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SIZICYL

Ref: **SIZICYL™ XC R2G –09 March 2009 V02**

SIZICYL™ XC R2G Product Data - Liquid Sizing Agent for Carbon and Glass Fibers

General information

Description

SIZICYL™ XC R2G is a liquid sizing agent containing Carbon Nanotubes for reinforcement fibers for composite applications. Specifically engineered to improve mechanical properties of the final composite structure, without affecting the viscosity of the resin used to impregnate the fiber (e.g. by resin infusion or RTM process), this formulation is designed according to industrial processings in order to bring an efficient answer to performance requirements in composite applications. SIZICYL™ XC R2G can be used to size fibers but also textiles before further impregnation by the resin matrix. SIZICYL™ XC R2G is compatible especially with glass and carbon fibers.

Applications: High performance composite parts

- Automotive (bumpers and other structural parts)
- Marine, especially sailing boats (structural outer shell in carbon fiber composite, masts and other generic structural parts)
- Industrial parts (rollers, doctor-blades and wind-mill blades)
- Sporting equipments (bike frames, hockey sticks, tennis rackets, skis and golf shafts)
- Aerospace (structural parts and interiors)

Advantages

- Versatile application
- Easy and ready to use
- Compatible with RTM and Infusion processes

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Suggested conditions of application

SIZICYL™ XC R2G solid content is 6,2 %. The suggested solid content on the surface of the fibers or the textile is 0,5%.

Liquor pickup of SIZICYL™ XC R2G has to be adjusted accordingly to process setup (full bath impregnation or Roller impregnation for the fibers) to achieve the suggested solid content.

To comply with viscosity and process requirements, SIZICYL™ XC R2G can be diluted with de ionized water.

Drying of SIZICYL™ XC R2G has to be done in the range of temperature between 150° and 175°C.

SIZICYL™ XC R2G can be applied as a first layer of sizing agent or as an oversizing on the fibers or textiles.

SIZICYL™ XC R2G is compatible with Carbon and glass fibers.

Examples of fibers surface and of properties of the cured composite

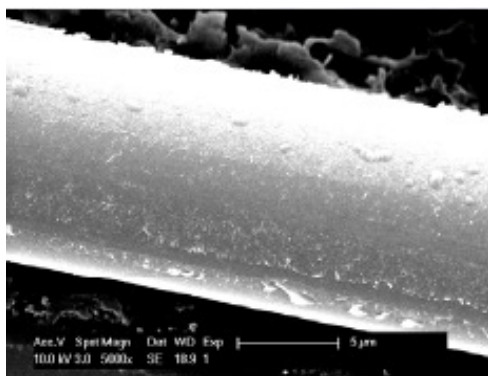


Fig1: TEM micrograph of a glass fiber sized with SIZICYL™ XC R2G formulation

Type of composite	Flexural strength (MPa)	GIC (J/m ²)
Virgin Glass Fiber /Epoxy Resin	1225.957	374.6141
Sized Glass Fiber with CNT/Epoxy Resin	1325.092	414.1454
Virgin Glass Fiber /Epoxy Resin charged with CNT	1286.459	467.2778
Sized Glass Fiber with CNT/Epoxy Resin charged with CNT	1350.56	474.375

Fig2 : Examples of performance difference achieved with the use of SIZICYL™ XC R2G on 550g/m², 600 tex glass fibers, fiber volume fraction 47%

Important

All information is believed to be accurate but is given without acceptance of liability. Users should make their own assessment of the suitability of any product for the purposes required.

For technical assistance, sales or further information, please contact us :

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