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Bundesverband Flachglas

BF Information on subsequently affixed films

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Subsequently affixed films

Insulating glass manufacturers are repeatedly asked about what consequences subsequent affixing of films has on insulating glass. This is why we are now providing some information on this topic.*

Effect

Films are attached to insulating glass to change the following properties, for example:

- Decor
- Visual screening
- Solar control
- Splinter protection
- Thermal insulation
- Bird protection
- Burglar resistance

Absorption

The absorption of sunlight by the pane can be increased by affixing a film. What that means is increased heating up of this pane and of the entire insulating glass unit. The results are greater thermal stresses on the glass and on the insulating glass edge seal, plus an increase in all phenomena associated with the "insulating glass effect", such as distorted reflections in large panes.

* Similar problems to those described here can result from, for example, daubing with finger paints.

Thermal fracture risk

Additional heating up causes higher tensile stresses, which increase the glass fracture risk. This is particularly high in the case of unfavourable pane formats, partial shading of the insulating glass or films not applied over the full surface.
If a fracture is triggered by the increased thermal stress caused by the film, this can generally be verified by an analysis of the fracture's origin.

Useful life

The higher stresses on the insulating glass edge seal in particular can also shorten the useful life of the insulating glass.

Glass dimensioning

The additional stresses mentioned under the heading of "Absorption" must be taken into account when dimensioning insulating glass units. If films are to be affixed subsequently, dimensioning of the glass must be repeated new in accordance with DIN 18008 and take into account the increased absorption. If correct structural verification is not possible, the use of such films is not advisable.

Compatibility

It must be ensured that the film is chemically compatible with the sealants of the insulating glass edge seal, of the window frame and the coating of this window frame, to prevent any harmful interactions of organic materials.

Warranty

If the properties of insulating glass products are altered by the affixing of films, then the manufacturer of the insulating glass shall be in no way liable for resultant problems or damage.

Costs

When calculating the costs, not only the difference in investment costs between film application and glass replacement should be studied, but also the regular running costs and the durability of the film.

Further aspects

- Subsequently affixed films alter the glass properties (e.g. safe fracture behaviour of toughened safety glass)
- Subsequent affixing of films to toughened safety glass with alarm function (alarm web) impairs its operation and leads to the loss of VdS approval.
- As regards the aesthetic effect, possible shrinkage of the film, bubbling and creasing as well as a possible drop in adhesive are possible.

Films are organic products that are substantially more sensitive to scratching than inorganic glass. In addition, organic products are prone to greater electrostatic charging, which attracts dust. These aspects must be borne in mind during upkeep and care. Incorrect cleaning (contrary to the processing guidelines of the film manufacturer) can for example lead to the film peeling off.

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