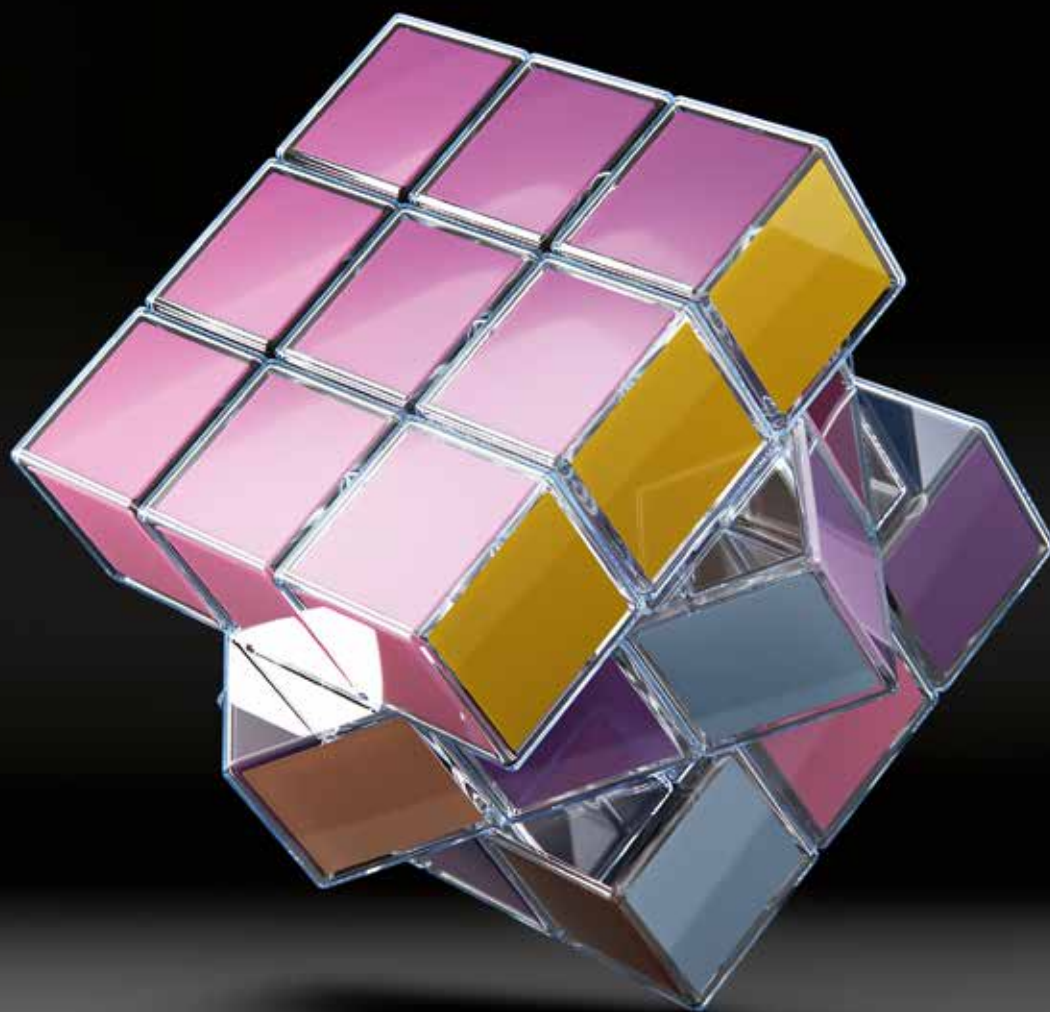




WATER-BASED PAINTS FOR GLASS OUR COLORS_YOUR ABILITY



GLASS PAINT

WATER-BASED PAINTS FOR GLASS
OUR COLORS_YOUR ABILITY



WIDE RANGE OF WATER-BASED COLORS AND EFFECTS

The substantial experience accumulated by ICA Group's Research & Development laboratories in the formulation of water-based coating products has led to the creation of a **specific range for the painting of glass, both flat and hollow**.

ICA Group's glass range is composed of **transparent, colored, lacquered and metallic** monocomponent and bicomponent water-based paints that make it possible to achieve high-quality aesthetic results with an **unrivaled array of effects and colors**, as well as **excellent adhesion and chemical/physical resistance**.

