MAGNETRON COATINGS*

PROCESSING GUIDE

ASIA EDITION

VERSION 5.0 – Dec 2023

* Stopray, StoprayT/ Planibel AS2/3

This version of the guide replaces and cancels all previous versions.

Your Dreams, Our Challenge

WARNING

Please read these processing guidelines through carefully before processing products of the types Stopray and Planibel AS.

Preliminary Important Instructions

- At each stage of the production process the personnel involved must wear the personal safety equipment required for the work, e.g. safety gloves, safety footwear and safety glasses.
- The personal safety equipment, along with auxiliary means, and all other materials that may come into contact with the coating must be tested beforehand with regard to their compatibility with this latter. AGC accepts no liability for any damages which may ensue from the use of non- approved materials or from materials incorrectly applied.
- In order to avoid damage to the coating the coated glass must be handled with great care.
- Wherever there is direct contact with the coating clean gloves of the authorized type must be worn. Fingermarks, or contaminated gloves, can cause corrosion of the coating.
- If despite all precautionary measures, fingermarks arise on the coating, they must be removed without delay using a clean, soft cloth.
- In the case where suction-cups are brought into contact with the coating there either must be used suction-cups approved for use with coated glass or protection caps must be used with the suction-cups. Please bear in mind, however, that the weight that can be handled by the suction-cups is reduced where they are used together with protection caps. Should you have any questions, please contact the suction-cup manufacturer.
- These coatings cannot be used as single-glazing.

Further recommendations regarding product specifications and processing are outlined and explained below. Should you have further questions or require support feel free to contact your AGC representative.

CONTENTS

1. Products

This Processing Guide covers the following groups of products:

- Products that cannot be heat-treated
- Products that must be heat-treated
- Products that can be heat-treated

1.1 Products that cannot be heat-treated

This group comprises the following products:

- Stopray

These products must be annealed. All of these coatings must face the outside surface of the laminate. They may not touch the interlayer.

1.2 Products that must be heat-treated

The following table contains products that must be heat treated. They are also called T-coatings. For each of them, there is a “twin” product that can only be used as annealed. Example: Heat-treated Stopray Vision-62T is similar to its annealed version Stopray Vision-62.

Products that must be heat-treated	Silk screening	Heat treatment	Hot curving heat-treated	Hot curving annealed	Lamination
Stopray T	CAN BE	MUST BE	CAN BE	CAN BE	CAN BE

1.3 Products that can be heat-treated

These products can be annealed or heat-treated. The advantage is that it is enough to keep only one product in stock.

Products that can be heat-treated	Single stock	Self-matchable *	Silk screening	Heat treatment	Hot curving heat-treated	Hot curving annealed	Lamination
Planibel AS 2/3		YES	CAN BE	CAN BE	CAN BE	CAN BE	CAN BE

* One product in stock. After thermal treatment, we obtain a similar visual appearance

2. Handling Within the factory

2.1 Unloading

The glass must undergo, immediately upon delivery, an incoming goods inspection. Any damage – even damage to the packing or the racks – is to be reported, without delay, to AGC. AGC accepts no liability for any damage which may occur after delivery, or during unloading, transport, storage, processing or installation, if the following instructions are not complied with:

- The rack must be placed upon an even, horizontal surface.
- All devices and equipment used in unloading must, without exception, be of an appropriate sort.
- The goods being unloaded must be grasped in such a way that they can be seized and lifted exactly at their midpoint.
- The protective packing must not be damaged during the unloading process.
- The glass must be stored on appropriate racks.
- All instructions given in the present processing guidelines must be strictly complied with.

General Remarks:

- All devices and equipment used to grasp or lift the goods must comply with existing regulations and must be approved by the competent institutions (for example *TÜV* (Technical Inspection Association); *Berufsgenossenschaft* (Occupational Health and Safety Agency)) or authorities.
- Safety of working conditions must be ensured at all times. Personnel not required for the actual unloading process should be kept clear of the unloading area. The personnel must have received appropriate training.

