

PROCESSING GUIDE

for Design Coatings



AGC *INTERPANE*

PROCESSING GUIDE for Design Coatings

ipachrome design

ipachrome design TC

ipachrome design 10

ipachrome doublevision

ipasol bright

ipasol bright LR

ipasol grey 40

ipasol grey 50

ipasol grey 60

ipasol grey 70

WARNING

Please read this processing guide carefully before processing the product types ipachrome, ipasol bright and ipasol grey.



Important information

- The persons involved in the production process must always wear the personal protective equipment (e.g. safety shoes, safety gloves and safety glasses) required for the work.
- Check coating compatibility of personal protective equipment, tools and all other materials coming into contact with the coating before starting work. AGC/AGC Interpane disclaim all liability for any damage arising from the use of unapproved materials or incorrectly used materials.
- Handle coated glass with great care to avoid any damage to the coating. Avoid pulling out coated glass sheets from a stack as this inevitably scratches the surfaces.
- Wear clean, approved gloves when coming into direct contact with the coating. Finger prints or contaminated gloves may cause corrosion of the coating.
- If, despite the precautions taken, marks do appear on the coating (e.g. finger prints), remove them at once using a clean soft cloth.
- If suction cups come into contact with the coating, use suction cups or protective caps on the suction cups which have been approved for coated glass. However, note that suction cups equipped with protective caps have a reduced loadbearing capacity. Please contact the manufacturer of the suction cups with any questions.
- All lifting accessories must comply with the applicable provisions and be approved by the relevant institutions (e.g. TÜV (Technical Control Board), Berufsgenossenschaft (government safety organisation)) or authorities.
- Ensure safety at work at all times. Keep all unnecessary personnel out of the unloading area. Personnel must have received the required training.

Further recommendations for the product description and processing are given below.

For further questions or support please contact the technical service of or AGC INTERPANE (ibc@interpane.com).

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1. Products

Toughenable products are specified in the table below.

Products in the form of “coating toward interlayer” (SzF - Schicht zur Folie) can be combined with the coating into a laminate structure. For further information refer to the product passports of the various products.

PRODUCT	Toughenable	2 products	1 product	1 product	Final-cut size coating	Partial coating	Enamelling	Toughening	Toughened curved glass	Gravity bending	Lamination bending	LSG with coating pos. 4	LSG with coating pos. 2/3 as coating toward film	Edge stripping of IGU
		Same visual appearance after toughening	Different visual appearance after toughening	"Self matchable" Similar visual appearance after toughening										
ipachrome design	No				possible	possible	not possible	not possible	not possible	not possible	possible	possible	possible	No
ipachrome design TC	Yes		Yes		possible	possible	possible	possible	possible	possible	possible	possible	possible	No
ipachrome design 10	No				possible	possible	not possible	not possible	not possible	not possible	possible	possible	possible	No
ipachrome doublevision	No				possible	possible	not possible	not possible	not possible	not possible	possible	not possible	required	No
ipasol bright	Yes			Yes	possible	possible	possible	possible	possible	possible	possible	possible	possible	No
ipasol bright LR	Yes			No	possible	possible	possible	possible	possible	possible	possible	possible	possible	No
ipasol grey	No				possible	possible	not possible	not possible	not possible	not possible	possible	possible	possible	No

Table 1: Processing options

Please note:

This processing guide applies to the products

ipachrome design, ipachrome design TC, ipachrome design 10, ipachrome doublevision ipasol bright, ipasol bright LR and ipasol grey 40/50/60/70.

All other products are governed by their own processing guides which are available at www.agc-yourglass.com or www.interpane.com.

2. In-house handling

2.1 Unloading

Immediately after receipt, glass must undergo an incoming goods control. Report any damage, including damage to packaging or racks, to AGC and/or AGC INTERPANE immediately. AGC and/or AGC INTERPANE disclaim all liability for damage arising after delivery or during unloading, transport, storage, processing or during installation/assembly if the instructions below are not complied with:

- Place rack on a perfectly level ground.
- Use suitable handling equipment/devices for unloading.
- Fasten product to be unloaded in such a way that it can be picked up exactly in the centre.
- The protective packaging must not be damaged during the unloading process.
- Store the glass on suitable racks.
- All instructions given in this processing guide must be strictly complied with.