The products are **non-flammable**, making them easy to store, and **dilutable in water**, so they are simple to prepare and use. Moreover, due to their **low levels of volatile organic compounds**, they allow for compliance with the regulations on the limitations of solvent emissions into the atmosphere.

ICA Group's range of **high-quality** coatings, which over the years has been geared more and more towards a **reduction in environmental impact**, has enabled the company to be recognized as one of the most technologically advanced players in the market, both in Italy and internationally.



AN UNLIMITED RANGE OF COLORS AND EFFECTS

ICA Group's range of pigmented water-based paints for glass allows customers to choose from three different sample books [**ICA**, **RAL** and **NCS**] that collectively encompass more than 2,300 colors, all of which can be faithfully reproduced thanks to the **ICA Color** tintometric system. This system allows ICA's sales infrastructure to provide a service that is unbeatable not only in terms of its short lead times but also in terms of the consistent quality of the paints, the perfect reliability of the colors and their replicability over time.

ICA Group also produces **sample colors** at the client's request and conducts color checks using spectrophotometry.

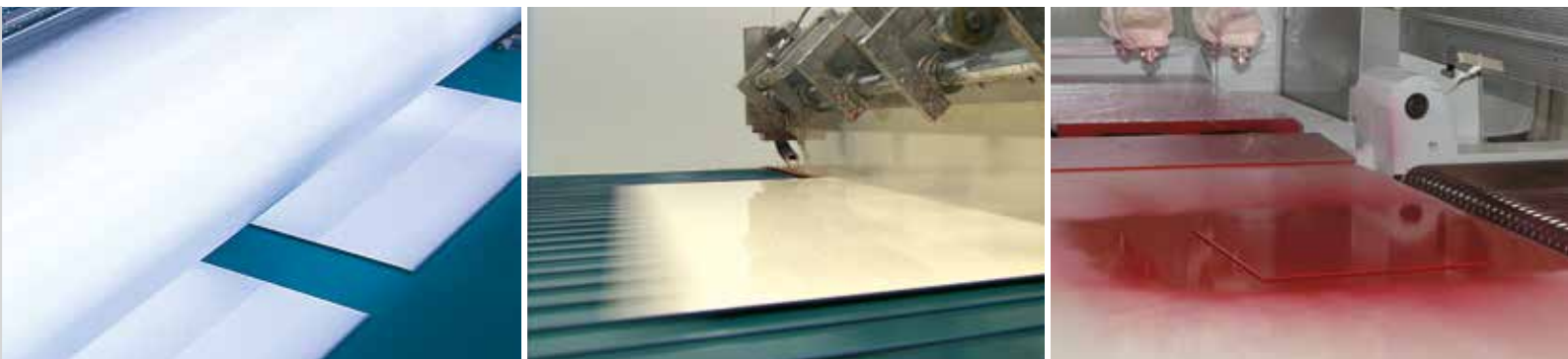
The ICA Group's product range makes it possible to produce the following effects on glass: **hiding lacquered paint**, **2-sided**, **2-tone lacquered paint**, **transparent colored paint**, **sandblast**, **metallic**, **iridescent metallic paint** [e.g. **iris effect**], **mirror-effect metallic**, **steel-effect metallic**, **Liquid Metal**, **sublimated**, **drop**, **mother of pearl**, **padded**, **travertine**, **Liquid ice**.



EASE OF APPLICATION AND VERSATILITY OF PROCESSING

ICA Group's water-based paints can be applied by **brushing**, by **spraying** [manually, with an automatic sprayer or electrostatically], by **curtain-coating** or by **rolling**.

Cold paints can be dried at **room temperature** [or in **rapid-drying ovens**], whereas the thermosetting paints can be dried in **ovens** at temperatures of up to 200°C for. After drying, the painted glass can be worked on directly, undergoing operations such as cutting, grinding, sealing and gluing.



EXCELLENT PERFORMANCE

ICA Group's water-based paints for **flat glass** pass all of the most important adhesion and chemical/physical resistance tests, including:

HIGH HUMIDITY	UNI EN 16477-1
HIGH TEMPERATURE	UNI EN 16477-1
RADIATION	UNI EN 16474 [tab.4/cycle5]
IMPACT RESISTANCE [Pendulum test]	UNI EN 12600:2004
ADHESION	UNI EN ISO 2409
WET ADHESION	Internal method [UNI EN ISO ISO 2409 + water]
RESISTANCE TO CHANGES IN TEMPERATURE	UNI EN ISO 9429
RESISTANCE TO SCRATCHING	Internal method [Erichsen PenTest] UNI EN ISO 1518
RESISTANCE TO LIGHT	UNI EN ISO 15187



To verify the resistance of ICA Group paints on certain types of **hollow glass**, various chemical and mechanical stress tests are conducted based on the standard specifications for the homewares and profumery market. In addition, hollow glass coated with ICA Group products successfully passed the dishwasher safety test.