2.2 Storage

A storage performed in accordance with the applicable rules and regulations reduces the danger of the coated panes being damaged due to chemical or mechanical influences.
Levels of relative atmospheric humidity in the storage area must not exceed 70 %. The temperature must not fall below 15 °C. Generally speaking, large fluctuations in temperature and humidity are to be avoided, since these can lead to the building up of condensation on the glass. Such fluctuations can occur, for example, in the vicinity of hangar doors.

The glass must not come into contact with water, liquids or other corrosive materials. Possible sources of such materials include: thermal combustion engines, battery charging stations, or thawing salt strewn on the floor.

Factory racks are intended solely for transport, not for storage. Sheet stacks must be stored on storage

racks with spacers between the stacks. Care must be taken here to ensure that only stacks of the same size are stored on any single rack.

Insulating-glass units which are provided/stored with a view to their assembly at the site of installation must be stored at a dry, protected and well-ventilated location. The glass must not be stored either in a horizontal/lying position nor in the vicinity of any heat sources; nor must it be exposed to direct sunlight.

2.3 Storage and shelf life

The packing of the glazing units varies depending upon the place in which they are intended finally to be applied and the specific type of product. In the case of certain coatings and certain target markets the glazing units are equipped with protective film and with desiccants. In the case of packed goods, it should be ensured that, before the packing is opened, the glass has attained approximately the same temperature as the surrounding hangar space.

The indicated length of storage begins from the receipt of the goods by the client.

For non-taped stock sheet packs	→ 3 months
For taped stock sheet packs	→ 6 months
For cut-sizes	→ 4 weeks

The indications regarding length of storage apply only for so long as the glazing units remain in their original packing. Sheet glass are to be processed within three months of the packing being opened; the maximum storage length of six months must, however, not be exceeded thereby.

Final-cut sizes are to be processed within 24 hours of the packing being opened. Glass that has undergone, among other processes, grinding, drilling or thermal toughening is likewise to be processed into insulating glass units, laminated glass, or laminated safety glass within 24 hours.

2.4 Distancing of Coated Panes from Each Other

To avoid contact between the glass and the coating a distancing of the individual glazing units from one another is imperatively required.

Insofar as, after working, the original distancing medium is still present in sufficient quantities, no additional distancing needs to be applied. The danger exists here, however, that small glass splinters, which may be present on the glass surface as a result of the cutting-to-size of the panes, may cause scratching of the coating even in the course of transport within the company.

To avoid damage, glass edges – even already-worked glass edges – must never come into contact with the coating.

Damage to the coating layer may arise as a result of improper stacking. The drawing of coated panes out of a stack of these latter is to be avoided, as scratches and damage to the coating layer will tend necessarily to result therefrom.

We recommend using strips of corrugated cardboard or pH-neutral paper as intermediate layers, the full surface of which should be laid in between the panes. The paper or cardboard in question must be clean and dry and must remain so.
Alternatively, spacers made of cork or polymeric foam can be used. But since this type of distancing can leave lasting marks and impressions behind it, such cork or polymeric foam spacers should only be applied in the edge areas of the pane.
In the case where interlayers made of plastic / polyethylene foam are used, care should be taken to ensure that the temperature of the pane at the time of the application of the interlayer and during the entire duration of the storage period remains below 45°C.

2.5 Packing After Processing

In the case where the coated panes are not processed, within the same factory, into insulating glass units, thermally toughened glass, or laminated glass or laminated safety glass etc, the following packing recommendations are to be complied with:

- Polyethylene-foam spacers of at least 1 mm thickness must be laid in, in their full surface, between the individual panes. So that these spacers leave no marks on the coating it must be ensured that the temperature of the pane before the insertion of the interlayer and during the entire duration of the storage period remains below 45°C.
- The package of glazing units must be sealed watertight, for example by a plastic film. A desiccant is to be applied, with sufficient quantity, on the inner side of the packing. Ideally, this desiccant should be equipped with a humidity indicator.
- The package of glazing units must also be properly secured and fastened to the rack, so the panes cannot rub against one another or slip out of place.

