

Information for customers on glazing – liability for defects

During the manufacturing process, there are a number of procedures that influence the physical properties of the glass, as well as inevitable – mostly natural – physical effects. Due to their unavoidable nature, these effects are not covered by the liability for defects and do not constitute grounds for complaints or returns. Our glass is assessed in diffuse daylight (clouded sky) without direct sunlight.

1. Prints from glass suction equipment

Since panes of glass can be very heavy, it is necessary for us to use lifting equipment during both the manufacturing and the installation process. The suction cups on this equipment can leave prints on the surface of the glass.

2. “Roller waves”

Due to the thermal pre-tensioning process used in the production of toughened safety glass (TSG), the prints of the transport rollers (known as “roller waves”) may leave prints on the glass that impair its appearance. This is rare, but unavoidable.

3. Optical interference

Double glazing made using float or composite glass can be subject to optical interference in the form of spectral colours. This interference is an unavoidable result of how light waves interact when viewed from a certain angle.

4. Anisotropy

Anisotropy is a physical effect experienced in thermally treated types of glass such as toughened safety glass (TSG). It is the result of the distribution of tension in the glazing, which is never completely even. Depending on the angle from which you look at the glass, you may seem to see dark rings in it – or lines under polarising light.

5. Variation in the wettability of glass surfaces

Wettability can differ from one glass surface to the next due to factors such as contact with transport rollers, labels, vacuum suction equipment and sealant residue. These variations in wettability may become visible if the surface of the glass becomes wet due to condensation, rain or cleaning water.

6. Spontaneous breakages in toughened safety glass (ESG)

Due to the changes in structure that occur during the toughened safety glass (TSG) manufacturing process, nickel-sulphide inclusions may occur in the glass. These can lead to unexpected, spontaneous breakage of the glass. An additional thermal procedure known as the heat soak test is used to turn the glass into TSG-H, thus reducing the risk of spontaneous breakage.

7. The double-glazing effect

The volumes of air and gas trapped in double glazing can cause concave or convex bulging in the individual panes of glass if the ambient air pressure changes. Due to differences in the refractive properties of the glass, this can lead to a distorted optical effect.

8. Double glazing with pressure compensation valves

If there is a large difference in altitude between the location where the glass was manufactured and where the finished product is installed, pressure compensation valves can be installed in the composite structure around the edges of the panes to reduce the physical load on multi-glazed glass. In spite of this, there is still a risk of the panes touching or the glass breaking due to the natural atmospheric air pressure. Since it is impossible to guarantee that no moisture gets into the pane space through the open valve during installation, we recommend taking out special glass insurance.

9. Condensation on the outside of thermal insulation double glazing

Low surface temperatures on the exterior pane of glass can cause condensation to form on it. This is the result of the high reflective capabilities of thermally insulated glass and the measures taken to ensure that the element provides effective thermal insulation overall.

10. TSG and HSG glass types – susceptibility to scratching

TSG and laminated glass combinations made using partially pre-tensioned glass (HSG) must be cleaned with the utmost care, as they can scratch easily. This is due to the compressive stress generated during the pre-tensioning process that makes up part of the manufacturing process. Cleaning these types of glass using mechanical methods can cause tiny particles of glass to break off and spread as the cleaning tool is moved across the glass, leaving visible scratches that impair the appearance of the glass. As such, the type of dirt found on the glass must be assessed before cleaning begins and, if necessary, the glass should be pre-cleaned thoroughly using generous quantities of water to rinse off dust and similar dirt particles. Never use glass scrapers to clean these types of glass! The recommendations listed above also apply to glass surfaces that have a water or dirt-resistant coating for “self-cleaning” purposes. Never use cleaning agents that contain emulsifiers on these types of glass, as these can weaken or even completely nullify the effects of the self-cleaning.