OVERALL MIGRATION	DM 21/03/1973; reg. CE n. 2023/2006
PB SPECIFIC MIGRATION	DM 21/03/1973; reg. CE n. 2023/2006
RESISTANCE TO DISHWASHER USE	UNI EN ISO 12875-1:2005
RESISTANCE TO ALKALIS [NaOH 3% 90 min. at 70°C]	Internal method
RESISTANCE TO G1 SPRAY TEST	QAC-MC-828 B
RESISTANCE TO G1 IMMERSION [4h*]	QAC-MC-828 B
RESISTANCE TO G1 SPRAY TEST	INS011
RESISTANCE TO G1 IMMERSION [24h + adhesion]	INS013
RESISTANCE TO G1 IMMERSION [4h at 55°C + adhesion]	INS013
RESISTANCE TO H2O IMMERSION [24h + adhesion]	INS015
RESISTANCE TO H2O IMMERSION [4h at 55°C + adhesion]	INS015
ADHESION	INS008
PASTEURIZATION [30 min. at 80°C]	Internal method
TEMPERATURE CHANGES	ASTM C149/2014

* Draft requirements UNI/CT 054/GL 01 (flat glass for exterior building use)



HIGHLIGHTS



WATER-BASED THERMOSETTING PAINTS

Water-based paints for the creation of transparent or hiding shades on flat glass or hollow glass. They can be colored using the products of the IN and CNA series and are pigmentable with PA-series products. They are also available in fluorescent and photoluminescent shades that are light activated by black light [Wood's lamp]. The drying temperature may vary between 140°C and 180°C.

For even faster cycles, it is advisable to use the thermosetting water-based UV paints, which have oven drying times that are less than half those of the other thermosetting products. They guarantee perfect adhesion and a high level of hardness immediately after UV curing. Moreover, they ensure high levels of coverage with no compromise on performance, and they also make it possible to reduce environmental impact markedly while maintaining high levels of productivity.

100% UV WATER-BASED PAINT FOR THE PROTECTION OF DIGITAL PRINTING

Transparent or pigmented 100% UV acrylic paint that protects digital printing on glass. Can be used as a protective paint and to produce pigmented base coats. It offers good adhesion on glass and on digital printing.

WATER-BASED THERMOCHROMIC PAINTS

Water-based paints for the creation of effects that change color on the basis of the temperature to which they are exposed. ICA's thermochromic products are available in a thermosetting version, water-based mono- and bi-component.



DEMONSTRATION OF THERMOCHROMIC WATER-BASED PAINT



PHOTOLUMINESCENT PAINTS



STEEL EFFECT

VMA3000 is a bicomponent water-based spray-on paint that reproduces a **steel effect** on glass. The product can also be applied to plastic materials, objets d'art and interior furnishings in general, imbuing the surface with an excellent shine. It can be pigmented with the stains of the CNA series to achieve various different shades [gold color, titanium color, etc.].

ICE EFFECT

The **LIQUIDICE** monocomponent paint produces an **aesthetic effect similar to ice crystals**. It makes it possible to achieve various pearl-like or metallic colorations that bring out the texture created by the product, giving the painted surface an unusual three- dimensional effect.

MIRROR EFFECT

GPMIRROR is a metallic monocomponent spray-on paint that makes it possible to recreate a **mirror effect** on the glass surface. The best aesthetic performance of this effect is achieved on molded products.

WATER-BASED SAFETY PAINT

GPSAFE is a transparent or colored water-based product that is applied by spraying or curtain-coating and that enables glass and mirrors to be made safe. It forms a thin film that, if the glass or mirror cracks, holds all of the shards in place, thereby preventing dangerous cuts or other accidents. This product, which has been subject to pendulum impact testing as per the EN 12600:2004 standard, is categorized in class 2[B]2. As such, it falls within the safety parameters for single flat panes of glass for use in construction.



