

ORIENT Lead-free screen-printed toughened glass Meeting Your Aesthetics Needs

Description

Orient Lead-free screen-printed toughened glass is an opaque or translucent glass, patterned with color ceramic enamel. The pattern is applied using a textile screen. The enamels used do not contain any dangerous metals* such as lead, cadmium, mercury or chromium VI. The enamel is fired at a very high temperature, so that it fuses to the surface of the glass, giving it exceptional durability.

Applications

- **Facades**

Double-glazed units: Orient lead-free screen-printed glass combines an attractive appearance with functionality. It provides good visibility from indoors to outdoors and protects against glare.

- **Laminated**

This can be used for guarding, roofing elements or floor bridges, combining various patterns and colours.

- **Street furniture**

Orient lead-free screen-printed glass is a durable, safe product which is ideal for use in street furniture, advertising and information panels.

- **Interior applications**

Orient lead-free screen-printed glass provides different levels of light transmittance, bringing light and safety to doors, partitions, guarding, shower cubicles and furniture.

Advantages

- **More environmentally friendly**

Orient lead-free screen-printed glass is free from lead and other dangerous materials thus environmentally friendly and totally recyclable. The almost total absence of polluting waste products nature and health.

- **Design options and functionality**

Orient lead-free screen-printed glass has a wide range of standard patterns which can be produced in a number of colors. Personalised patterns, which may be in several colour, can be designed for specific projects. On facades Orient lead-free screen-printed glass increases the solar control performance of double-glazed units. The spectrophotometric properties vary according to the density and colour of the pattern

- **Exceptional durability and safety**

Orient lead-free screen-printed glass is a toughened glass conforming to standard BS EN 12150. It provides all the durability and safety characteristics of toughened glass. For both facades and interior applications the colour remain totally stable over time.

- **Simple installation**

Orient lead-free screen-printed glass is installed as ordinary toughened glass.

Range

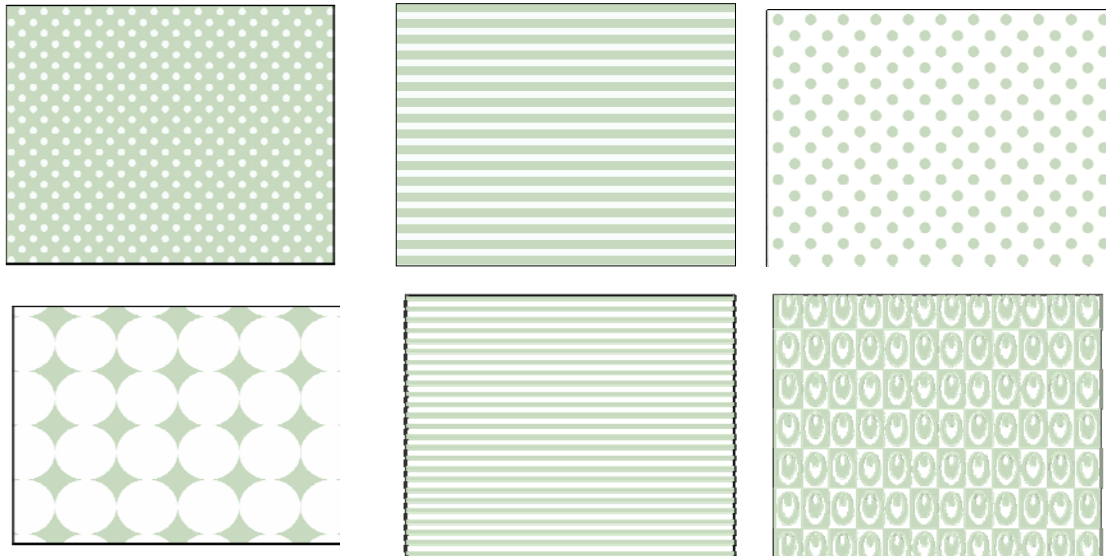
- Orient lead-free screen-printed glass color

This pattern is opaque and bright . It can be produced in standard or bespoke colours (on a project basis).

