

cristalplant[®]

About cristalplant

Cristalplant® is a technologically advanced and unique compound, made up of high percentage of mineral extenders from nature (ATH derived from bauxite) as well as a small one of high-pureness polyester and acrylic polymers; therefore, it is an inert, hypoallergenic and non-toxic material.

Cristalplant® is a “solid surface 100% made in Italy” as it was designed, patented and produced at the R&D Centre of Nicos International’s Italian headquarters located in Portobuffolè, in the Province of Treviso.

Cristalplant® is 100% recyclable, practically fireproof (class 1), strongly UV-resistant, solid and non-porous, hygienic and healthy, resistant and agreeable to the touch for its velvety and natural stone-like finish.

Cristalplant® is 100% restorable, i.e. it can bring back the original state and look by simply using an abrasive sponge and a detergent, thus removing even cigarette burning rings. These properties of durability and restorability make it an eco-compatible material.

Very important note: a frequent cleaning of **Cristalplant®** ensures its original beauty to be kept untouched for a long time, as well as preventing from wear-and-tear marks.

cristalplant®

B to B distribution

Cristalplant® is the only solid surface not following a standardized and widespread distribution through the “solid surface network” (labs); **Nicos International**, the sole and only worldwide producer, works under exclusive agreements with interior furnishing and decoration companies, manufacturing various products and accessories out of **Cristalplant®** using customized moulds.

This peculiarity ensures an exclusive relationship with the customer that, investing in a customized mould, can then choose even a minimum 30 pieces lot, which is a typical volume for the semi-industrial technologies related to medium-high and high products ranges.

cristalplant and design

Cristalplant® material is particularly appreciated in bathroom furniture for custom-tailored design projects of shower tops, baths and basins.

Cristalplant® is also used in hospital sector for the manufacturing of work trays and tops, in the navy yard industry and as furniture accessory as well.

Cristalplant® is by now a kind of heritage for lots of “made in Italy” and high product range companies, as it requires a low investment to give way to the creation of products with high stylistic and technological content.

Cristalplant® is an innovating material; leading companies and famous designers chose it especially for its velvety and natural stone-like finish.

But beauty in the finish is to be added to valuable technical properties: other materials used in this sector are not able to recover from a permanent defect, once they get scratched or slivered, whereas **Cristalplant®**, being a “solid surface”, i.e. an homogeneous material in all its thickness and depth, can be restored using easily available abrasive sponges and detergents.

cristalplant technology

The processing technology is “cast moulding”, i.e. low compression moulding. A prototype in full scale is manufactured on the grounds of a 3D design, being then used for the making of a mould. The mould, in compound material, can be produced following the traditional processing method (positive and negative) or with inserts driven by hydraulic rams.

Therefore **Cristalplant**® moulding may be compared with an injection moulding process. An injection point is provided, from which the material enters, pouring into the mould. Once the mould is filled, the material catalyzes and gets solid. Unlike the traditional injection method for plastics, here material thickness may increase even remarkably. There is no evidence of shrinkages by the inner ribs or bead.

The only thing to be wary of is a huge mass of material, which may cause a bad catalysis in the area in hand (45-50 mm max sections are recommended). It is possible to get limited undercuts or back drafts in the piece, if an inclined mould is provided; obviously, each case shall be analyzed deeply and separately to check the way for a right extraction of the piece out of the mould.

cristalplant technology

Being a “solid-surface” material, **Cristalplant®** can be cut and glued on. This feature gives way to several customized items, such as custom-tailored cuts of moulded products, with no limit to design as for size or shape. Indeed, this feature lets designers create their object as moulded in 2 or more parts that can be then stuck one another and finished as one single piece; naturally, the more are the parts making the product the more expensive the sticking process will be.

As for bath decoration items, it is important to design the basin in one single piece, as it is the space containing water and undergoing heavy thermal shocks; any cut or joint shall be made on the outer side, then. The weld joints are always performed during the post-moulding stage and using the same material, thus creating one single piece with no visible sticking on it.

Cristalplant® finishing process is completed by using special Scotch-Brite® glass-papers and wire wools, thus creating a “velvety” and natural stone-like finish.

Moreover, **Cristalplant®** could be painted on the outer side, the one not in contact with water, using a soft-touch paint that is available in more than 700 different colours.

