ANNEX No 2
16-07-2019
Version No 2

INSULATING GLASS UNITS TRANSPORTATION, STORAGE, INSTALLATION AND MAINTENANCE RULES

TRANSPORTATION AND WAREHOUSING:

1. Insulating glass units shall be transported and stored in vertical position on special designed racks with rubber pads with inclination angle of 5-6°, covered with protective transparent or white film. White film protects insulating glass units against UV rays and risk of thermal breakage, but transparent film not.
2. Insulating glass units shall be transported and stored so that all glass panes would rest based on the rack pads.
3. Before transportation, it is necessary to check tension of packaging bands.
4. During transportation and storage, insulating glass units cannot go into direct contact to each other; Distance spacers shall be placed between them.
5. Stored insulating glass units shall be protected against direct sunlight and shall not be affected by atmospheric precipitation, relative humidity level cannot exceed 50 %, and temperature has to be within the interval of -10 °C to +45 °C.
6. 20 cm gaps should be left between racks for ventilation purposes.
7. It is necessary to loosen packaging bands for cases of long-term storage. (Long-term storage – it is storage for more than 7 calendar days).

INSTALLATION:

1. Installation of insulating glass units shall be carried out according to requirements and recommendations of standards EN 1279-5 (Annex C), EN 12488, EN 13022-1 and EN 15434 in force.
2. Prior to installation, insulating glass unit edges should be thoroughly inspected for cracks and shells that are not allowed in accordance with Annex No 2; furthermore, surface and edges shall be well cleaned.
3. It is not allowed to cut, damage, or otherwise process sealant zone of the insulating glass unit, as it may have influence on insulating properties of the glass unit.
4. Insulating glass units shall be carried over in vertical position, protecting corners and edges against damages. It is not allowed to place insulating glass units on corners or edges, or to be placed on hard surface.
5. Installation of insulating glass units is carried out using vacuum suction cups, while in case of large dimensions – using hanging vacuum suction devices.
6. It is recommended to carry installation of glazing units in temperatures above -15 °C.
7. No deformation of insulating glass units is allowed during installation. Glazing bead shall not over compress the insulating glass unit.
8. During installation and finishing works insulating glass units shall be protected from mechanical, thermal damage and dirt.
9. During sloping and horizontal glazing, sealing between the insulating glass unit and/or frame has to be carried out immediately after installation by using chemically compatible materials in order to humidity not to collect around the sealant of the insulating glass unit.

OPERATION:

1. Installed insulating glass units can be used in temperatures from -60 °C to +60 °C. Relative air humidity should not exceed 80 %. Except fire-resistant glass can be used in temperatures from -10 °C to +45 °C.
2. Risk of thermal breakage: glass thermal breakage is caused by thermal differences along glass pane. Critical temperature difference for float not toughened glass within thickness of up to ≤ 12 mm is ~35 °C. All circumstances and factors, which increase this difference also increase the possibility of thermal breakage. Toughened glass can withstand difference of ~200 °C. Due to this reason, natural thermal breakage of toughened glass is practically impossible. If it is impossible to eliminate factors which increase risk of thermal breakage, it is recommended to use toughened glass.
3. Insulating glass units shall be protected against flying hot metal particles during welding or metalworking.

4. Installed insulating glass units cannot be tinted using adhesive films or painted with paints without consultation with insulating glass unit manufacturer.
5. It is not allowed to direct air conditioner hot or cold air flow towards the non-toughened insulating glass unit. Furthermore, it is not recommended to install artificial heat or light sources nearby the insulating glass unit.

TRANSPORTATION AND STORAGE OF INSULATING GLASS UNITS WITH INCORPORETED BLINDS

1. For transporting the insulating glass units with the blind incorporated, within the factory or on route to the site, the units must be positioned vertically, with the blind at the bottom of the unit. Only where the size of the glass panes is greater than the permitted shipment height can the unit be laid on its longest side, however in all cases the slats or the fabric must be packed (fully raised), to avoid damaging them. It is NOT ALLOWED to transport glass units with blinds at the top (Fig. 1).
2. Blinds with system controlled by an internal motor must be handled with the blind in "Transport mode", which can be done by computer transition system for blinds.
3. In case of units with low-emissivity glass, place the non-coated glass towards the rack in order to prevent damage to the coating on the inner side.
4. Tilting-only blinds must be transported with the head rail of the blind at the top, and with the slats in the open position, in order to avoid the blind collapsing (Fig. 2).

