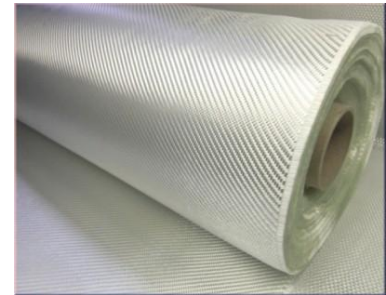


Glass filament fabric silanes or finish

Differences – Advantages – Disadvantages

Glass filament fabrics are provided with a textile coating during production to protect the yarn during the processing process. This coating consists of starch and oils and counteracts adhesion between fibre and resin.



In order to achieve good adhesion, the textile sizing is removed from fabrics and the fabric is then coated with an adhesion promoter (**finish**).

The adhesion promoters are usually modified silanes that have been adapted to the matrix material. The processing properties of the fabrics, such as drapability and impregnation behaviour, are further significantly improved in a second finishing process.

A compromise between textile coating and finish is the silane coating. The thread is provided with a coating that contains adhesion-promoting **silane** as well as lubricants and lubricants as processing aids. The properties in the textile processes (e.g. during weaving) are worse than those of textile coating, but there is no need for post-weaving treatment.

Silane is more cost-effective and universal. Silane is a special sizing that is not washed out after weaving, as it remains in the fabric as an adhesion promoter. Fabric with silane coating is much more difficult to impregnate.

Finish is more special and therefore has better properties. The textile coating is washed out and the fabric is treated with an adhesion promoter. Finish is easier to soak and drape better. Finished fabrics are softer and smoother. When laminating, the impregnation is better and the impregnation speed is significantly higher. The adhesion of the resin to the fabric is better, which increases the shear strength and tensile strength. This increases the life of the laminate under load.

Conclusion:

When I laminate a simple container I use silane (inexpensive), for aircraft repairs and model making finish.

Fiberglass mats for comparison Textile glass mats for hand lamination are created by irregular layers of cut glass spun threads. They are glued together by a binder that dissolves in the styrene of the polyester or vinyl ester resin, so that the fibers float freely in the resin. In other resins (EP), the mat remains completely rigid.