2.2 Storage

Storing packs correctly reduces the risk of chemical or mechanical damage to the coated glass sheets.

Relative air humidity in the storage area must not exceed 70%. The temperature must not drop below +15 °C. Care should be taken to avoid major fluctuations in temperature and humidity that may cause condensate on the glass. These kinds of fluctuations generally occur in places such as near building doors.

The sheets of glass must not come into contact with water, liquids or other corrosive substances. Sources of these kinds of substances include e.g. machinery fitted with heat engines, battery charging points and road salt on the ground.

Factory racks are used exclusively for transport and are not designed for storage. Store jumbo sizes on racks with spacers between stacks ensuring that only stacks of the same size are stored together.

Insulating glass units delivered on site for installation must be stored in a dry, protected and ventilated place. They must never be laid flat, stored near a heat source or be exposed to direct solar radiation.

2.3 Shelf life depending on packaging

Packaging of the product varies depending on the final location and type of product. Some coatings and target markets require protective foils and desiccant packages to be added to the sheets. For packaged sheets care must be taken that the glass has reached approx. hall temperature before opening the packaging.

The specified shelf life starts with receipt of the products by the customer.

Shelf life – jumbo sizes without packaging** → 3 months

Shelf life – jumbo sizes with packaging** → 6 months

Shelf life – final-cut sizes with packaging** → 3 months

**excluding ipachrome TC: maximum shelf life – untoughened 8 weeks

The specified shelf life applies exclusively to glass sheets in unopened original packaging.

Process jumbo sizes within three months of opening: the maximum shelf life of six months must not be exceeded. Use final-cut sizes within four weeks of opening the packaging. This applies also to ground, drilled or toughened glass sheets. Products to be toughened must be toughened within three months.

2.4 Spacers

The glass sheets must be separated by spacers in order to prevent contact between the glass and the coatings.

No additional spacer is needed if enough original interlayer powder is left on the glass sheets after processing. However, this poses the risk that small residual glass splinters e.g. from cutting the sheets may scratch the surface of the coated glass during in-house transport.

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

Incorrect stacking may damage the coatings. Avoid pulling out coated sheets from the stack as this inevitably causes scratches and damage to the coatings.

As an interlayer, we recommend interlayer powder or inserting corrugated cardboard strips or pH-neutral paper that must cover the whole surface. The paper or cardboard must remain clean and dry.

Alternatively, cork or polymer foam spacers can be placed between the sheets. As these types of spacer can leave permanent marks, cork and polymer foam spacers are only permitted on the perimeter of the glass sheets.

When using plastic/polyethylene foam interlayers, make sure that the temperature of the glass sheets is below 45 °C both when inserting the interlayers and during storage.

2.5 Handling

When using vacuum lifting equipment, contact with the coating should be avoided as far as possible as there is always the risk of damage to the coating. If this is not possible, clean the suction cups frequently. It is also recommended to use clean protective caps which must be replaced at suitable intervals. However, note

that suction cups equipped with protective caps have a reduced loadbearing capacity. Please contact the manufacturer of the suction cups with any questions. Do not affix any labels to the coated surface nor mark it with chalk, etc.

2.6 Packaging after processing

If the coated glass sheets are not processed into insulating glass units, toughened glass, laminated glass and laminated safety glass, etc. in the same plant, observe the following packaging recommendations:

- Washed or coated float glass sheets of the same size and with the same edge shaping process can be separated by a suitable interlayer powder.
- If this is not possible, the individual glass sheets must be separated by inserting spacers covering the whole surface (e.g. polyethylene foam spacers of at least 1 mm thickness). For further information see 2.4.
- The pack of glass must be packaged to be as watertight as possible, e.g. using plastic film. Place an adequate amount of desiccant agent inside the packaging. The desiccant should ideally feature a moisture indicator.
- Care must be taken to ensure that the pack of glass is properly attached to the rack so that the sheets do not move or rub together.

