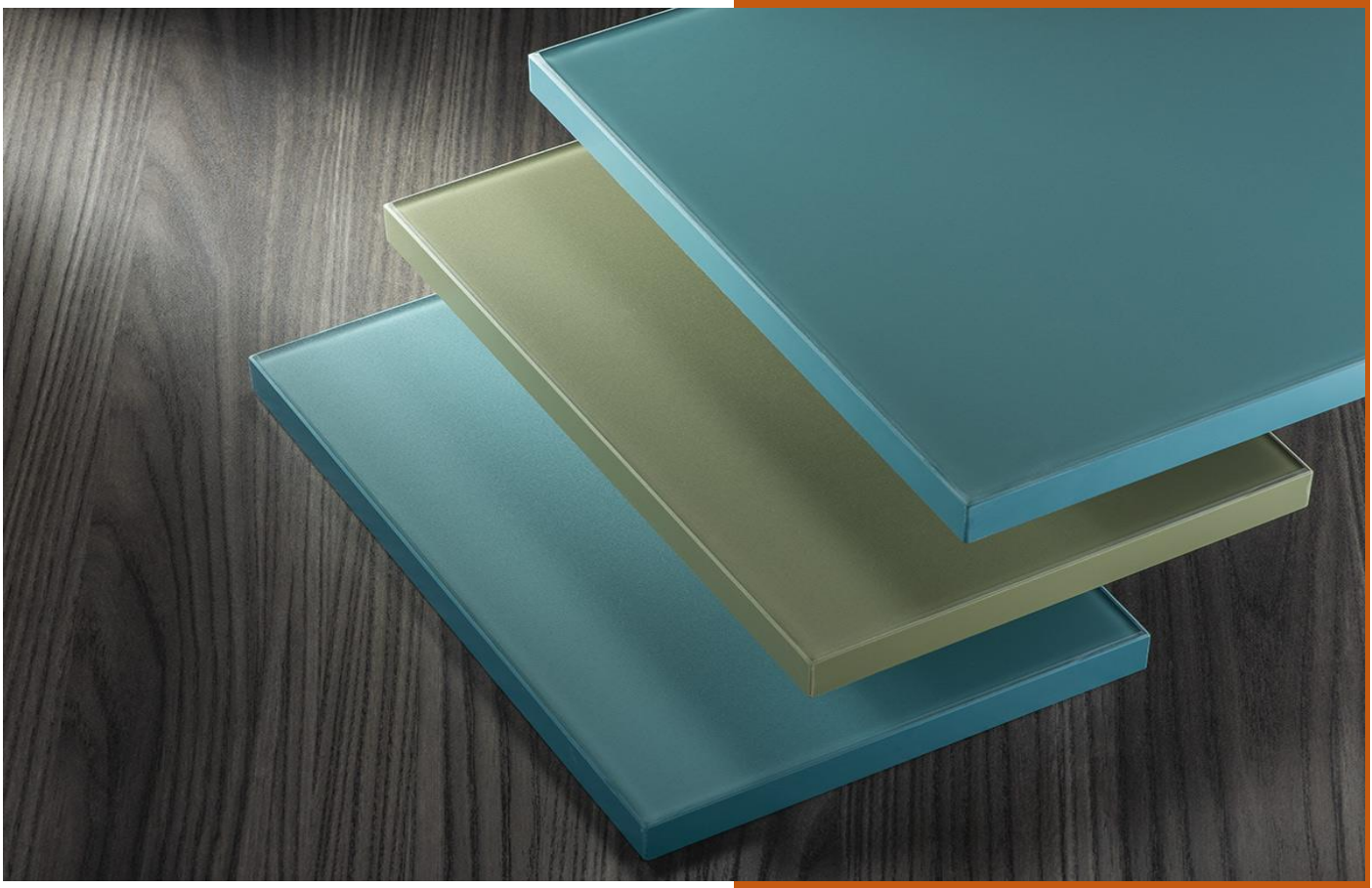
EUROCOMPONENTI®
Krono System Group

GLAKS TECHNICAL MANUAL®



Krono System Srl

Quality Management Officer

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1. FOREWORD

This document is a first approach to the knowledge of Glaks®, henceforth Glaks, with reference to its production, properties, types and international reference standards. It contains indicative information on maintenance, processing and installation methods, as well as practical advice for optimal use, maintenance and cleaning. The advice and recommendations are only a proposal. ***Glaks® is a registered trademark of Krono System Srl.***