GLASS PAINT video

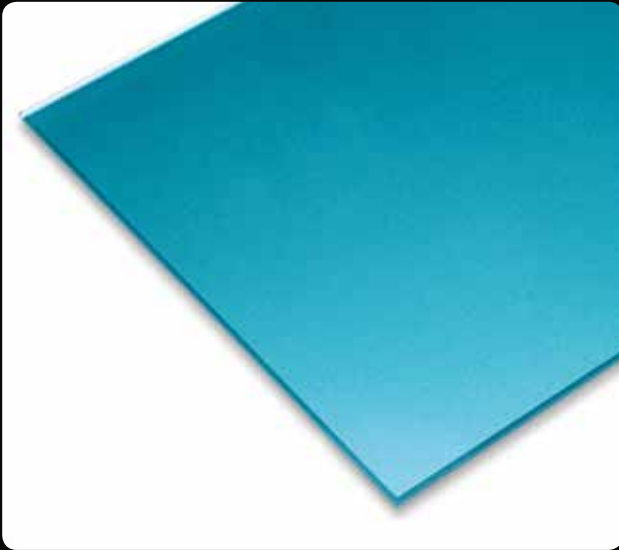


WATER-BASED SAFETY PAINT

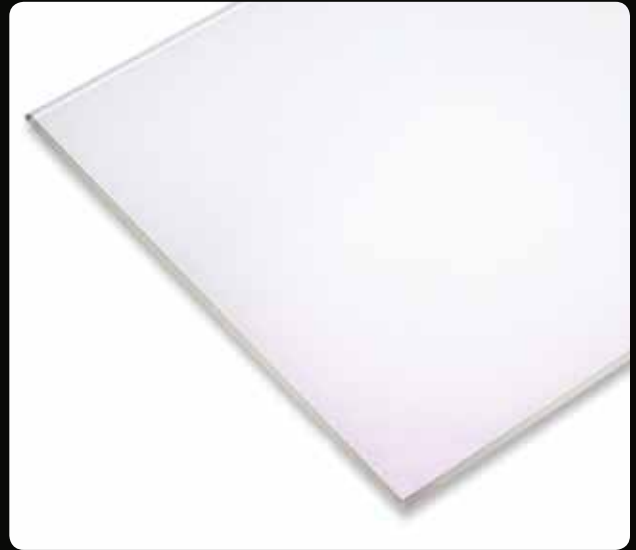


ICE EFFECT

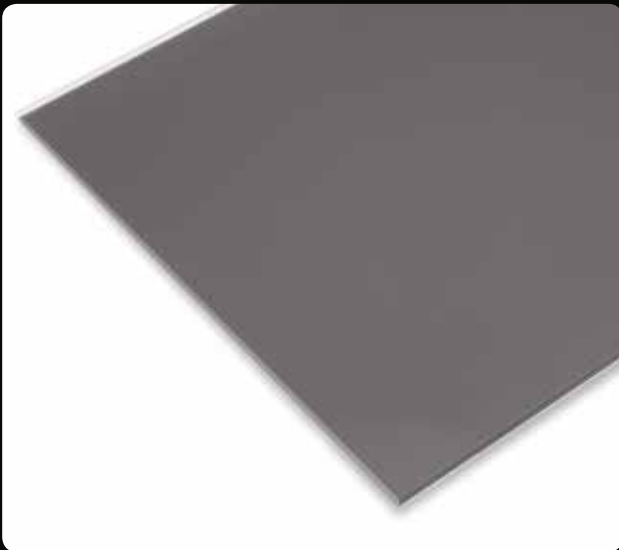
GLASS PAINT_COLLECTION



1. LIQUID METAL



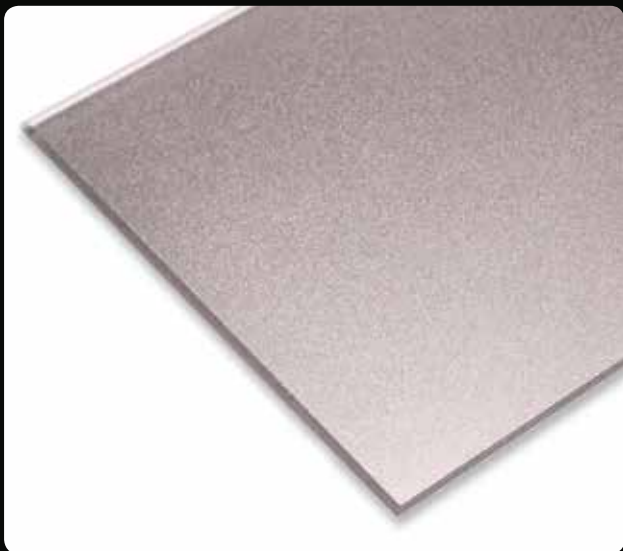
2. LIQUID METAL



