

HI·MACS



HI-MACS QUALITY WINS

1 Seven kinds of benefits



Advanced Technology



Unlimited Colour Spectrum



Seamless Perfection



Three Dimensional Design Process



Dramatic Translucency



Hygienic



HIMACS vs Mixed Product

2 Discover more products



HIMACS Ultra-Thermoforming



HIMACS Intense Ultra



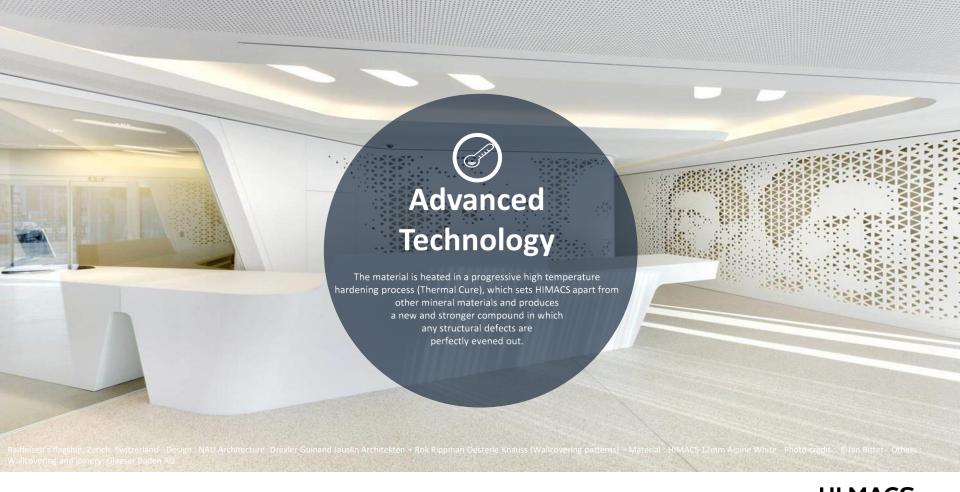
HIMACS Exteria®

3

Eco-friendly

Quality Service

Extra Features



What exactly is HIMACS?

An outstanding material

HIMACS is a delicate composition of acrylic, minerals and natural pigments that combine to create a smooth, non porous, thermoformable and visually seamless surface.

67 % Alumina Trihydrate (ATH) ca.30% Acrylic3% Natural Pigments



Stronger surface with durability similar to that of natural stone.



No matter if it's a scratch, spill or crack, HIMACS can be restored to its original state by a certified professional.

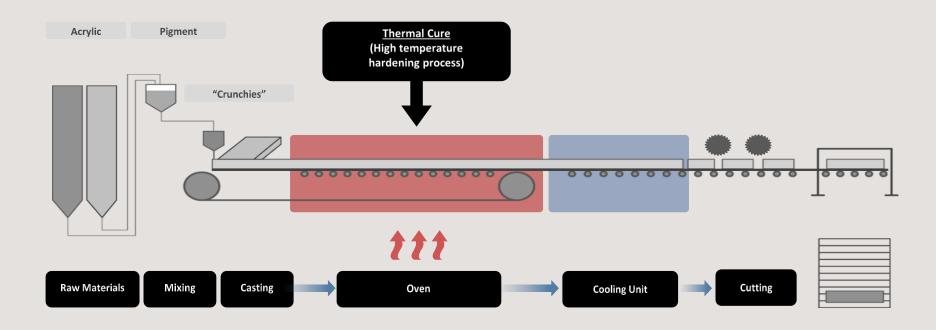


HIMACS is ideal for places where safety is the number 1 criteria of choice.



