

GUIDELINE  
FOR  
STADIP®  
STADIP® PROTECT  
STADIP® SILENCE  
And STADIP® MIRROR

Document code	Date
SGG-QD-C-GUI-0012-C	06/2023

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## 1. GENERAL

### 1.1. PRODUCT DESCRIPTION

Laminated safety and security glass, STADIP® or STADIP® PROTECT, comprises two or more sheets of glass bonded together with one or more interlayers of polyvinyl butyral (PVB) film.

STADIP® glass incorporates a single PVB sheet with a nominal thickness of 0.38 mm, distinguishing it from STADIP® PROTECT glass which has a minimum thickness of 0.76 mm. Laminated glasses with different levels of safety and security can be obtained by varying the number and/or thickness of each of the components.

STADIP® SILENCE is an acoustic laminated safety glass, consisting of two or more sheets of glass bonded together by one or more acoustic Polyvinyl Butyral interlayers

STADIP® MIRROR is a mirror laminated safety glass, consisting of two or more sheets of glass bonded together by one or more structural Polyvinyl Butyral interlayers.

In case of use of extra clear glass DIAMANT® for the STADIP®, the name will be STADIP® DIAMANT. It is the same in case of use of low carbon footprint ORAÉ®, the name of the laminated product will be STADIP® ORAÉ.

### 1.2. THICKNESS AND DIMENSIONS

Product	Thickness product								Qty of interlayers				Standard dimension
	22.x	33.x	44.x	55.x	66.x	88.x	1010.x	1212.x	.1	.2	.4	.6	
STADIP®													6000 x 3210
STADIP® PROTECT													
STADIP® SILENCE													
STADIP® MIRROR													Contact commercial team

For the coating laminated glass, all the thickness product (without 1212.X) and quantity of interlayers are available except for STADIP® BUILDER version. For 1212.x with coating ask to your commercial team

### 1.3. CE MARKING

STADIP® / STADIP® PROTECT / STADIP® SILENCE / STADIP® BUILDER comply with the EN 14449'' Glass in building - Laminated glass and laminated safety glass - Evaluation of conformity/Product standard''. These products receive the CE-Marking.

The Declaration Of Performance (DOP) of each product CE marked is available at the web site:

[www.saint-gobain-dop-glass.com/ce](http://www.saint-gobain-dop-glass.com/ce)

## **1.4. QUALITY CRITERIA FOR LAMINATED GLASS**

### **1.4.1. Definition of appearance defects**

The following definitions are given by the standard EN 12543-6

### **1.4.2. Conditions of observation**

The conditions of observation are given in the standard EN 12543-6. Please refer to it for details.

### **1.4.3. Acceptance criteria of laminated glass defects**

Without prior agreement between both parties, the standard EN 12543-6 will apply.

Note that the smashing of any laminated glass, break a glass in the dumpster is not a proof or a quality test showing good safety performances of the product. Only test according the standard EN 14449 can determine level of performance of safety of glass products.

## 2. TRANSPORT, RECEPTION, STORAGE AND HANDLING

### 2.1. TRANSPORT

- Float glass sheets are usually transported in 2.5 tonnes packs measuring 6000 mm x 3210 mm (jumbo or PLF sizes).
- Glass sheets must be transported vertically (at 3 – 7 degrees).
- During transport, violent and repeated shocks should be avoided.
- When handling with a manipulator, measures must be taken not to damage the pack.

### 2.2. RECEIPT OF THE DELIVERY

- Labels are never placed on the glass face.
- In case of packing (delivery for special application), the pack must be opened with care in order not to damage the glass sheet (contacts, scratches, breakage, etc.).
- All deliveries are identified with an identification label providing the following data:
  - Product name
  - CE Marking
  - Dimensions and thickness
  - Number of sheets
  - Net-weight
  - Date and time of production (laminated glass)
  - Bar code and batch number of the laminated glass
  - Bar code of the laminated glass backing sheet
  - CE marking information: in addition to the CE symbol, website address and CE product code are mentioned. By going on [www.saint-gobain-glass.com/ce](http://www.saint-gobain-glass.com/ce) then entering the product code and the production date, one can access to the CE product declaration of performances and characteristics related to the product (DOP document)
- In case of delivery with obvious disagreements detected at reception (water, breakages...), glass should not be unloaded and waybill (CRM) fully completed by customer and transport entities. A possible expert visit could be organized to define responsibilities.

### 2.3. STORAGE

All glass products will become stained if they are stored in humid conditions; the iridescence has the appearance of a "rainbow" or milky white coating on the surface of the glass.