3. Final-cut size coating and design coating

Final-cut sizes of ipasol grey, ipasol bright, ipasol bright LR, ipachrome design and ipachrome design TC can also be coated. This enables coating of processed glass (TSG, HSG, LSG made of float glass, TSG or HSG, etc.).

Particular areas, such as the edge seal of IGUs or the glass edges can also be masked with adhesive tape.

Decorative patterns or lettering as specified by the customer can be printed on the final-cut size glass sheet using a laminating paint. This is followed by full-face coating of the glass sheet. When the laminating paint is stripped off, the areas previously masked with laminating paint are uncoated.

For details refer to the relevant product passport or consult our technical services at AGC INTERPANE (ibc@interpane.com).

4. Processing

4.1 Cutting

- Place the coated side of the glass face-up on the cutting table to avoid any contact between the coating and the surface of the cutting table.
- The cutting oil used should be compatible with the coating, sufficiently volatile and water soluble.
- If the glass is to be cut manually using a template, position the template very carefully, and in a steady, stable way to prevent it from scratching the coating. AGC / AGC INTERPANE recommend placing suitable protective interlayers between the template and the coating.
- When using metal measuring tapes, care must be taken that they do not scratch the glass or coating.
- Store the cut sheets of glass on suitable racks. The coating on the first sheet must not rest against the back of the rack. All subsequent sheets should be turned the other way.

4.2 Edge stripping

For producing a functional insulating glass edge seal, the coating of the products specified in this processing guide need **not** be removed. However, the primary and secondary sealants must be tested for compatibility with and sufficient adhesion to the coating surface. The processor is responsible for this test and the associated factory production control.¹

The same applies to the coating bond of structural glazing façades.

The width of edge stripping is based on such things as the edge seal system and the application in windows and façades.

Edge stripping is carried out either during assembly of the insulating glass units or during cutting.

The edges are stripped using suitable grinding wheels and devices, taking into consideration the process parameters including

- number of revolutions
- feed rate and
- contact pressure

Applicable to the relevant product classes.

As the manufacturer is responsible for the production of the edge seal of insulating glass units, we recommend periodically testing the adhesion of the secondary sealant to the stripped edge and the float glass surface.

Special care must be taken to ensure good adhesion of all secondary sealants to all coatings machined with the same grinding wheel during one production run.

The secondary sealant must meet the requirements of the relevant standards.

¹ Information on tested sealants is available from the technical services of AGC INTERPANE (ibc@interpane.com).

If the additional function of a structural sealant/bond is required, the requirements of further standards or guidelines must be complied with as necessary.

For structural (sealant) glazing, take special account of the relevant sheets/application recommendations of the sealant suppliers.

4.3 Edge processing and drilling

The edging machines used must be suitable for machining coated glass.

It should always be ensured that the glass remains wet throughout the grinding process to prevent drying of abrasive grit. Wash glass immediately after grinding.

If the glass is also drilled – which is possible for coated glass – make sure that the drilling tools and jigs do not damage the glass and the coating. Suitable protective materials for the machine may be necessary.

4.4 Washing

The washing machines used must be suitable for processing coated glass. Washing must not cause mechanical or chemical damage to the coated glass.

A water spray station should be installed upstream of the washer to remove abrasive elements (machining debris) from the coating. These could otherwise cause scratches when the brushes make contact with the coating. The water spray station must be designed in such a way that the coating is completely pre-cleaned before the real washing process.

The cleaning cycle must not be interrupted whilst the glass is in the washer. AGC / AGC INTERPANE recommend periodically checking the proper operation of the ventilation devices (e.g. cleanliness of air filters). The washed glass sheets must not exhibit any contaminants, deposits or moisture. AGC / AGC INTERPANE also recommend using suitable lighting for visual inspection after washing. Any residues can be carefully removed using mild detergent and a soft cloth with as little pressure as possible.

Appropriate washers and specific water quality are necessary to achieve washing cycles without any residues.

The main criteria for washers are:

- Clean washer, incl. piping.
- Suitable roller brushes for washing the coated side, i.e. bristle diameter ≤ 0.20 mm.
- Roller brushes with larger bristle diameters in the pre-wash zone must be retractable.
- It is recommended to carry out periodic maintenance work.