3. Processing

3.1 Cutting to size

- The glass must be laid on the cutting table with coated side up so the coating does not come into contact with the table.
- The cutting oil used must be compatible with the coating, sufficiently volatile, and water-soluble.
- If the glass is cut manually using a template, this template must be positioned extremely carefully, and in a steady, stable way, so that it does not scratch the coating. AGC recommends that appropriate interlayers be placed as protection between template and coating.
- The glass cuts must be stored on racks, with the coated side of the first pane not resting directly on the rack. All further panes, or at least the last one, must be positioned conversely.

To prevent damage from corrosion the glass, once cut, should be processed within 24 hours.

Heat-treatable coated products should be heat-treated within 24 hours after cutting. Edge-working and cleaning should also occur within this space of time.

3.2 Edge Deletion

To create a functional insulating glass edge seal the coating in the edge area of the pane must be removed prior to the manufacture of the insulating glass unit.
The width to which the edge is stripped depends, among other factors, on the edge seal system used and on the form of application in windows and facades.
The edge deletion can be carried out either during the assembly of the insulating glass units or during the cutting. The glass-dust arising from the grinding must in any case be entirely removed. The quality of the edge deletion can be tested in the following manner:

- by placing an ohmmeter at the edge deleted area. If the ohmmeter does not react, it means the coating has been correctly removed;
- by visually inspecting the reflection image of the edge deleted area.

The grinding-down is carried out using appropriate grinding discs and other devices, whereby there must be considered, for each respective product class, the following process parameters among others:

- Rotational Speed
- Feed rate and
- Contact pressure

Since responsibility for the manufacture of the insulating glass edge seal lies with the processing party, we recommend a regular checking of the adhesion, both on the edge stripped area itself and on the surface of the float glass, of the secondary sealant used. Particular attention should be paid here to whether, within a single production run, all the different secondary sealants on all coatings which have been worked on using the same grinding disc display good adhesiveness.
The secondary sealant must meet the requirements of the standards applying in each case. If, in addition, the function of a structural sealant is also taken on, the requirements arising from further guidelines and standards may possibly need to be met as well.
For Structural Glazing there need particularly to be considered the currently valid fact sheets / application-recommendations of the sealant supplier.

3.3 Edge-Working and Drilling

The grinding tools used must be suitable for the working of coated glass.
It is essential to see to it that the glass is kept wet during the grinding process so that the grinding sludge does not dry on the glass.
The pH of the water used during the edge-working shall be between 6 and 8.
After grinding, the glass must be washed immediately.

If the glass is also drilled – which is also possible in the case of coated glass – the drilling tools and gripping mechanisms must be such as do not cause damage to glass or coating. Among other things, suitable protective materials for the machine are required.

3.4 Washing

The washing machine must be suitable for the processing of coated glazing units. The coated glass must be neither mechanically nor chemically damaged during the washing process.
A spraying unit should be installed just before the point in the process when the glass enters the washer, so that abrasive elements (residues of the working process) are removed from the coating, since these elements might otherwise, where they to come into contact with the washing brushes, scratch the coating. The spraying unit must be arranged in a way that there is a thorough rinsing of the coating before the washing process begins.

The washing process may not be interrupted while glass is still within the washer. AGC recommend that the proper functioning of the drying units (including the cleanliness of the air filters) be regularly checked. Once the panes have been cleaned, the pane surfaces must no longer display any impurities, deposits or damp spots. AGC furthermore recommends the use of an appropriate form of lighting to carry out a visual inspection after washing.

Any residues that may remain can then be carefully removed, using a mild cleaning agent and a soft cloth, exerting as little pressure as possible.

Suitable washing machines and a certain water quality are necessary in order to achieve residue-free cleaning.