For further information, please consult our website: https://www.eurocomponenti.com

2. COMPANY

Krono System - Eurocomponenti is a company with more than 40 years of experience, but with a young and dynamic spirit: its production has always been based on the free search for technical and aesthetic innovations.
Located in Mansuè (TV) at Via Sali 25, Krono System - Eurocomponenti produces semi-finished products and panels for furniture both on order and with JIT service.
The company adopts its own internal quality system according to UNI EN ISO 9001 and Lean Production.
It has also obtained its own Chain of Custody certification according to the FSC and PEFC Standards.

3. GLAKS: WHAT IT IS AND WHAT IT LOOKS LIKE

Spelled Glaks, read organic glass! by Krono System, for the sake of quality.

GLAKS by Krono System is 100% PMMA extruded, an extraordinary product that is the result of research and experimentation that has made this product completely similar to glass, surpassing it in flexibility, speed, and price.

Its surface offers excellent resistance to abrasion, chemicals and light, and also has outstanding optical properties. The inside is coloured by transferring an exclusive Krono System varnish film.

GLAKS is therefore a Krono System exclusivity, a true organic glass, a glossy, matt or satin-finished anti-impact surface, a viable alternative to silicon glass. GLAKS® is non-toxic and environmentally friendly, and its resistance to heat, water and stains is also excellent.

4. COLOURS AND FINISHES

The colour range is divided into the following categories:

- Solid colours;
- Mother-of-pearl;
- Metallised;
- Liquid metal.

The finishes are:

- Gloss > 90 Gloss
- Matt < 30 Gloss
- Satin < 5 Gloss

On request and by specific agreement, colours can be made to customer specifications.

5. COLOUR SAMPLES

For promotional and commercial purposes, 'colour samples' are available.

Colour swatch books may show differences in shade from the master colours.
For this reason they cannot be used in quality control as a comparative colour reference, their purpose is purely indicative and not exhaustive.

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6. TECHNICAL CHARACTERISTICS OF GLAKS®

An extremely robust material.

Thanks to its special surface treatment, GLAKS® is an extremely robust material: it is resistant to scratches, impacts, abrasions and chemicals; features that make it ideal for a wide range of applications.

GLAKS has been subjected to many laboratory tests, according to which the main quality characteristics are:

Furthermore, GLAKS by its nature is resistant to bacteria (74.88%), making it particularly suitable for applications in public places or any environment where a high level of hygiene is required.

7. USES AND INTENDED USE

GLAKS is suitable for the construction of interior furnishings such as:

- Kitchens: Doors, Shelves, Sides.
- Bathroom furniture: Doors, Tops, Shelves, Sides.
- Night and Living: Doors, Shelves, Tops.
- Office: Doors, Desk tops, Shelves, Partitions.
- Shops and fittings: Doors, Shelves, Partitions, Shelf tops.
- House Doors and Armour Panels.
- Furnishing accessories.
- Table and desk tops.

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8. TEN GOOD REASONS TO USE GLAKS® COMPONENTS

When you need solidity and Italian design

- It is lighter, cheaper and more transparent than mineral glass.
- Resistant to scratching, heat, chemicals, light, impact.
- It is machined and drilled with the same tools normally used for wood;
- Environmentally friendly, in line with the ideals of green and circular economy;
- Biocompatible: the resin it is made of is also used for contact lenses, bone prostheses, and baby articles.
- Easy to clean.
- Quick to make.
- Available in a wide range of colours.
- Possibility of colours on request**
- JIT service.