The main criteria for water quality are:

- Conductivity: ≤ 30 $\mu\text{S/cm}$
- pH value: 6.0 – 7.5
- Water temperature at nozzle: 30 – 35 °C
- The water temperature in the heating unit should be at least 50 °C.
- Prevent formation of algae by using lightproof pipes and containers.

A water treatment system is necessary to ensure constant water quality.

Water can be treated by reverse osmosis or ion exchange.

In addition to suitable water treatment, the water flow, i.e. the supply of the washer with “pure” water throughout the entire production process and period is also important.

AGC / AGC INTERPANE recommend making continuous measurements of pH value, conductivity and temperature in all washing zones and recording the measured values. Apart from the specified water quality, it must be ensured that all parts of the washing unit which come into contact with the coating are not contaminated (e.g. with adipic acid).

Any additives introduced into the washing water should be tested for compatibility with the products.

4.5 Enamelling and printing

4.5.1 General requirements

AGC INTERPANE recommends final-cut size coating for glass sheets with partial silkscreen printing. Before coating, final-cut sizes can be decorated with colours applied by web, screen or digital print and then processed to TSG, TSG with heat-soak test or HSG. This is followed by the final-cut size coating. When processing the glass sheets into insulating glass units or structural glazing units, if the printing is to extend to the perimeter of the glass, the adhesion and durability of the compound consisting of glass, printing ink, coating and sealant must be checked and monitored for compliance with the applicable standards.

4.6 Thermal toughening

4.6.1 Product data

ipachrome design TC, ipasol bright and ipasol bright LR are suitable for thermal toughening, if required.

After toughening, assess the quality of the coated glass sheets as follows:

- Check coating in accordance with EN 1096-1².
- Toughened glass must comply with EN 12150-1².
- Heat-strengthened glass must comply with EN 1863-1².

The following options of coating position and furnace convection are possible:

	Coating position in furnace		Convection type		Normal emissivity
	Upwards	Downwards*	Convection at top**	Convection at bottom**	Coating surface
ipasol bright	OK	OK	possible	possible	0.89
ipasol bright LR	OK	OK	possible	possible	0.89
ipachrome design TC	OK	OK	required (average)	possible	0.23
* Furnace rollers, entry/exit rollers and cooling zone rollers must be kept clean.					
** When using top and bottom convection pressure profiles, fine-tuning is required for the glass sheet to remain flat in the pre-toughening furnace during the entire heating process. The same method applies to the heat profile without convection pressure.					

Table 2: Information on toughening

² or equivalent local standards for non-EU countries.

The settings for toughening / heat-strengthening ipasol bright and ipasol bright LR are approximately the same as those for uncoated basic glass sheets.

The convection settings for ipachrome TC are based on the emissivity and ratio of coverage of the coating. For further questions or support please contact the technical service of AGC INTERPANE (ibc@interpane.com).

4.6.2 Furnace process

At the beginning of the heating process uncoated clear glass will tend to be deformed, in the furnace used for thermal toughening, 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). This deformation is even more pronounced with low (normal) emissivity coatings (low-e coatings). The emissivity of approx. 0.25 of ipachrome design TC is also much lower than that of uncoated glass.

In a pure radiation furnace the lower surface is heated by conduction (contact with the rollers) and radiation (lower thermal resistance). If the upper surface is covered with a low-emissivity coating which, by definition, reflects the radiation emitted by the upper heating elements in the furnace, it does not heat up as quickly. The two surfaces therefore do not heat up symmetrically, leading to concave deformation of the glass due to differential thermal expansion (see Figure [1]).

This phenomenon causes marking or even an optical distortion of the glass in the centre of the pane.