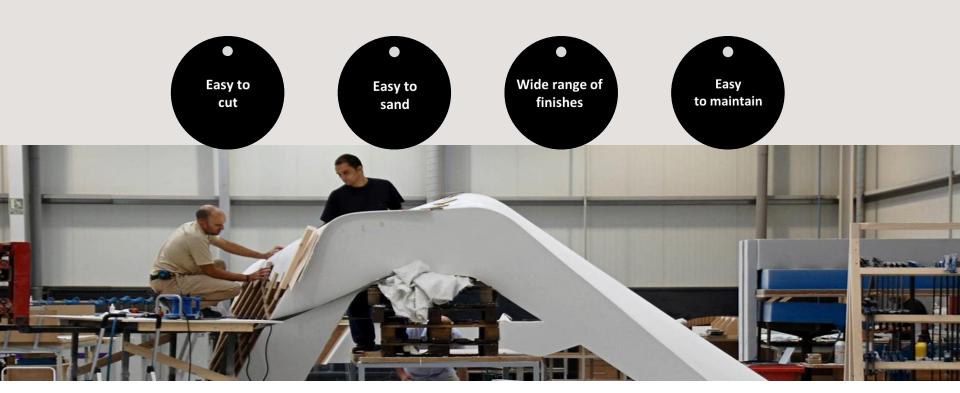
Thanks to its non-porous surface HIMACS is suitable for humid areas such as wet rooms and bathrooms.

Advanced polymer resin technology

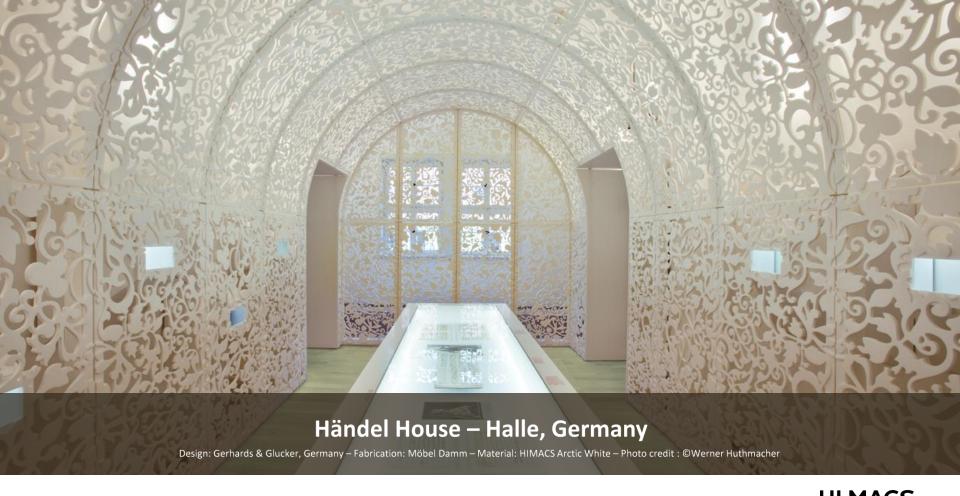


Reduce time, Reduce cost

As HIMACS is easy to fabricate, it reduces costs and its high durability allows long usage.









L'Anello Mancante at MAXXI Museum

Unlimited colour Spectrum

Michele De Lucchi



Name: L'Anello Mancante
Location: MAXXI, Rome
Design: Michele De Lucchi
Material: HIMACS Alpine White
HIMACS distributor: M.A.D.E. srl
Production structure and installation: Unifor
Photo Credits: © Musacchio Ianniello courtesy Fondazione MAXXI



Alpine White



Marcel Wanders



Milan Design Week "Sparkle Krib"