** quantity and timing to be agreed.

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9. SPECIFIC HE CONSTRUCTION AND POSSIBLE COMBINATIONS

	Supports			Profiles			
	Chipboard	MDF	Plywood	30°	45°	Folding	Postfoming
Panels	●	●	●	-	-	-	-
Components for furniture	●	●	●	●	●	●	-

9.1 CLADDING AND EDGING

Description	Outer side	Inner side	Edge
Doors, Drawers	Pmma glossy 2 mm or matt 3 mm	Colour-matched acrylic backing 2 or 3 mm thick	Coloured Abs 1 mm thick. White= acrylic 1 mm thick
Hips	Pmma glossy 2 mm or matt 3 mm	Colour-matched acrylic backing 2 or 3 mm thick	Colour-matched Abs 1 mm thick. White= acrylic 1 mm thick
Bars	Pmma glossy 2 mm or matt 3 mm	Colour-matched acrylic backing 2 or 3 mm thick	None
Plated panels	Pmma glossy 2 mm or matt 3 mm	Colour-matched acrylic backing 2 or 3 mm thick	None
House Doors	Pmma glossy 2 mm or matt 3 mm	Pmma glossy 2 mm or matt 3 mm	Coloured Abs 1 mm thick. White= acrylic 1 mm thick

10 TECHNICAL STANDARDS OF MEDIA

Support	Reference standard	Class Standard	Water-repellent class	Class Formaldehyde
Chipboard	EN 312	P2	W100	Carb/Epa
MDF	EN 622	MDF	W100	Carb/Epa
Plywood	EN 13986	-	W100	Carb/Epa

Krono System uses standard class supports unless otherwise specified by the customer.

Other standards are referred to in the media manufacturers' technical sheets.

FSC- or PEFC-certified media can be supplied on request

10.1 FOREST CERTIFICATION OF SUPPORTS

FSC
www.fsc.org
FSC® C160984
Il marchio della gestione forestale responsabile

PEFC
PEFC/18-31-1090
Promuoviamo la Gestione Sostenibile delle Foreste
www.pefc.it

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11 PANEL DIMENSIONS

	H	L	SP
Glaks coated panels	3050	1300	18
	3050	1300	22

12 DIMENSIONS OF COMPONENTS FOR FURNITURE

	Minimum dimensions (mm)		Maximum dimensions (mm)		Thickness (mm)	
(Doors, Sides, Shelves, etc.).	H	L	H	L	Min	Max
	200	50	3050	1300	8	60

13 L AVORATIONS ON REQUEST

- Cladding on Abs, Phenolic Layered, Tamburato substrates.
- Drilling to customer specification;
- Shaped and edged profiles;
- Curved.

14 DIMENSIONAL TOLERANCES

In accordance with the standards of: UNI EN 14322 and UNI EN 14323

Product	Thickness	Length	Width	Team	Arrow (Curve)
Doors, Drawers	± 0.4 mm.	± 0.2 mm.	± 0.2 mm.	± 0.4 mm. x ml	≤2 mm. x ml for thickness ≥ 16 mm. ≤3 mm. x ml for thickness 12÷15 mm.
Hips	± 0.4 mm.	± 0.2 mm.	± 0.2 mm.	± 0.4 mm. x ml	≤2 mm. x ml for thickness ≥ 16 mm. ≤3 mm. x ml for thickness 12÷15
Bars	± 0.4 mm.	± 10 mm.	± 0.3 mm.	n. a	≤2 mm. x ml for thickness ≥ 16 mm. ≤3 mm. x ml for thickness 12÷15 mm.
Plated panels	± 0.4 mm.	± 10 mm.	± 10 mm.	n. a	≤2 mm. x ml for thickness ≥ 16 mm. ≤3 mm. x ml for thickness 12÷15 mm. ≤4 mm. x ml for thickness 8÷11 mm. ≥4 mm. x ml for thickness < to 8 mm.
House doors	± 0.4 mm.	± 0.4 mm.	± 0.4 mm.	± 0.4 mm. x ml	≤2 mm mm. x ml

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15 POSSIBLE DEFECTS, CONTROL METHOD AND LIMITS OF ACCEPTABILITY

We adopted the agreement between the AMK 'Arbeitsgemeinschaft Moderne Küche' and the EFM 'European Association of Furniture Door Manufacturers'.