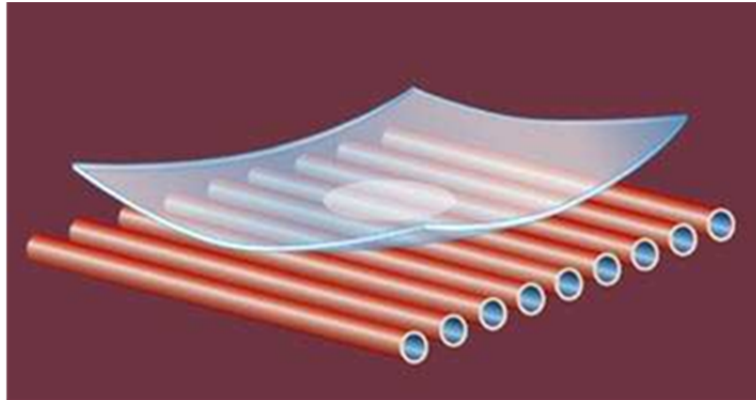


Figure [1]: Concave deformation in toughening furnace

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. In addition, higher roof temperatures would cause the rollers to overheat which would aggravate the problem in particular with regard to the “roller waves”. The only solution is to improve the heating process of the glass. One example is forced convection on the upper surface of the glass. This can be done by creating an air flow over the upper surface that is hotter than the glass itself. The air supplied by an external compressor is pre-heated in the furnace before it is pumped over the upper surface of the glass via pipes fitted with openings and nozzles (see Figure [2]).

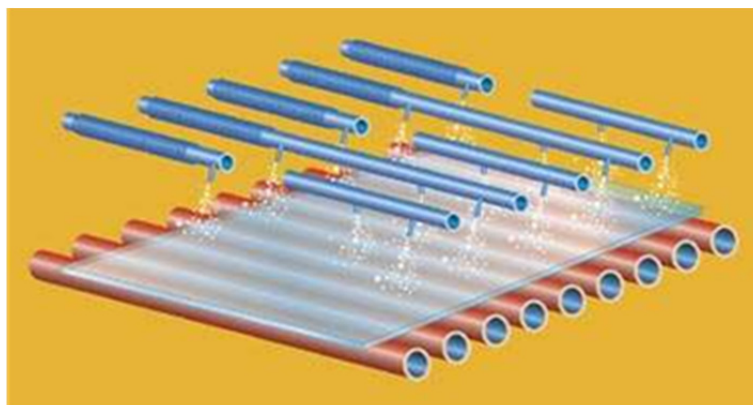


Figure [2]: Air supply to the upper surface

Another technique involves drawing hot air out of the furnace and pumping it back in again (recirculation).

This additional air supply to the upper surface of the glass

- significantly reduces the heating time and therefore boosts the productivity of the plant and
- reduces the deformation of the glass during the heating process.

It should also be noted that the heating times of coated glass with lower emissivity are longer than those of uncoated glass sheets. Adjust the toughening parameters according to type of furnace, coating, type of glass and glass thickness.

Prior to toughening, markings may be applied to the upper side using ceramic inks.

During the toughening process of coated glass the use of SO₂ (sulphur dioxide) to “lubricate” the furnace rollers is not recommended. Note that turning off the SO₂ supply will not immediately lower the SO₂ concentration in the furnace, but that it will only decrease slowly over a longer period of time. The SO₂ supply must therefore be stopped in good time, at least 24 hours before the toughening process. If SO₂ continues to be supplied to the furnace, its use is at the risk of the processor.

Gas-heated furnaces may cause ageing of the coatings. Ageing appears on the cover layer of the coating in the form of minor clouding whose intensity depends on the gas composition and which can be partly or completely washed off.

For glass panes for a glazing object make sure that the orientation of all panes during heat treatment matches that of the subsequent final installation.

Heat-strengthened products offer the same optical and energy performance as toughened products.

4.7 Heat Soak Test

The risk of spontaneous breakage due to nickel sulphide inclusions is inherent to toughened safety glass. The presence of such inclusions can in no way be considered a material defect. In order to minimise the risk of spontaneous breakage, an additional heat soak test can be carried out in accordance with EN 14179-1 or an equivalent guideline.

For the heat soak test, it must be ensured that the spacers used will not leave any marks on the coated pane because of the dead load of the panes.

4.8 Bending

The coatings suitable for thermal toughening can also be used for thermal bending. This includes bending operations in continuous-type oven, usually to produce curved TSG or HSG sheets.

Another option is gravity bending followed by slow cooling to obtain a glass sheet almost free of residual stress.

Only bending ovens with upper and lower heating elements and a convection system are suitable for bending glass sheets with T coatings.