Essential criteria for the washing machine are:

- The washing machine itself, including its pipe system, must be clean.
- Appropriate roller-brushes for the washing of the coated side, i.e. bristle diameter of ≤ 0.15 mm.
- Roller-brushes with larger bristle diameters in the pre-washing zone must be retractable.
- It is recommended that maintenance be carried out at regular intervals.

Essential criteria with regards to water quality are:

- Washing water conductivity: ≤ 30 µS/cm
- pH value: 6.0 – 8.0
- The water temperature in the heating tank should attain within 40 ± 5 °C and the temperature of water during the washing process is recommended to be more than 35 deg Celsius.
- To prevent the formation of algae, it is recommended that the water-pipes and tanks used should be opaque.

To ensure a constant water quality a water-purification system is necessary. The water-purification can be carried out by means either of a reverse osmosis system or an ion exchange system. Besides an appropriate water-purification, however, another important factor is the water supply, i.e. the supplying of the washer with “pure” water throughout the entire process and period of production. AGC recommends a continuous ongoing measurement of pH value, conductivity and temperature in all washing zones and a recording of the data measured. In addition to the defined water quality, care must also be taken to ensure that no parts of any equipment which come into contact with the coating are themselves soiled or dirty (e.g. adipic acid). If any additives are introduced into the washing water, these additives must be tested with a view to their compatibility with the products.

Heat-treatable coated products should be heat-treated within 12 hours after washing.

3.5 Enameling and Printing

Heat-treatable coated products are, in principle, suitable to be printed with ceramic paints or colours, provided that the following recommendations are complied with:

If the print is to reach right to the edge of the pane, the coating must first be edge deleted and the

adhesiveness of the sealant to the enamel / the paint must be verified.

Should it be the case that the coating cannot be edge deleted prior to the application of the paint, then the printing must be carried out in such a way that the coating can be trimmed away later.

Impurities on the coating can be removed using dry compressed air.

AGC recommends using bright coloured paints with sufficient energy reflectance.
Darker colours absorb relatively large amounts of thermal radiation and can, due to the high temperatures attained during the toughening process, damage the coating beneath the enamel / the paint.

In the case where one very small area of the pane is very heavily printed, it may come about that, under certain circumstances, the printed area of the glass will react differently, when cooling down, than the unprinted area. If this particular design is wished for, it is recommended that one carry out certain tests suitable for verifying the quality to be expected in advance.

The final result depends, in any case, on the type of furnace and its settings, the type of paint, and the particular image that one wishes to be printed on the glass. To avoid problems, tests must, in certain cases, be carried out beforehand. AGC is not liable for the result of this stage in the work.

Paint on the coating has an influence on the optical characteristics of the final glass product.

3.6 Thermal treatment

Coatings which must undergo thermal treatment process are designated with an additional letter “T”. In order to maintain their definitive luminous and solar characteristics, and in order to achieve the colour of coating intended, these heat-treatable coatings must indeed be thermally treated.

At the beginning of the heating process uncoated clear glass will tend to be deformed, in the furnace used for thermal treatment, into a concave shape. This is caused by differences in the rates of heating up between the different glass surfaces (the upper side of the glass generally displays a lower heating- up rate). In the case of coatings with low emissivity (so-called “Low-E coatings”) this deformation tends to occur in an even more marked form.

In a furnace of the pure “radiation furnace” type, the lower side of the glass is heated up by intake of heat via the rollers and by radiation (lower thermal stability). The upper side heats up more slowly, since it is equipped with a low-emissivity coating which, by definition, tends to reflect the radiation coming from the heating elements in the upper part of the furnace. The two glass surfaces, then, tend

to heat up at uneven rates, which leads, due to the difference in the rates of thermal expansion thereby arising, to the concave deformation of the glass (see Fig. [1]).
This phenomenon gives rise to blemishes in the glass or even to an optical distortion in the middle of the pane.