- **orient lead-free screen-printed glass opale**

The pattern is translucent and matte . Orient lead-free screen-printed glass is available in a range of exclusive patterns specially designed for facades and interior applications.

Screen printing can be used to create any type of pattern proposed by the designer . It is also possible to apply patterns in two or more colour on request (please contact ORIENT GLASS for more information).



Appliance

The products can be manufactured using:

Silk-screened glass clear float glass – Orient extra clear glass-low iron glass

Silk-screened glass body –tinted glass

Silk-screened glass and Orient solar control glass.

Silk-screened glass has a wide range of standard, decorative and custom applications including:

- All-Glass Entrances
- Signage
- Skylights
- Storefronts
- Exterior Window walls
- Commercial fixed and
- Operable Windows

- Canopies

Note

- The colours will vary slightly according to the thickness of the glass.
- To obtain a uniform colour, only one thickness of glass should be used in a project.
- A colour difference of $\Delta E^* = 1.5$ (C.I.E. $L^*a^*b^*$) measured on the surface of the glass is acceptable between two panes with the same colour enamel.

Performances

Orient lead-free screen-printed glass provides, or increases, the solar control performance of glazing on facades. The spectrophotometric performance of black and white patterns, covering 30% and 50% of the surface of the glass, are given for:

- Single glazing
- In Orient lead-free screen-printed glass enhanced thermal insulation double-glazed units

Orient lead-free screen-printed glass									
Single glazing									
Orient lead-free screen-printed glass		White				Black			
Thickness	Mm	6	6	6	6	6	6	6	6
Enamel coverage	%	30	30	50	50	30	30	50	50
Enamel position	face	1	2	1	2	1	2	1	2
Light factor									
LT	%	70	70	57	57	62	62	44	44
LRe	%	22	15	31	19	8	7	8	6
LRi	%	15	22	19	31	7	8	6	8
Energy factor									
T	%	64	64	54	54	55	55	40	40
Re	%	18	12	24	16	8	7	8	6
Ri	%	12	18	16	24	7	8	6	8
AE	%	18	24	22	30	37	38	52	54
Solar factor g		0,69	0,70	0,60	0,62	0,65	0,65	0,53	0,53
Shading Coefficient		0,79	0,84	0,69	0,71	0,74	0,74	0,60	0,60
U-value	w/(m ² . k)	5,7	5,7	5,7	5,7	5,7	5,7	5,7	5,7

Remark: These are approximate values given for small detail pattern, homogenously covering the glass surface, screen-printed with a standard white or black enamel. These values also depend on the manufacturing conditions.

Fixing Guidelines

Installation

Orient lead-free screen-printed glass must always be installed in accordance with current safety standards and national regulations. Orient lead-free screen-printed glass can be glazed in channels, help in place using cover strips or metal fixings. Every precaution must be taken to avoid glass-to-glass and glass-to-metal contact. When products are installed adjacently there must be a minimum clearance of 3mm between each pane.

Orient lead-free screen-printed glass can also be installed in exterior structural sealant glazing, in single glazing or in double-glazing. Please contact our technical department to check the compatibility of the sealant with the enamel.

In order to preserve its original appearance, Orient lead-free screen-printed glass should not be installed with the enamel facing toward the outside of the building (face 1)

Maintenance

To maintain its attractive appearance, Orient lead-free screen-printed glass must be regularly cleaned with neutral agents that are free from harsh abrasive materials.

Standards and Regulations

Orient lead-free screen-printed glass is a toughened glass conforming to standard BS EN 12150. It can also be heat strengthened, in accordance with standard BS EN 1863.

Fixing

- Mechanically fixed, in channels or with clips or point-fixings
- Adhesive fixing using neutral translucent glues or white double-sided adhesive pads. If there is any doubt, tests must be carried out to check the compatibility of the adhesive with the lacquer.