3. LACQUERED PAINT



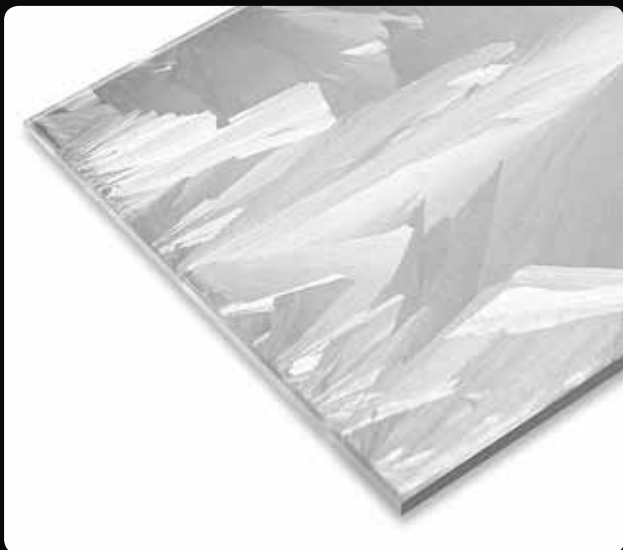
4. MEDIUM-FINE SANDBLAST



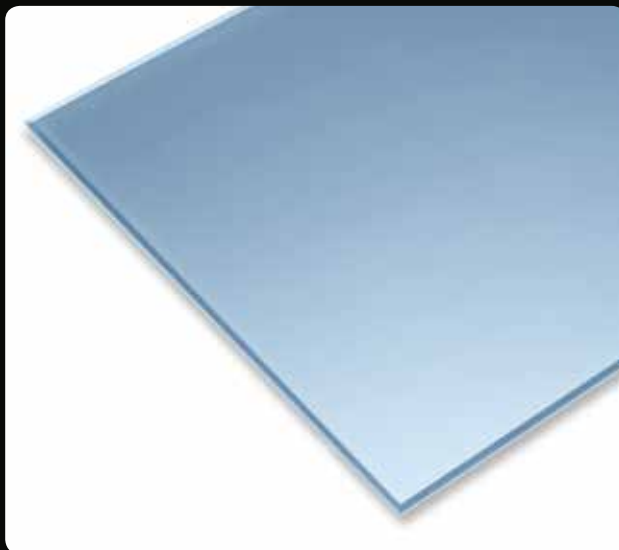
5. LARGE METALLIC



6. MEDIUM METALLIC

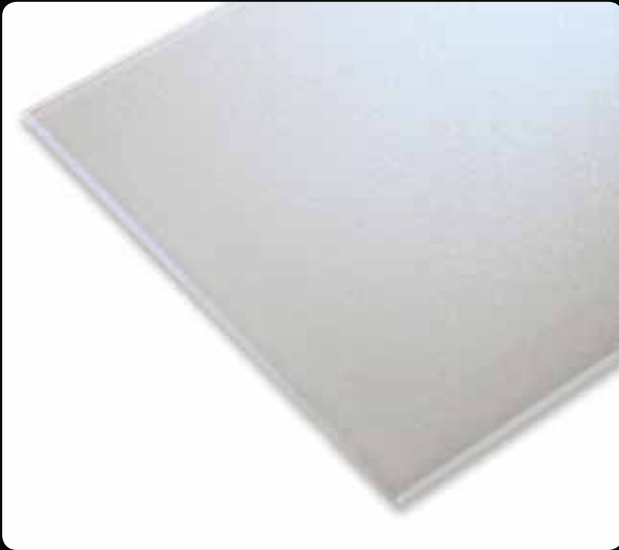


7. ICE EFFECT

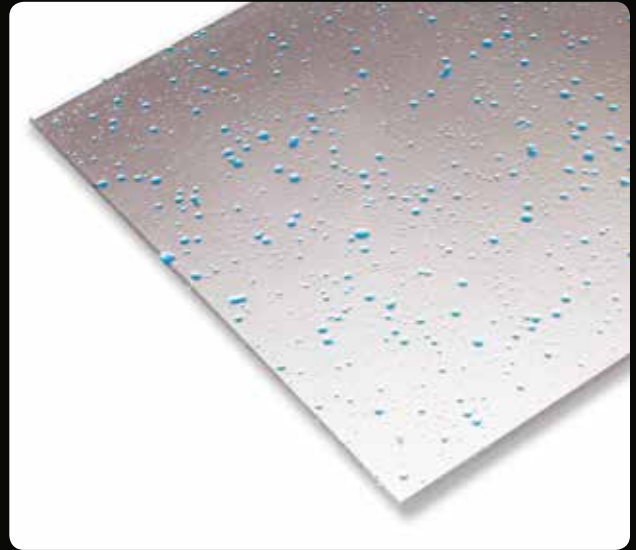


8. SUBLIMATED EFFECT