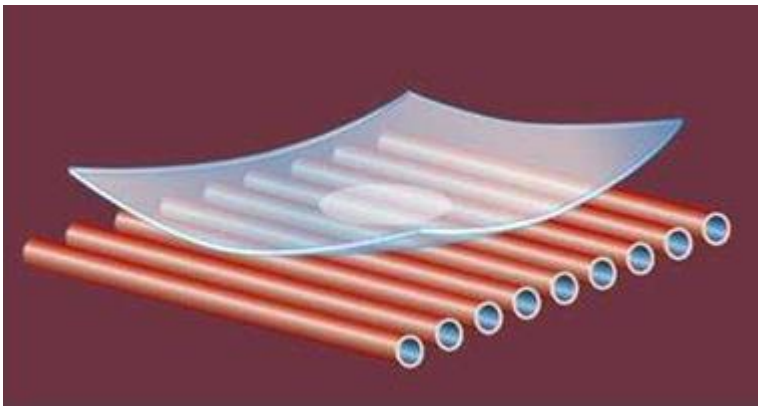


Fig. [1]: Concave deformation in the furnace

This problem can only be avoided through additional intake of heat on the upper side of the glass and thus an evenly balanced rate of thermal expansion. But a simple increase in the thermal radiation emitted from above is not enough to prevent a deformation, since the minimal emissivity of the coating will ensure that a large part of the radiated energy is still reflected. Increased heat from above would, moreover, also lead to overheating of the rollers, which would in turn aggravate more problems, specifically regarding “roller waves”. The solution lies in a better warming-up of the glass. An example of this would be the forcing of convection on the upper side of the glass. This involves guiding an airstream across the upper side of the pane whose temperature is higher than that of the glass itself. The air is guided inward via an external compressor, pre-heated within the furnace, and blown onto the upper side of the glass via pipes equipped with nozzles or other apertures (see Fig. [2]).

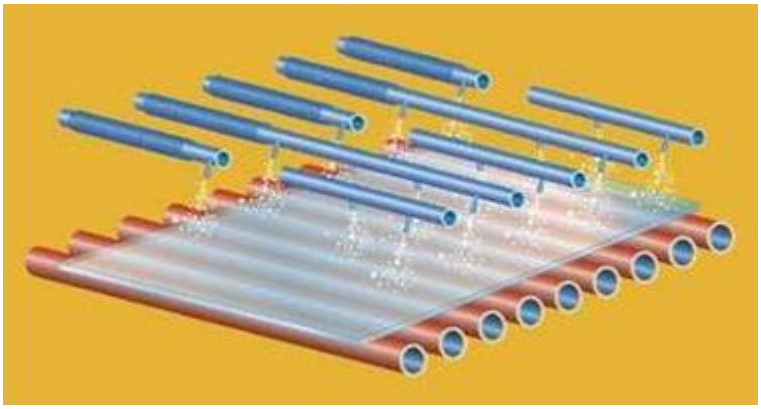


Fig. [2]: Hot air distribution on the upper side of the glass

A further possibility consists in guiding hot air out of the furnace and then back into it again (recirculation).

This additional supply of air to the upper side of the glass

- Significantly reduces the length of the heating process, which in turn increases the productivity of the production furnace, and
- Decreases the degree of deformation suffered by the glass during heat treatment.

It should also be noted that the heating times for coated glass units are considerably longer as compared to uncoated ones. The thermal treatment parameters should be adjusted according to furnace type, coating, glass type and glass thickness.

The thermal treatment of the glass should be carried out within 24 hours after cutting and within 12 hours after washing or otherwise worked on.

The glass must be positioned for heating with the coated side facing up.

Markings using ceramic paints can be made, prior to the thermal treatment, on the upper side of a pane provided with a heat-treatable coated product.

The use of SO_2 (Sulphur dioxide) for the lubricating of the furnace rollers during thermal treatment of coated glass units is not recommended, since SO_2 can cause silver corrosion and affect the appearance of the product. It should be noted that the halting of the supply of SO_2 does not mean an immediate drop in SO_2 concentrations in the furnace; these latter only decrease slowly over a long period of time. SO_2 supply, then, is to be cut off in good time, at least 24 hours before the start of thermal toughening. If SO_2 is still, even then, allowed to enter the furnace space, the processor allows this at his own risk.