Karim Rashid

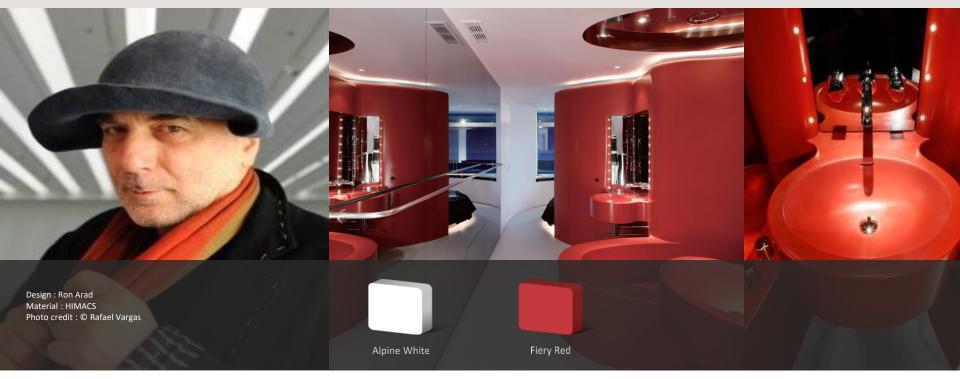


Zaha Hadid



Hotel Puerta America, Spain

Ron Arad



Herrmann Flavio, Switzerland



Colours
Unlimited colour Spectrum

SOLIDS LUCENT Alpine White Diamond White Arctic White Ivory White **Nougat Cream** Opal Satin White Cream Almond Babylon Beige Suede Sapphire Grey Marta Grey Steel Grey Concrete Grey Banana Light Green Sky Blue Midnight Grey Ruby Coffee Brown Black Dark Night Emerald **TERRAZZO STRATO**

Aurora Linen Cream Aurora Ecru Aurora Ecru Aurora Angora Aurora Angora Aurora Magnolia Aurora Sabile Aurora Calacatta Luna Pavia Aurora Cotton Aurora Bianco

Aurora Torano

Aurora Bisque

MARMO - AURORA

Aurora Blanc





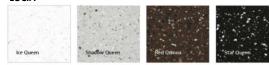
Aurora Grey

Colours
Unlimited colour Spectrum

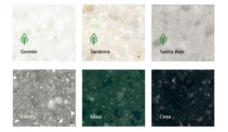
CONCRETE



LUCIA



VOLCANICS



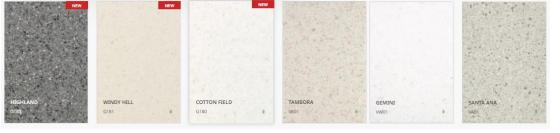
ASTER



GRANITE, QUARTZ, SAND & PEARL



Recycled Colours
Unlimited colour Spectrum







Colours – Advanced Series

HIMACS-FR

-\\d

Alpine White

S828 [12 mm]

Alpine White S728 [12 mm] Δ E5

HIMACS UV+

HIMACS ULTRA-THERMOFORMING



Alpine White S928 [12 mm]

HIMACS INTENSE ULTRA

-\\\\\



Intense Ultra Grey S923U [12 mm]



Intense Ultra Dark Grey Intense Ultra Black S924U [12 mm]



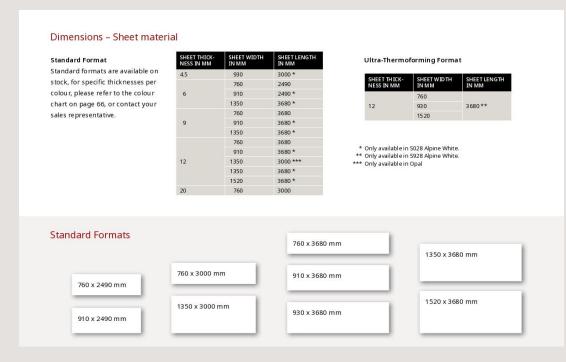
S922U [12 mm]