Table 1 - Components for furniture

DEFECT DESCRIPTION	METHOD OF CONTROL	OUTSIDE	INSIDE
Overall aesthetic assessment	15° inclined panel with natural or neon light: observation for 30 seconds at a distance of 80 cm.	No defects	No defects
Chips or cracks on the perimeter	Visual backlighting	Absent	Absent
Gaps between panel and edge	Visual backlighting	Absent	Absent
Edge glue residues	Visual	Absent	Absent
Scratches	Visual backlighting	Absent	1 max. length 3 mm X < 0.5 m²; 2 max. length 3 mm X > 0.5 m²;
Grains and drops	Visual backlighting	Absent	1 of ø max 1mm X < 0.5 m²; 2 of ø max 1mm X > 0.5 m²;
Stains, blows	Visual backlighting	Absent	Absent
Ripples	Visual backlighting	Absent	Absent
Reliefs and dots	Visual backlighting	Max. ø of 0.2 mm permitted 1 defect of 0.3 m²; ÷ 1 m²; 2 defects of 1 m² ÷ 2 m²; (See also footnote)	Max. ø of 0.5 mm permitted 1 defect up to 0.3 m²; 2 defects of 0.3 m² ÷ 1 m²; 3 defects from 1 m² ÷ 2 m²; (See also footnote)
Capettature	Visual backlighting	Absent	Absent
Alonature	Visual backlighting	Absent	Absent
Extrusion defects: herringbone, wrinkles	Visual backlighting	Absent	Absent
Shade differences same order*	Visual + Counter sample	Rating 4 out of 5 see standard UNI EN 14323:2017	Rating 4 out of 5 see standard UNI EN 14323:2017
Differences in tone between orders*.	Visual + Counter sample	Rating 4 out of 5 see standard UNI EN 14323:2017	Rating 4 out of 5 see standard UNI EN 14323:2017
Brilliance	Instrumental - Glossmeter	+/- 5 gloss	+/- 5 gloss
Arrow (Curve)	Instrumental - Straight bar	/	≤2 mm. per ml. (inwards) see EN 14323: 2017

*Given the originality of Glaks, there may be small differences in colour between one panel and another, combinations that are the defining note as well as the essence of the beauty of organic lacquered glass.

Note:
Possible dots, dents, slight undulations visible against the light, may sometimes be present in the raw material and fall within the supplier's tolerance of acceptability as they are hardly visible, random and not repetitive.

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Table 2 - Panels

DEFECT DESCRIPTION	METHOD OF CONTROL	OUTSIDE	INSIDE
Overall aesthetic evaluation	Panel with natural or neon light: observation for 30 seconds at a distance of 80 cm.	No defects	No defects
Scratches	Visual backlighting	Absent	1 long max. 3 mm X < 0.5 m²; 2 max. 3 mm long X > 0.5 m²;
Grains and drops	Visual backlighting	Absent	1 of ø max 1mm X < 0.5 m²; 2 of ø max. 1mm X > 0.5 m²;
Stains, blows	Visual backlighting	Absent	Absent
Ripples	Visual backlighting	Absent	Absent
Reliefs and dots	Visual backlighting	Max. ø of 0.2 mm permitted 2 defects of 1 m² ÷ 5 m²; (See also footnote)	Max. ø of 0.5 mm permitted 3 defects from 1 m² ÷ 5 m²; (See also footnote)
Alonature	Visual backlighting	Absent	Absent
Extrusion defects: herringbone, wrinkles	Visual backlighting	Absent	Absent
Shade differences same order*	Visual + Counter sample	Rating 4 out of 5 see standard UNI EN 14323:2017	Rating 4 out of 5 see standard UNI EN 14323:2017
Differences in tone between orders*.	Visual - Observation Booth	Rating 4 out of 5 see standard UNI EN 14323:2017	Rating 4 out of 5 see standard UNI EN 14323:2017
Brilliance	Instrumental - Glossmeter	+/- 5 gloss	+/- 5 gloss
Arrow (Curve)	Instrumental - Straight bar	/	≤2 mm. per ml. (inwards) see standard EN 14323 : 2017