Gas-heated furnaces can lead to an ageing of the coating. This manifests itself as a slight haziness on the upper covering layer of the coating, which varies in intensity depending on the composition of the gases used and which can be partially or entirely washed off.

Where the panes are intended for installation within a glazed building, care should be taken to ensure that all panes are facing the same way during the thermal treatment as they will be when they are actually installed. Always when it is possible, for roller wave reasons, the base of the glass on the façade shall be parallel to the furnace rollers.

Products that have undergone heat-strengthening display the same qualities as regards appearance and light and solar radiant heat factors as do products that have undergone full thermal toughening. Important notes: for heat-strengthened glass, it is possible to achieve the desired surface stress by combining the quench pressure profile and the heating time. Nevertheless, a too short heating time could lead to a colour inconsistency. That's the reason why AGC recommends, for heat-strengthened glass, not to go below 95 % of the thermal toughening heating time.

For very low-emissivity products, a much higher air pressure needs to be applied to the upper surface of the glass during the actual thermal treatment. This is due to the fact that the coated surface does not cool down through radiation whilst the lower surface does. This phenomenon is even more noticeable when the air pressure is low (very thick thermally toughened glass > 8 mm and heat-strengthened glass > 6 mm). A quench capable of producing highly asymmetrical air pressure flows is therefore required.

3.7 Heat Soak Test

Thermally toughened glass is at risk of spontaneous breakage due to nickel-sulphide inclusions. Such inclusions, however, in no case represent a material defect of the product. In order to reduce the risk of spontaneous breakage there can, or even must, be carried out an additional heat soak test in accordance with EN 14179-1 or some other equivalent guideline.

During said heat soak test, it must be ensured that the spacers employed do not leave, as a result of the panes' own weight, any impressions on the coated pane.

AGC highly recommends using electrical equipment for heat-treatable coatings. Gas-fired furnaces can be used, provided they are fitted with an heat-exchanger in order to avoid a direct contact between the combustion smokes and the coating.

3.8 Bending

This section only pertains to heat-treatable products.

3.8.1 Curved annealed glass (on a concave mould)

Only bending ovens with upper and lower heating elements and with a convection system are suitable.

All instructions regarding pre-processing (unloading, storage, cutting, shaping, washing and handling) must **be strictly followed**.

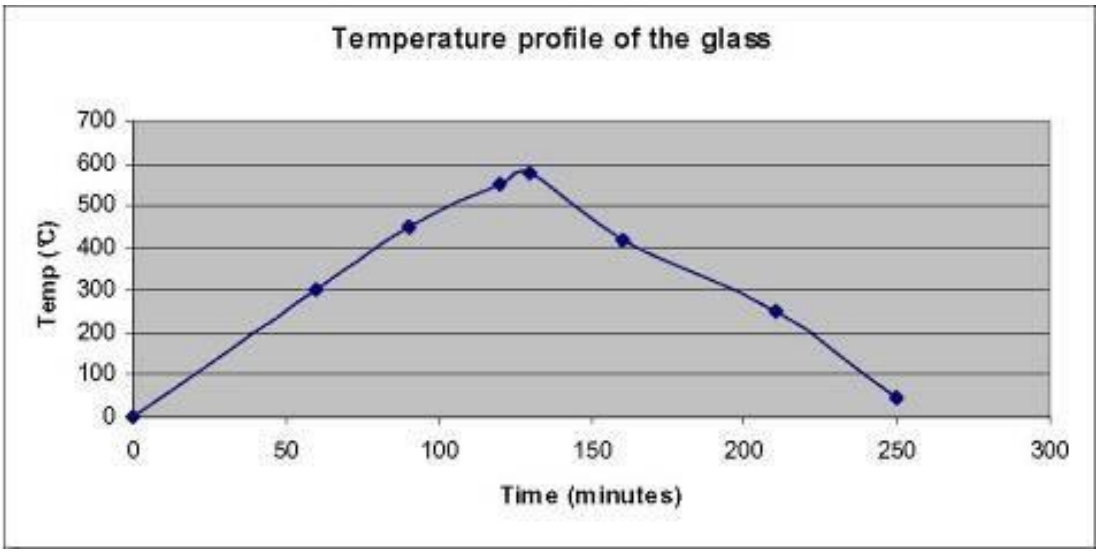
The glass panes should be shaped to a smooth ground edge.