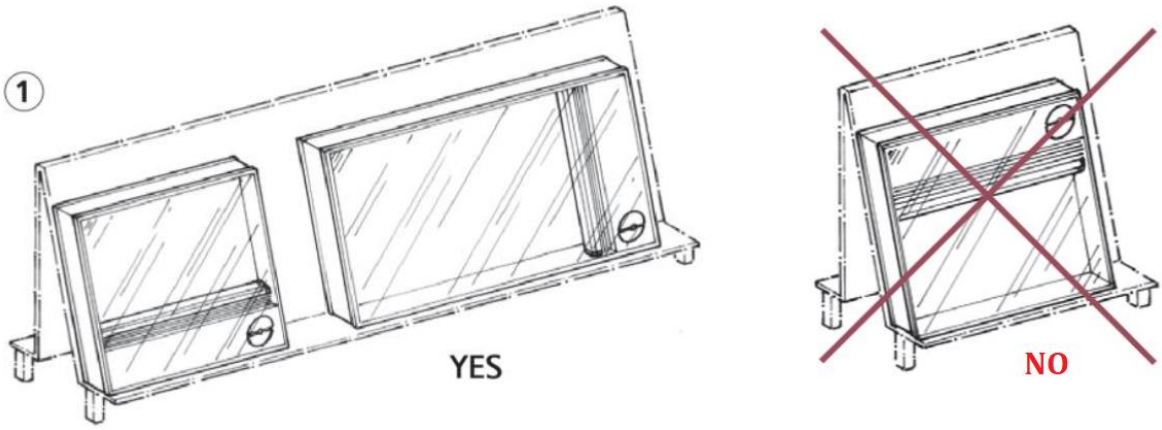

Fig. 1. Positioning of blinds during transportation

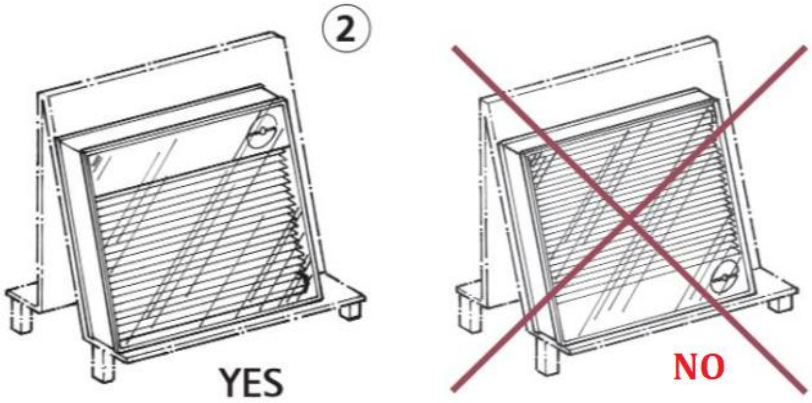

Fig. 2. Positioning of the head rail of tilting-ONLY blinds during transportation

5. Insulating glass units with incorporated blinds are stored as standard units: protected from dust, humidity, direct sunlight and effect of atmospheric precipitation. Distance spacers should be placed between them.

6. Avoid keeping the blind packed (fully raised) for long periods of time. Although blinds with system controlled by an internal motor should be transported in Transportation mode, they should not remain in this position for more than two weeks.

*INSULATING GLASS UNITS CLEANING AND MAITENANCE**

Direct customer is considered responsible for washing of installed glass units or glass panes and for removal of labels by using mild glass-cleaning products. Glass units without external coating may be washed by using warm water and domestic glass cleaners. It is not allowed to wash glass panes with solvents or detergents that are made based on strong acids or alkalis (or other corrosive substances, e.g., hydrofluoric acid):

1. Rinse with clean water thoroughly to remove as much dust as possible. ('Soft' water is best for cleaning glass);
2. Apply detergent by using a soft clean cloth or sponge and gently remove the dirt;
3. Rinse with water and clean with clean and dry cloth or disposable paper towels;
4. Avoid contact with all abrasive detergents or sharp objects including razors, scrapers, and other tools that could damage the glass pane surface;
5. Residue of stubborn fat, labels, cork spacers can be removed by corresponding solvents (methanol, acetone, or cleaning product) and immediate rinsed thoroughly with water;
6. Avoid direct sunlight while washing;
7. Above mentioned points also apply to glass which reduce external condensation (e.g., SGG Viewclear, ClimaGuard® Dry, etc.).

Instruction for cleaning and maintenance of glass units with low-maintenance glass panes:

1. Carefully remove a label with a logo from low-maintenance glass pane, if any;
2. It is not allowed to use razors, scrapers, or other abrasive materials/tools, that could damage the glass coating;
3. Cleaning for the first time: wait at least a week before cleaning the product for the first time to ensure all sealants used in its installation are fully set;
4. Start with a rinse or hose-down with clean water and continue, when necessary, with a normal maintenance routine;
5. During normal cleaning routine use only a soft, clean lint-free cloth or chamois leather, a clean, soft non-abrasive sponge or a clean, non-metal window squeegee. All equipment must be kept clean. This is to prevent any dirt or abrasive particles transferring from the equipment back onto the glass which may scratch or damage the coating;
6. 'Soft' water is best for cleaning glass. Neutral window cleaners can also be used;
7. For the removal of stubborn marks white vinegar can be used. Always ensure that the vinegar does not come into contact with the frame and that it is washed off the glass after application. Vinegar is not to be used as a regular cleaning method;
8. NOT ALLOWED TO USE:
    - Any glass treatment products containing silicones;
    - Any glass treatment products containing abrasive particles;
    - Any commercial cleaning products which are intended specifically for cleaning elements other than glass;
    - Chemical products: soda, bleach, washing powder, white spirit etc.;
    - Never attempt to clean off a specific mark on the coating surface without applying water first.

*Currently on the market available low-maintenance glass products – SGG Bioclean, Activ™ Clear, anti-condensation glass products - SGG Viewclear, ClimaGuard®Dry.

Direct buyer confirms that is aware of Annexes No 2, 3 and 5 and undertakes liability regarding transfer of information provided herein to the third party.

Annexes can be found on official manufacturer's website on address http://www.glasslt.com/

Document is prepared in accordance with the European standard applied to insulating glass units (EN 1279) and other standards regarding to glass in building products. Manufacturer reserves the right to improve and complement this document.