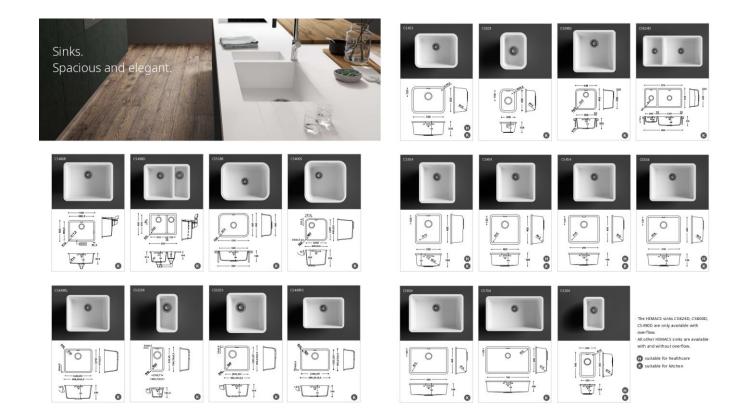
Sheets Dimension



Size matters – to increase efficiency and reduce offcuts, HIMACS can be supplied in different sheet thicknesses, formats and sizes. Ideal for maximum cutting, minimum wastage and minimal costs.

Sinks

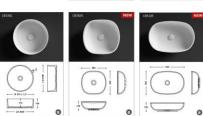




Basins Offering

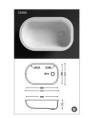


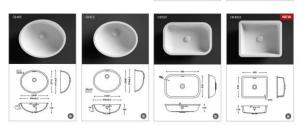






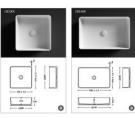






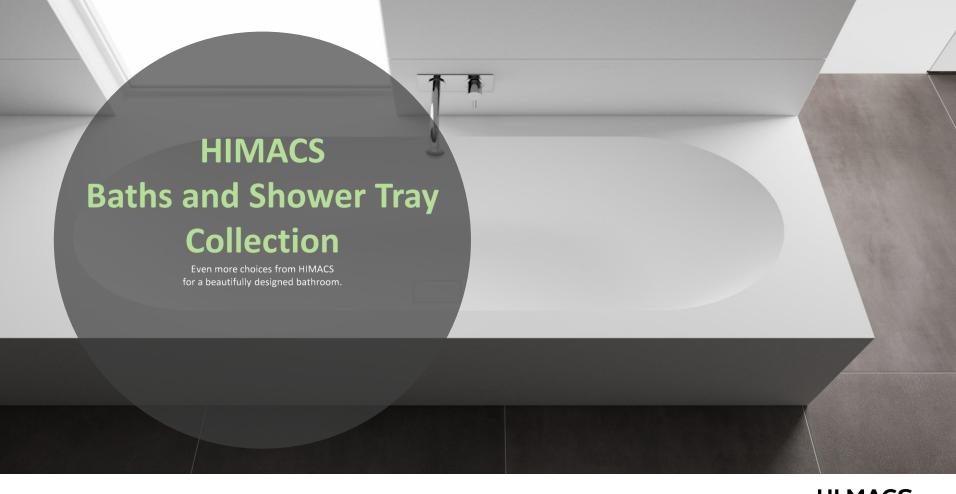


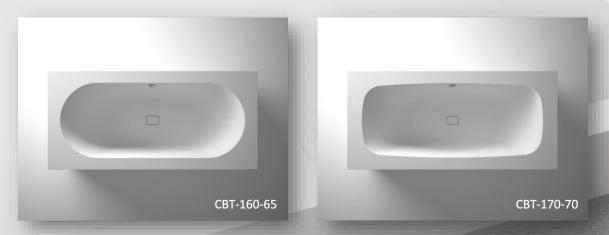
HIMACS Basins for the bathroom -Top mount installation











Baths Collection

The baths are designed for integrated installation.

The bath is enclosed flush-mounted within the panel, so that visually the product is seamless: no visible joins and therefore easy to maintain with hygienic surfaces.

