom. Tex)
ME 3021-165	165	3000
ME 3021-207	207	2400

STORAGE

Unless otherwise specified, it is recommended to store glass fiber products in a cool, dry area. Temperature should not exceed 35°C (95°F) and the relative humidity should be kept below 75%. Glass roving products must remain in packaging material until just prior to use. If these conditions are respected, the glass fiber product should not undergo significant changes when stored for extended periods.

STACKING

To ensure safety and avoid damage to the product, skids should not be stacked more than two high.



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