*Due to the originality of Glaks, there may be small colour differences between one panel and the next, combinations that are the defining note as well as the essence of the beauty of organic lacquered glass.

Note:
<u>Possible dots</u>, dents, slight undulations visible against the light, may sometimes be present in the raw material and fall within the supplier's tolerance of acceptability as they are hardly visible, random and not repetitive.

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16 TECHNICAL PERFORMANCE

Testing	Norma	Result achieved	Comments
Light resistance	UNI EN 15187:2007	5	
Scratch resistance	UNI EN 1586:2012	1,3 N	
Resistance to temperature changes	UNI 9429: 1989	5	*(No defects after 15 cycles)*
Cycle exposure to heat, cold, humidity	UNI EN ISO 9142:2004	No Defects	*(10 Cycles)*
Resistance to cold liquids	EN 12720 :2013	**A**	
Resistance to cleaning products	PTP 53: 2016	5	
Surface resistance to dry heat	UNI EN 12722:2013	D	*(70°)*
Surface resistance wet-dry cycles	PTP 25: 1995	No Defects	*(Duration 15 days)*
Total Volatile Organic Compounds from Construction and Finishing Products	UNI EN ISO 16000-9:2006 + ISO 16000-6:2011	µg/m³ 11	*(ppm 0.0005)*
Total Formaldehyde	UNI EN ISO 16000-9:2006 + ISO 16000-6:2011	µg/m³ 1	*(ppm <0.0001)*

All GLAKS products comply with the new German UBA legislation on formaldehyde emissions for wood-based products.

17 **PACKAGING** AND IDENTIFICATION

All GLAKS© products are packed in such a way that the material cannot be damaged during transport and subsequent storage at the customer's premises.

Semi-finished products

- The surface of each individual article is provided with a protective film, article identification label and multilingual use and maintenance label;
- The products are packed on euro pallets;
- Between the pallet and the panels, a martyr panel of a length and width appropriate to the dimensions is placed, usually about 50 mm larger than the panels.
- A sheet of cotton wool is placed between each panel.
- A martyr panel is placed on top of each pile.
- The package is secured with straps and stretchers.
- The package is identified with a label on the short side up to a length of 2.20 metres. From 2.40 m.

The label is placed on the long side.

Panels

- The surface of each individual article is provided with a protective film, article identification label
- The products are laid on a sacrificial panel with a number of poles, 5 to 7, depending on length;
- A sheet of cardboard is placed between each panel.
- A martyr panel is placed on top of each pile.
- The package is secured with straps and stretchers.
- The parcel is identified with a label on the long side.

Any other packaging must be agreed upon at the time of the offer.

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18 SUGGESTIONS FOR STORAGE AND PRESERVATION.

- Keep the material stored in its original packaging, in suitable premises and protected from the weather, sun and draughts.
- If the package has to be unpacked for storage or further processing, in order to avoid damage, we suggest keeping the packaging according to the above specifications under penalty of forfeiture of the guarantee.

19 TESTING AND HANDLING

In cases where the materials in Glaks have to be processed in customer departments, certain precautions are necessary in order to avoid damaging the surfaces, in particular it is recommended:

a) The quality of the material must be verified before processing.

b) Always keep the protective film on both the surface and the edge;

c) Ensure that the support surfaces, tracks, suction cups, etc. of the equipment are well cleaned and free of foreign bodies.

d) Always keep the surface well cleaned of any foreign bodies including dust;

e) Attention! Overlapping with other dirty panels can cause hollows, undulations, crushing and holes that may also be very noticeable given the glossy finish.

f) Always handle the material with a number of people appropriate to the weight and size of the panel in order to avoid rubbing, rubbing against other panels or worktops.