The glass sheets have to be stored vertically (at 3 - 7 degrees) under the following conditions:

- In a dry, well-ventilated store, to prevent any condensation on the surface;
- Protected from rain and running water (e.g. any roof leaks must be rectified);
- Never outside or in the open air;
- Protected from wide changes in temperature and humidity.

If the laminated glass is coated, please do never transport the glass on the coated side. Else, the guidelines for the corresponding coated glass apply.

**A storage and processing temperature above 20°C will have a positive impact on cutting process** of laminated glass. For that reason, it is necessary to have a waiting time before to cut fresh delivery.

This waiting time between delivery and first cutting will let glass to recover a temperature above 20°C. Indeed, during transport, temperature in the pile could decrease a lot and could severe impact the cutting. In general, a waiting time of 24-hour minimum is necessary.

Laminated storage could impact next steps of the processing. **It is really important to have flat storage rack.** If support is inclined, or of different heights, or the support surface is worn on one side, stress is induced in the glass which can induced higher glass breakage at cutting. For that reason, it is recommended to store at reception laminated glass on flat support and use carton interlayer in enough quantity. Pay attention to possible humid spacer that could crash at one position generating one local bow and so stress in the laminated glass.

**Shelf life of STADIP® is two years** if condition of storage described above are respected.

## 2.4. CUTTING

Basic cutting recommendations could be done with possible focus below:

- Cutting oil in enough quantity
- Adapted wheel for corresponding laminated thickness and cutting speed with use recording
- Check of the cutting head and distance between the foil heater and the lower edge of the glass
- No offset between top and bottom cutting wheels
- Foil cutting blade in good state
- Not too long PVB heating to avoid edges delamination or thermal breakages
- No high deviation between top and bottom cutting pressure

Important point is that all components of the cutting table should be optimal. For that reason, a regular and preventive maintenance is necessary to avoid possible deviation and difficulties in cutting. Cutting supplier could provide frequency and list of point to take care.

Experience show nevertheless that important ones are:

- Level of the felt or table
- Level of suction cups
- Distribution of vacuum aspiration

First two ones generate local deformation that could induced inhomogeneity and difficulty in the cutting.

The cutting environment (dust, oil, splitters and interlayer powder accumulation) could decrease efficiency of suction cups. For that reason, a regular:

- Vacuum suction cups cleaning is mandatory (alcohol is prohibited)
- Checking of the return valves is also a good practice of failure anticipation.

Regular cutting settings change is an indicator of abnormal table condition deviation. **Reference values should be known** and not vary so much and should be adapted by product family (glass and PVB thicknesses).

To cut STADIP® MIRROR glass, same parameters as for STADIP® same thickness can be used.

## 2.5. HANDLING

The float glass sheets must be handled with dry, clean gloves.

In case you cannot avoid handling operations with vacuum cups, make sure that the vacuum cups are silicone free and perfectly clean.

## 2.6. EDGE WORKING

**Use of segmented wheels** is compulsory to grind all STADIP®.

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## 3. ENVIRONMENT / WASTE GLASS / HEALTH ISSUES

STADIP® can be recycled. Collection of substrates in what we call cullet is important for many reasons. **Collection should respect rules to get clean cullet possible to reuse in new glass production.**

Laminated glass must be separated to monolithic float in order to collect it and use it as new cullet. All type of STADIP® (protect, silence or mirror) could be mixed in same glass container.

Here is a not exhaustive list of cullet pollutant:

- Papers and cartons
- All metallic sources as aluminium spacer bar
- Pyro ceramic glass
- Borosilicate glass
- Bottle glass
- Georgian wired glass
- Cutting wheel metallic parts
- Glass marker and more generally all elements no nickel sulphite free
- ...

Please contact your local commercial team and technical support to have full details about rules of glass collection.

Edge working residues have to be continuously and completely collected during the grinding process. These residues must be further treated in compliance with national legislation about industrial wastes. In some legislation, residues from grinding process have to be treated as toxic waste.

As for any dust coming from the grinding process, any inhalation or skin contact of these residues must be avoided.

On request, a **Safety Use Instruction Sheet (SUIS)** relating to the ECDirective 91/155/EEC can be supplied.

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## 4. DISCLAIMER

SAINT-GOBAIN GLASS has taken every reasonable measure to ensure that the information contained in the present leaflet was exact at the time of its publication.

However, SAINT-GOBAIN GLASS keeps the right to modify or add any information without previous notice. SAINT-GOBAIN GLASS is not liable for the possible lack of information on STADIP® products that would not be contained in the present document.



No claim can be accepted for damages caused during and after processing due to a lack of adherence to these guidelines. Therefore, glass processor should ensure that the process is adapted for coated glass and that the quality control is relevant to detect any quality problem as soon as possible. In case of claim, samples will be required and a visit from a SGG representative may be requested.



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