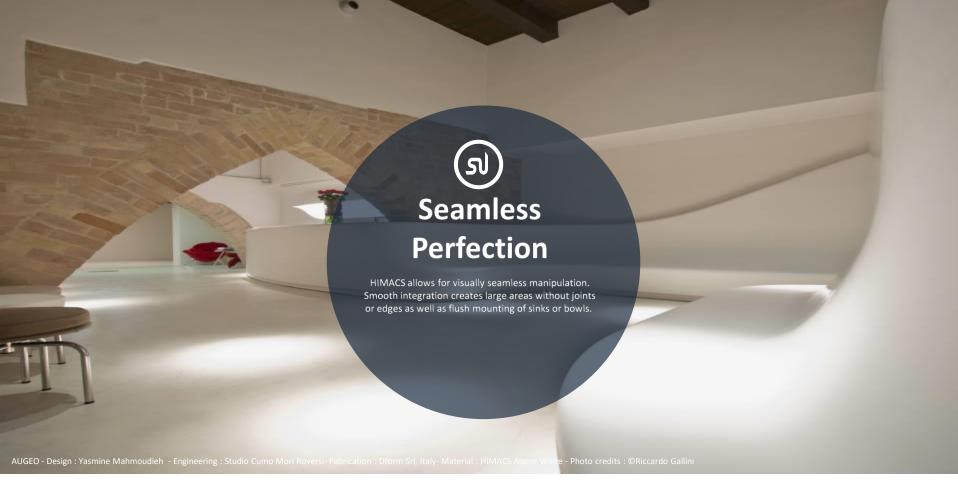














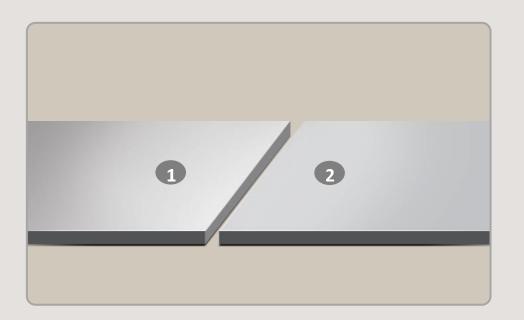
Prepare two pieces of HIMACS

Bond Joint

Clamp the assembly and dry

Sand

Complete seamless fabrication



How to achieve seamless design?

2

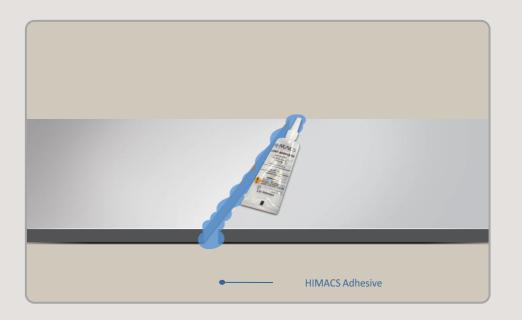
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How to achieve seamless design?

2

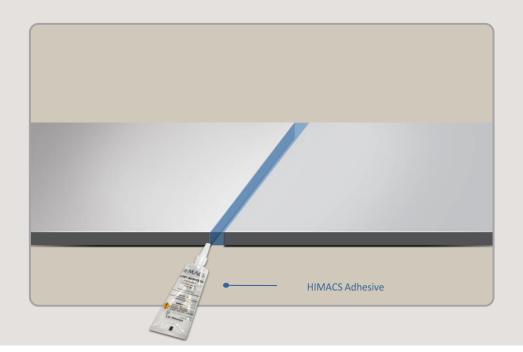
Prepare two pieces of HIMACS

Bond Joint

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Sand

Complete seamless fabrication



How to achieve seamless design?