GLASS PAINT_COLLECTION



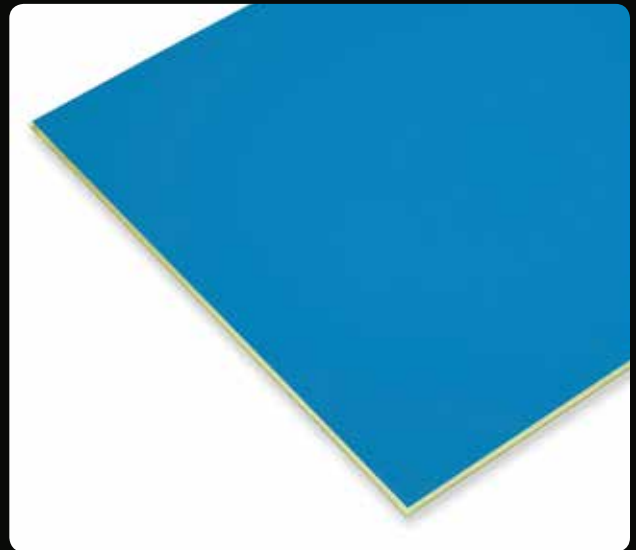
9. IRIS EFFECT



10. DROP EFFECT



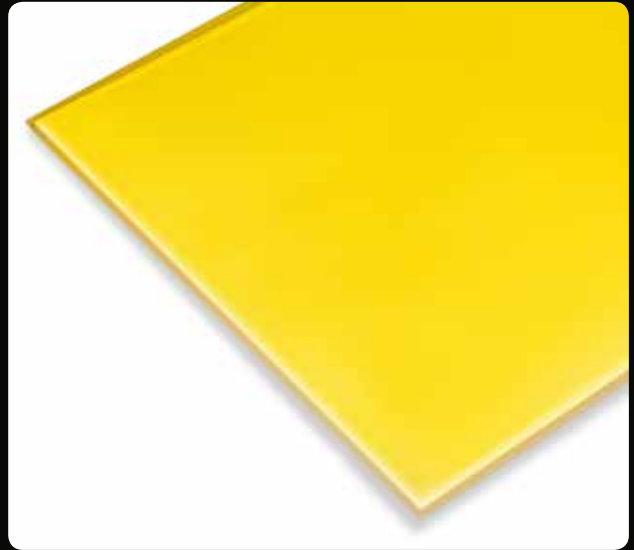
11. 2-SIDED, 2-TONE LACQUERED PAINT
[front]



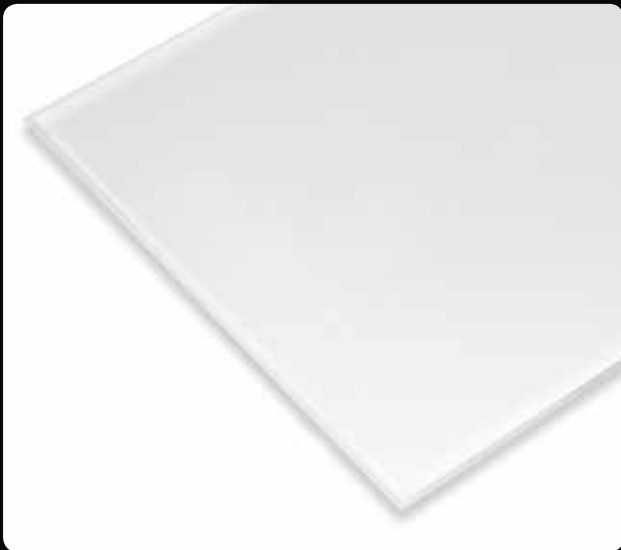
11. 2-SIDED, 2-TONE LACQUERED PAINT
[back]