Specifications

ITEM	RESULTS	UNIT	STANDARD
EC conformity	achieved	---	UNI EN 14688:2007
Density	1.65 – 1.70	g/cm ³	internal method
Water absorption after 48h	<0.05	%	UNI EN 62:2001
Coefficient of linear thermal expansion from 0° to +40°C	41.4	µm/m °C	ASTM E 831:2006
Coefficient of linear thermal expansion from 80° to +150°C	124.7	µm/m °C	ASTM E 831:2006
Food contact – global migration	distilled water: 0.4 acetic acid 3%: 0.8 ethanol 10%: 0.5	mg/dm ²	UNI EN 1186:2003
Coefficient of friction for floors	The material complies with requested standards	---	B.C.R.A. standard
Barcol hardness	60	° Barcol degree	ASTM D 2583-81
Exion resistance	60.5	MPa	EN ISO 178:2003
Exion resistance – elastic modulus	8707	MPa	EN ISO 178:2003
Resistance to traction	32	MPa	EN ISO 527:1996
Resistance to traction – stretch-to-break test	0.4	%	EN ISO 527:1996
Resistance to traction - elastic modulus	9181	MPa	EN ISO 527:1996
Resistance to impact (thickness 15 mm)	8.5 – 9.0	Joule	UNI 10442:1995
Resistance to dry heat	Light mark at 140°C, removable	---	EN 12722:1997
Resistance to humid heat	Light mark at 95°C, removable	---	EN 12721:1997
Resistance to sudden changes in temperature	standard 5: no defects found	---	UNI 9429:1989
Light resistance – xenon lamp (1000 h)	4/5	grey colours scale	EN ISO 4892-2:2006
Resistance to cigarette burn	3-Light mark, removable by cleaning	---	UUNI FA 275:1989
Fire reaction – small flame	class I		UNI 8457:1987 UNI 8457/A1:1996
Fire reaction – radiant plate	class I		UNI 9174:1987 UNI 9174/A1:1996

Care and maintenance

Daily care

Cristalplant® requires an easy and quick daily care. It is enough to clean **Cristalplant®** using soap and water or common detergents to remove most of the dirt and stains that may be deposited on the surface. It is particularly recommended to rinse the surface well and to use gel or abrasive detergents with abrasive sponges like “Scotch Brite®” as in attached sample; doing that way, the original matt finish, distinguishing feature of **Cristalplant®**, will keep untouched.

How to prevent from damages

The surface is generally strongly resistant against stains and spots; nonetheless aggressive chemical products, such as acetone, trichloroethylene, strong acids or bases are not recommended. After long contact periods, several substances like ink, cosmetics and dyes, may leave colouring agents on **Cristalplant®** surface; the same may occur as for lit cigarettes; but all of that can be removed following the recommendations reported below.

Care and maintenance

How to remove persistent stains, scratches and burning rings

Cristalplant® is an homogeneous material in all its thickness and depth, thus it can restore its surface original beauty from aggressive agents, such as scratches, burning rings from cigarettes and persistent stains, simply by following these instructions: as for small damages, use an abrasive Scotch Brite® (3M trademark) sponge and a common abrasive detergent to restore the surface. Rub superficially the damaged part down. If the defect is still visible, rub again using very fine glass-paper.

To use:

Powder or cream detergents like CIF®, VIM® or similar, containing micro-granules with abrasive action on the surface. Methylated spirits may be used only being wary of rinsing well the surface.

Non to use:

Solvent agents like acetone or trichloroethylene, as well as other aggressive chemical substances like strong acids (muriatic acid...) or bases (caustic soda...). Detergents for industrial use or others of unknown aggressive action: in this case a test on a spot not in view should be done before application. Very aggressive substance generally used to clear sink pipes. Solvents used in the painting industry. verniciatura.

Maintenance kit

1) Clean accurately the damaged surface and the surrounding parts with a cotton cloth and methylated spirits. Dust and stains shall be removed.

2) Using a stainless steel spatula or putty knife, mix accurately the filler/putty provided with the catalyst, up to a complete dispersion of the liquid substance.

N.B. Use thoroughly both components; in case of wrong proportions of catalyst, the risk is to get a yellow colour finish (too much catalyst) or not enough hardening (not enough catalyst).

3) Apply the filler/putty on the damaged part and close around it. The filler/putty should be applied a few at a time inside the flaw, preventing air from going out. The result to get is a putty surface in relief, on the damaged part and close around it.

4) Let the filler/putty harden for at least 12 hours at an ambient temperature, that should be at minimum 15°C to get good results. The use of a warm air generator (hairdryer) would help speed catalysis activation and get a faster hardening process. In this case, after complete catalysis of the filler/putty, 4-5 hours are enough to remove it.

Maintenance kit

5) The filler/putty is to be removed by 220 grain glass-paper. In case of big excess of applied filler/putty, it is recommended to use a rubbing machine, priming with a 120 grain glass-paper and finishing with a 220 grain glass-paper. The surface should be rubbed down and smoothed evenly, including also the parts around the defect in order to eliminate any non-homogeneous part, especially sinking or hollow effect.

6) After filler/putty removal, eliminate the consequent dust and start cleansing using common detergents and the Scotch Brite® sponge included in the maintenance kit.

Contacts

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