20 ENVIRONMENTAL ASPECTS

At the end of the furniture's lifecycle, remove all hardware and deliver the panels separately to eco-centres or wood recycling companies in the municipalities, according to current regulations and rules.

Sacrificed pallets and panels should be stored and returned to Krono System.

Extensible, strapping, cardboard, wadding should be separated and handed over to recovery companies in accordance with the laws in force.

21 SECURITY REQUIREMENTS

Based on statements from our suppliers, we list the safety requirements of the product.

Component	Description	Carb/Epa	Reach	Rohs
Support	MDF /Tchipboard	●	●	●
Adhesive	Polyurethane		●	●
Coatings	Transparent Pmma		●	●
Coatings	Retro Pmma		●	●
Paints			●	●

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22 THE JUST-IN-TIME SERVICE

Krono System has developed a very efficient Just in Time service, square, edged, perforated components in 15 gloss and matt colours, thicknesses 18 and 22 mm always in production, other colours may be available through special commercial agreements.

Please ask your sales representative for detailed information.

23 ENVIRONMENTAL ASPECTS

The Glaks product is fully recyclable. At the end of the furniture's life cycle, remove all hardware and deliver the panels separately to eco-centres or wood recovery companies in the municipalities, according to current laws and regulations.

Sacrificed pallets and panels should be stored and returned to Krono System.

Extensible, strapping, cardboard, wadding should be separated and handed over to the recovery companies in accordance with the laws in force.

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24 RULES FOR MAINTENANCE AND CLEANING

Nature of the dirt	Recommended cleaning product and method of application
Syrup - fruit juice - jam - liquor - milk - tea - coffee wine - soap - ink.	Spray a soft cloth, e.g. microfibre, with a normal non-alcohol-based glass cleaner or water with 5/10% neutral soap added. **If heavily soiled, use an ordinary glass cleaner, trying it out on a portion of the surface first.**
Animal and vegetable fats - sauces - dried blood - wine and dry spirits - eggs.	Spray a soft cloth, e.g. microfibre, with a normal, non-alcohol-based glass cleaner or water with 5/10% neutral soap added.
Smoke black - gelatine - vegetable and vinyl glues - organic residues, water colours - gum arabic	Spray a soft cloth, e.g. microfibre, with a normal, non-alcohol-based glass cleaner or water with 5/10% neutral soap added.
Hairsprays - vegetable oils - castor oil - biro and felt-tip pens - wax - dye base and greasy powders - solvent residue halos.	Spray a soft cloth, e.g. microfibre, with a normal, non-alcohol-based glass cleaner or water with 5/10% neutral soap added. **If dirt is stubborn, use a common glazing product, trying it out on a portion of the surface first.**
Residues of glues originating from removal of the protective film - acrylic or vegetable rubber type.	Spray a soft cloth, e.g. microfibre solution of water with 5/10% neutral soap added.
Residues or traces of silicone.	If they are completely dry, it is impossible to remove them. If not - scrape very gently with wooden or plastic tools - being very careful not to scratch the surface. Spray a soft cloth, e.g. microfibre, with a normal, non-alcohol-based glass cleaner, or water with 5/10% neutral soap added.
Lime residues.	Spray a normal, non-alcohol-based glass cleaner on a soft cloth, e.g. microfibre.
Recommendations: Avoid using acetone, alcohol, pure vinegar, trichloroethylene, ammonia, bleach, hydrogen peroxide, muriatic acid and derivatives, Cif-type abrasive creams, scouring pads. Caution, the use of these products may irreparably damage the product or cause yellowing of the surface.	

25 UPDATES

This Technical Manual is subject to periodic revision. It is understood that cyclically the quality office will send updated copies only to customers who regularly purchase its products and to those who make a written request to the sales office.
Krono System declines any responsibility in case the customer refers to outdated manual information.

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