The instructions given above for unloading, storing, cutting, shaping, washing and transport/handling must be strictly followed. Please also refer to the Guideline for thermally curved glass (Leitfaden für thermisch gebogenes Glas) by the Federal Flat Glass Association (Bundesverband Flachglas).

The glass should be shaped to a smooth ground edge. Observe the following additional instructions:

- Place the glass with the coated surface facing upwards on the concave mould.
- Apply the appropriate interlayer.
- Apply the powder as evenly as possible without any additives.

Bending in pairs:

Place float glass sheet with the tin side facing upwards.

Alternatively, the same procedure can be carried out with the float glass underneath and the coated glass on top, in this case with the coated surface facing downwards.

The coating can be compressed and extended. This allows the production of S-shaped curved panes.

4.9 Use as monolithic glazing

Coatings are suitable for façades with monolithic glass panes subject to the following restrictions for the coating position.

	Coating position of monolithic glazing Monolithic glass and/or LG / LSG		
	1	Towards film	2* / 4* / 6*
ipachrome design	NO	OK	OK
ipachrome design TC	NO	OK	OK
ipachrome design 10	NO	OK	OK
ipachrome doublevision	NO	OK	NO
ipasol bright	NO	OK	OK
ipasol bright LR	NO	OK	OK
ipasol grey	NO	OK	OK
Please note:			
- *Pos. 1 refers to building outside, Pos. 2 refers to building inside for monolithic glass			
- *Pos. 4 and Pos. 6 refer to building inside for double / triple LG / LSG			
- Contact of low-E-coating with PVB destroys the low-E-effect.			
- Contact of coating with PVB changes the colour and optical properties.			
- For further information on the application of ipasol and ipachrome coatings refer to the relevant product passports			
- Combinations of one or more coatings in LG are possible. This requires consultation with the AGC Interpane technical advisory service.			

Table 3: Coating positions with monolithic glass

4.10 Laminated glass and laminated safety glass

The coated glass sheet can be processed to laminated glass (LG) or laminated safety glass (LSG).

When applying the coating towards the film, evidence of sufficient adhesion of the interlayer (e.g. PVB, EVA, SentryGlas) to the coating must be provided. Providing this evidence is the responsibility of the processor.

When processing with the coated side to the outside it must be ensured that the rollers applied during prelamination do not damage or contaminate the coating. Adapt the pressure and material of the rollers to the type and thickness of the glass and take account of the mechanical durability of the coating.

For the autoclave process position the spacers between the glass sheets only at the perimeter (never in the centre of the glass sheet). If different spacer positions or additional spacers need to be used, this is the responsibility of the processor.

If an autoclave-free or vacuum process is used for lamination, the glass processor should first check whether the coating is likely to be damaged. This applies in particular to the compatibility of the materials coming into contact with the coating. The settings for the lamination process should take account of the low emissivity of the coatings if applicable.

Attention should also be paid to the fact that the above-mentioned parameters may vary depending on product, bending mould, radius, type and thickness of glass, etc. and must be adapted accordingly.

It should be noted that thermal insulation performance (U-value) will be lost e.g. by using low-e coatings on position 2 or 3 (towards the film). Attention is also drawn to the fact that colour differences may occur if coatings are combined by lamination on the surface of position 2 and position 4 or when laminated and unlaminated surfaces are combined within one project. In this case it is recommended to provide samples.

4.10.1 ipachrome doublevision

ipachrome doublevision is specially designed for processing to laminated glass (LG) or laminated safety glass (LSG). To achieve optimal optical appearance, the coating for LG/LSG must be laminated with the coating in contact to the interlayer. It is preferable to install the coating on position #2, i.e. with the reflective surface to the outside. Interlayers can be made of common materials such as PVB or SentryGlas. The processor has to check and ensure the declared performance characteristics of the end product in accordance with the applicable standards for LG/LSG. Compatibility must also be verified for sealants/materials coming into contact with the edge of the LG/LSG in accordance with state of the art. This is the responsibility of the manufacturer of the LG/LSG. The design of the glazing systems must in particular ensure efficient drainage and ventilation to prevent delamination of the LG/LSG and/or corrosion of the coating interlayer. As with ipachrome design, ipachrome doublevision can also be coated partially by masking prior to coating.

