

New sizing compositions for glass fibres

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Standard sizing composition for glass fibres contains different resin emulsions (epoxy, polyester, and polyamides, one or more coupling agents, a cationic lubricant, and an acid. Optionally, the sizing composition may also contain non-ionic lubricants, polyurethane film formers, and/or antistatic agents. The sizing composition may be used to size glass fibers used in filament winding applications to form reinforced composite articles.

The present document describes new sizing compositions for glass fibres and glass fibres reinforced epoxy and polyester resins. The new sizing composition comprises the original rheological additives and allows to change and to control the fluid behaviour during fibres drawing. We investigated the rheological behaviour of complex systems and the interphase between fibres and polymers. The improved mechanical properties, wet tensile properties, improved resistance to cracking, and improved processing characteristics are presented.