# BYK-C 8013

Solvent-free, polymeric coupling agent to increase the mechanical strength of carbon fiber-reinforced, radical-curing systems.

## Product Data

**Composition**
Solution of a copolymer with functional groups

Solvent-free

**Typical Properties**
The values indicated in this data sheet describe typical properties and do not constitute specification limits.

| | |
|---|---|
| Density (20 °C): | 1.10 g/ml |
| Refractive index: | 1.4667 |
| Non-volatile matter (10 min., 150 °C): | > 90 % |

**Food Contact Legal Status**
For the current food contact legal status, please contact our product safety department or visit www.byk.com for further information.

**Storage and Transportation**
To be stored and transported at a temperature below 40 °C.

**Special Note**
Any color change or darkening of the material has no impact on the effectiveness of the product.

## Applications

### Thermosets

**Special Features and Benefits**
BYK-C 8013 was specially developed for use in carbon fiber-reinforced, radical-curing systems. The additive results in improved mechanical properties of the final part through increased fiber-matrix bonding. The extent of the increase depends on the choice of the carbon fiber and matrix system.

**Recommended Use**
BYK-C 8013 is recommended for all carbon fiber-reinforced, radical-curing systems. In hot-curing methods in particular, such as SMC/BMC, pultrusion or RTM, the additive shows considerable increases in strength. BYK-C 8013 can be used with both vinyl ester- and epoxy-sized fibers. It is applicable in all radical-curing matrix resins. The additive can be applied as a second sizing to the fiber e.g. in a spraying process, without having to remove the first sizing. The storage period of the re-sized fiber is highly dependent upon the storage conditions and should be determined in a series of tests.

## Recommended Levels

| | |
|---|---|
| Addition to the size: | 1-10 % additive (as supplied) based upon the size. |
| Second sizing: | 3-10 % additive (as supplied) based upon the carbon fiber. |
| Addition to the resin: | 1-10 % additive (as supplied) based upon the resin. |

The above recommended levels can be used for orientation. Optimal levels are determined through a series of laboratory tests.

## Incorporation and Processing Instructions

BYK-C 8013 can be added to either the size or the resin, although it should be added to the matrix system just before application. For the second sizing, the additive can be applied in the spraying process.

## Special Note

When adding to the resin, BYK-C 8013 can influence the reactivity of the matrix system and must therefore be checked before use.



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