- Place the product on the concave mould (coated surface facing upwards).
- Apply the appropriate packing powder (for instance: ESKAL 10 from KSL Staubtechnik GmbH).
- The powder will be spread without any medium, as uniformly as possible.
- Place a sheet of float glass on top, with the tin side facing upwards.

The same operation can be done with the float glass bottom and the coated glass on top, the heat-treatable coating facing downwards.

Heating/cooling parameters

- The temperature **must not exceed 580 °C.**
- The temperature must be adjusted so that the **upper surface of the glass** describes the following curve as closely as possible.



Note:

The final heating phase must be adjusted according to the position of the glass in the bending mould.

3.8.2 Curved heat-treated glass (on a concave mould). Oscillating furnace

Compared to the flat thermal treatment settings, the heating time shall be increased by 15 to 30 %. As the coating is facing upwards (opposite side of the rollers), it will be in compression, on the concave side of the glass.

3.9 Laminated Glass and Laminated Safety Glass

Coated glass can be processed both into laminated glass (LG) or into laminated safety glass (LSG). The coating, however, should not come into contact with the interlayer (e.g. PVB or SentryGlas), should said interlayer not be approved for this application.
In the case of double-glazed LG / LSG the coating should be positioned on Position 4, in the case of triple-glazed LG / LSG on Position 6 etc. The coating shall always be facing the IGU cavity.
Care should be taken that the rollers of the pre-nip presses do not damage or soil the coating. The pressure and the material of the rollers should be adjusted to the glass type and glass thickness, taking into account the mechanical resistance of the coating.

For the process carried out in the autoclave, the spacers between the glass panes must be mounted solely and exclusively at the glass edges (never in the middle of the panes).

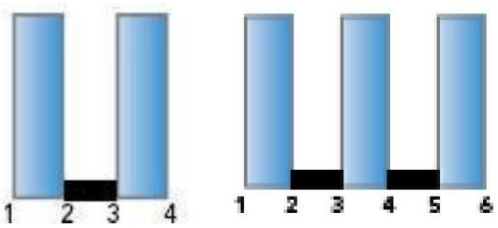
For autoclave-free or vacuum-based lamination processes, the glass processor should first ensure that the coating is not likely to be damaged thereby. There needs, above all, to be verified here the compatibility between the coating and the materials it comes into contact with.

When establishing the settings for the laminating process, the low emissivity of the coatings is to be considered.
Attention is also to be paid to the fact that the above-named parameters can vary depending on product, curve shape, radius, glass-type, glass-thickness etc. and must be adjusted correspondingly.

Furthermore, it should be noted that differences in colour can arise when, within a single object, coatings on the surfaces of Positions 2 and 4 are combined in laminated form or are applied together in both laminated and unlaminated forms. In this case a sampling is recommended.

3.10 Insulating Glass Unit

The coatings are designed to be assembled in insulating glass units with the following restrictions regarding the coatings positions:



For Stopray, StoprayT, the coating must be in position 2 in DGUs and TGUs.
For Planibel AS2 and Planibel AS3, the coating shall be in position 3 in DGUs. For TGUs, we recommend using these coating in position 2 and 5. For other multiple coatings configurations, please contact your local representative.

AGC strongly recommends the fabrication of mock-ups for the colour validation by the customer.

The glasses shall be assembled in insulated glazing within one week after the heat-treatment.
The coating(s) must be compatible with the sealing products used.

