

Development of application-oriented coating for textile materials using wet chemistry

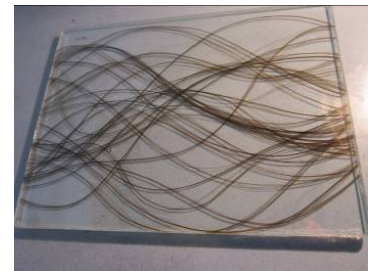
Transfer offering

Textile materials such as threads, fabrics and the like are equipped with various auxiliaries due to the requirements in their manufacturing process. These inevitably existing surface coatings are not always suitable for the later application. In particular, deficits occur in the production of composite materials which require a strong adhesive bond to other materials, which may lead to a hasty non-use.



Approach

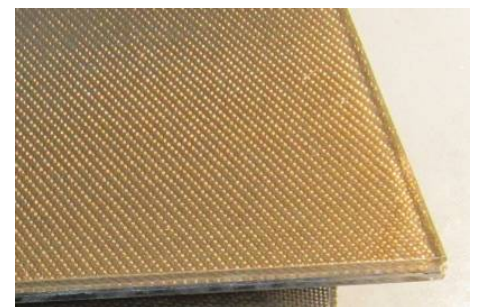
The creation of process- and application-optimized surfaces on textiles by using wet-chemical methods, which can be carried out as a supplement or in combination with physical methods (atmospheric pressure plasma, flame treatment), enable the removal of disturbing textile auxiliaries as well as a new finishing with suitable substances, such as polymers or adhesion promoters.



ZIM Cooperation project with Lohnitz glas + spiegel KG: ZF 40286067TA5 "Bonding layers and active edge seals for basalt fibre composite optical components"

Advantages

- **Creation of adhesive bonds between textile and composite material**
- **no penetration of moisture via the edge gap**
- **textile optics is preserved and enables new decorative effects in combination with transparent materials**
- **special effects are achieved with textiles made of gold-coloured basalt yarns reached**



Development status and property rights

The fabrics fixed by means of frames are cleaned with aqueous solutions or organic substances and then recoated. In the vacuum lamination process using EVA composite film, the new coating ensures good positioning between the glass plates and prevents the displacement of fabric threads or meshes. The brilliant fabric appearance is retained. The simultaneous application of a hydrophobing agent allows the water absorption to be pushed back over the edge gap. The tests are currently being carried out on a laboratory scale. An industrial-scale transfer is aimed at.