The technical services of AGC/ AGC INTERPANE will be happy to assist with the calculation of luminous and solar characteristics. For processing the coating for LG/LSG, observe the instructions given in this document for all the processing steps.

4.11 Insulating glass unit

When using the above-mentioned coatings for the production of insulating glass units, observe the following instructions for the installation positions:

	Coating position of insulating glass			
	1	2	3	4
ipachrome design	NO	OK	OK	OK
ipachrome design TC	NO	OK	NO*	OK
ipachrome design 10	NO	OK	OK	OK
ipasol bright	NO	OK	OK	OK
ipasol bright LR	NO	OK	OK	OK
ipasol grey	NO	OK	OK	OK
* Visual appearance is not perfect				

Table 4: Coating positions of insulating glass units

As explained in 4.2, the coating types covered in the above do not require edge stripping. However check the sealants used in advance and during production for compatibility with and adhesion to the specific coating. It is also advisable to contact the sealant producer and have a release check carried out.

During insulating glass production care must be taken that, as far as possible, only the uncoated surface of the glass sheet comes into contact with the rollers.

Mark internal or external panes, depending on function type.

Prior to assembly, it is essential to check the correct orientation of the coating, otherwise the technical values and visual appearance of the glass will not be as specified.

Quality control of the end product (insulating glass) involves not only strict compliance with the instructions set out in this processing guide but also meticulous checks at each stage of the manufacturing process.

At the exit of each processing station AGC / AGC INTERPANE recommend placing appropriate lighting systems for visual inspection to detect damage and defects/faults at an early stage.

5. Identification of the coated surface

There are various methods to identify the coated surface.

- Reflection test: A light source, e.g. a cigarette lighter is held in front of the coated pane, so that the flame is reflected in the glass. If the flame in the first reflection is clear and distinct and is more “blurred” in the second, then the coating is on the first side of the glass with the clear picture of the flame. The converse appearance means that the coating is on the back.
- Electronic coating tester: The coated surface is identified by a changed appearance in reflection of the glass surface. Only approved/suitable devices are recommended to avoid any damage to the coating.

6. Quality control

Inspection of the visual quality of the coatings is based on EN 1096-1. The above-named products are tested in accordance with the applicable product standards.

These include:

- 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
- Heat soak test (HST) in accordance with EN 14179-1, or additional national regulations.

7. Conformity and warranty, declaration of performance (DoP), CE marking and disclaimer

It is the responsibility of the processor of the AGC / AGC INTERPANE products to ensure compliance with this processing guide, the relevant product and application standards and the national guidelines. The processor is also responsible for preparing the declaration of performance and for CE marking the products manufactured by them. The declaration of performance and the CE mark for the AGC / AGC INTERPANE products can be accessed at www.agc-yourglass.com and www.interpane.com.

The processor is also responsible for the proper testing/inspection of the coated glass before and after each processing step and before assembly/installation. Failure to apply the professional standards, the customary instructions and the processing instructions set out in this processing guide and related links/references will automatically void any AGC / AGC INTERPANE coated glass guarantee. The glass processors are advised to undertake preliminary trials with the glass composition typical of the project prior to becoming obligated to their customers. The processor has sole responsibility for the quality of the end product.

8. Glazing guidelines

For installation of the products, comply with the AGC / AGC INTERPANE glazing guidelines and other applicable rules and regulations.

The AGC / AGC INTERPANE glazing guidelines are available at www.agc-yourglass.com and www.interpane.com.

9. Cleaning windows and façades

Instructions on cleaning glazing systems in façades are available at www.agc-yourglass.com. AGC / AGC INTERPANE also refer you to the specific cleaning requirements for certain products. The AGC / AGC INTERPANE manufacturing plants may also refer to additional cleaning instructions.

10. Disposal

The coating materials used are environmentally safe. Coated glass can be easily recycled in a glass melting process. For further information on sustainability and environmental impacts refer to the Environmental Product Declarations (EPDs).

11. Materials and tools

Use suitable and approved materials, tools and personal protective equipment to ensure durability of the products. Your personal contact in the technical services department will be pleased to provide the information required.