Care should be taken to ensure that, so far as possible, only the uncoated pane surface comes into contact with the rollers of the IGU line conveyors.

After the pressing process, as a general guideline, the amount of overlap between the coating and the butyl must not be more than 50% of the butyl width.

Interior or exterior panes, depending upon their different functions, should each bear respective identifying marks.
It is imperative that, before the glazing unit is installed, it is checked that the coating is facing in the proper direction, since, if this is not done, the technical properties and the optical impression made by the glass unit will deviate from those specified.

Quality control of the final product (insulating glass unit) comprises not only an exact compliance with the present instructions and stipulations regarding processing but also extremely careful checks and verifications to be carried out during each of the individual manufacturing steps and processes.

AGC recommends that there be used, at the end of each stage of working on and processing the glass, some appropriate form of illumination to visually check this latter and register, in good time, any such damage or defects as may possibly have arisen.

4. Identifying the Coated Surface

Several different procedures can be used to identify the coated surface.

- Reflection Test: a light source, for example a lighter, is held up in front of the coated pane so that its flame is reflected in the glass. If the flame appears clear and distinct in the first reflection and “blurry” or in a different colour in the second, the coating is on the front surface of the glass (where the clear reflection of the flame appears). In the opposite case, the coating is on the other surface facing away from the flame.
- Digital Coating Tester: It is possible to use the conductive capacities of the coatings to establish, by means of an electronic testing device, which side they are located on. This is usually indicated by an LED light. It is recommended that only authorized or suitable devices be used here, as damage to the coatings might otherwise result.

After completion of the edge-working and before the assembly of the insulating-glass unit itself, an electronic testing device can also be used for this purpose. The testing should be carried out along the glass edge in an area which will later, before the assembly of the double-glazed insulating-glass unit, be edge-stripped.

5. Quality Control

The testing of the visual quality of the coatings is carried out in accordance with EN 1096-1. The products named above are likewise tested in accordance with the respectively applicable product standards. These include:

- Thermally-toughened glass in accordance with EN 12150-1
- Heat-strengthened glass in accordance with EN 1863-1
- Insulating-glass units in accordance with EN 1279-5
- The Heat Soak Test (HST) in accordance with EN 14179-1
- Laminated glass in accordance with EN 14449

or also in accordance with respectively applying national rules and regulations.

6. Conformity, Warranty and Disclaimer

Whoever processes AGC products is responsible for compliance with the present processing guidelines and for the observation of all relevant product and application standards as well as nationally applicable guidelines.

In addition, the processing part is responsible for the proper checking and testing of the coated glass before and after every step in the work done upon it and prior to its installation. In the case where the professional standards, the instructions usually followed within the business, and the stipulations regarding proper manners of proceeding as well as references outlined in the present Processing Guidelines are ***not*** observed and complied with, there shall lapse, and cease to be valid, all warranty upon coated glass from AGC. The processor alone is responsible for the quality of the final product.

7. Glazing Guidelines

In installing the products, the Glazing Guidelines of AGC or other guidelines and regulations, including the processor's own, are to be observed and complied with.
The AGC Glazing Instructions are to be found on www.agc-yourglass.com.

8. Cleaning of Windows and Facades

Instructions for the cleaning of glazing installed in facades are to be found at www.agc-yourglass.com. AGC draws attention also to the specific cleaning rules and regulations applying to certain products. In certain cases, it is also possible that the manufacturing centres of AGC will direct the processor to further special cleaning instructions and regulations.

9. Sustainability

The materials used in the coatings are not harmful to the environment. There is consequently no problem about recycling coated glass and introducing it back into the process of glass melting. Further information regarding sustainability and effects on the environment can be found in our Environmental Product Declarations.

10. Materials and Auxiliary Equipment

To ensure the durability of the products only appropriate and authorized materials, auxiliary materials and personal safety equipment are to be used when working on or with them. Information about these materials and equipment can be sent to your AGC representative.