12. TRAVERTINE EFFECT



13. TRANSPARENT COLORED PAINT



14. TRANSPARENT SANDBLAST EFFECT

GLASS PAINT_COLLECTION COATING CYCLES

1. LIQUID METAL

on extra-clear glass
_VMAML1050 [+ 2% AD33]
water-blue liquid metal water-based
metallic paint

2. LIQUID METAL

on extra-clear glass
_VMAML1026 [+ 2% AD33]
violet liquid metal water-based
metallic paint
_GPAO1056B
white lacquered water-based paint

3. LACQUERED PAINT

on etched glass
_GPAON0177 [+ 2% AD33]
dove-gray lacquered water-based paint

4. MEDIUM-FINE SANDBLAST

on extra-clear glass
_GPTSAMFN0230 [+ 2% AD33]
violet medium-fine sandblast lacquered
water-based paint

5. LARGE METALLIC

on extra-clear glass
_GPVMA0103901 [+ 2% AD33]
antique bronze water-based large
metallic paint

6. MEDIUM METALLIC

on extra-clear glass
_GPVMA0304005 [+ 2% AD33]
bronze water-based medium metallic paint

7. ICE EFFECT

on extra-clear glass
_GPAL2050 [+ 30% CA507 + 2% AD33]
transparent bicomponent water-based
gloss paint
_LAC367 [+ 35% C200 + 20% D1010]
transparent bicomponent acrylic gloss paint
_LIQUIDICE
ice-effect paint
_washing [as per technical data sheet]
_VMA3000 [+ 2% CA500]
bicomponent water-based steel effect
metallic paint
_OAC363G20N [+ 10% C200]
bicomponent matt black lacquered acrylic
top coat

8. SUBLIMATED EFFECT

on mirrored glass
_GPAO1070C2295 [+ 2% AD33]
sky-blue transparent colored water-based
paint
_GPSAFE
water-based paint for increased security
of glass and mirrors

9. IRIS EFFECT

on extra-clear glass

_GPMPIRIS10 [+ 2% AD33]

iris-effect paint

_GPAO733S3502R

light gray lacquered water-based paint

10. DROP EFFECT

on extra-clear glass

_GPPRPAC44516 [+ 2% AD33]

turquoise water-based paint,

applied in drops

_GPPRPA [+ 2% AD33]

extra-transparent water-based primer,

applied evenly

_VM2000

chrome-plated steel effect metallic paint

_GPAO734N

black lacquered water-based paint

11. 2-SIDED, 2-TONE LACQUERED PAINT

on extra-clear glass

_GPAO734N0192 [+ 2% AD33]

grapefruit-colored water-based paint

_GPALN0217 [+ 30% CA507]

bicomponent light blue lacquered

water-based paint

12. TRAVERTINE EFFECT

on extra-clear glass

_GPPRPA [+ 2% AD33]

extra-transparent water-based primer,

applied evenly

_FL16

oxide yellow marbled paint

_GPAON0106

cream lacquered water-based paint

13. TRANSPARENT COLORED PAINT

on extra-clear glass

_GPAL2050 + 2% CNA51 [+ 30% CA507
+ 2% AD33]

bicomponent yellow colored water-based
paint

14. TRANSPARENT SANDBLAST EFFECT

on extra-clear glass

_GPAO795 [+ 2% AD33]

water-based paint with fine sandblast effect

The effects of the GLASS PAINT COLLECTION
are created by spray application.
For more information, please consult the
product technical data sheets.



Industria Chimica Adriatica SpA

Via Sandro Pertini 52
62012 Civitanova Marche (MC) Italy
Tel. +39 0733 8080
Fax +39 0733 808140

info@icaspa.com

ITALIAN COATINGS Division

Via Alcide De Gasperi 73
36060 Romano D'Ezzelino (VI) Italy
Tel. +39 0424 8386
Fax +39 0424 37497

info@italiancoatings.com

www.icaspa.com