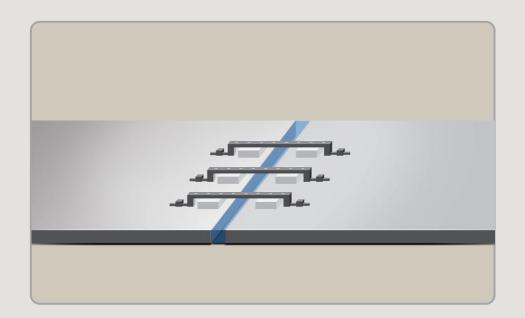
Prepare two pieces of HIMACS

Bond Joint

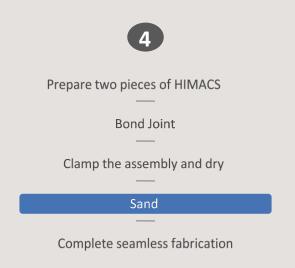
Clamp the assembly and dry

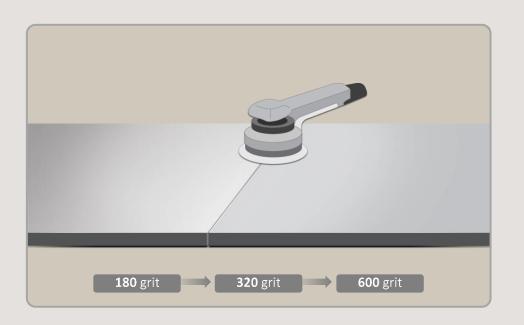
Sand

Complete seamless fabrication



How to achieve seamless design?







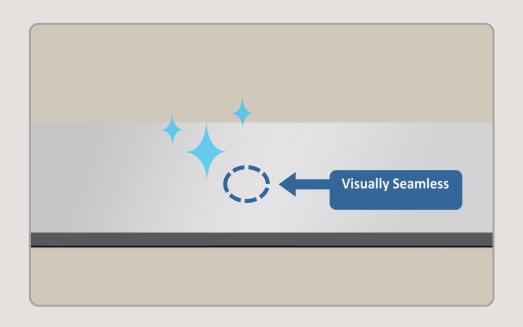
Prepare two pieces of HIMACS

Bond Joint

Clamp the assembly and dry

Sand

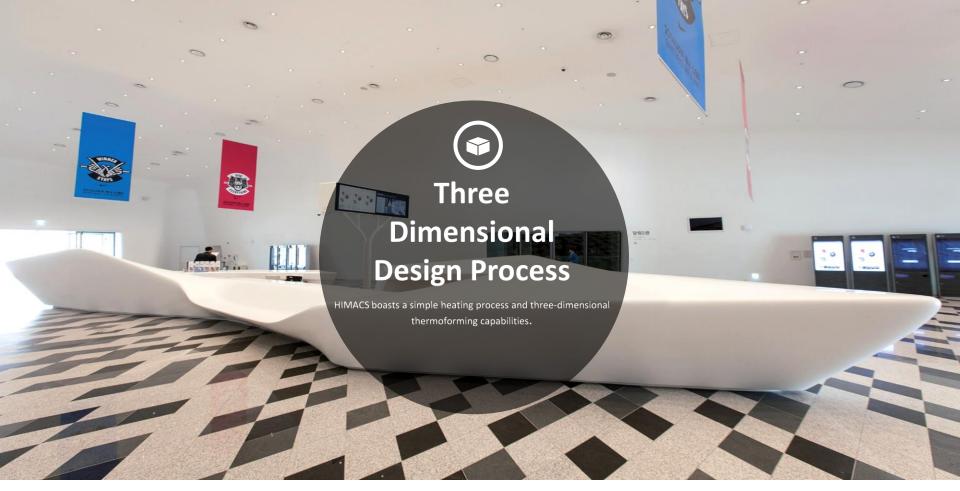
Complete seamless fabrication





Opera house by Zaha Hadid in China

Design: Zaha Hadid Architects, London - Fabrication: Gooday International - Material: HIMACS Alpine White



Three Dimensional Design Process



Disassemble drawing for mould production

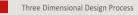
Mould production

Preheat HIMACS

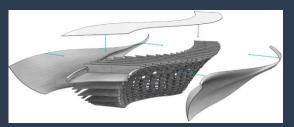
Vacuum press

Glue and sand

1. Disassemble Drawing for Mould Production













Thermoforming and seamlessly integrated processing



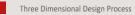
Possible achievable minimum radius:

• 12 mm : 2D

Approx. $R = 50 \text{ mm} \gg \text{for Solids}$

Approx. R = $100 \text{ mm} \gg \text{for Granite}$

2. Mould production



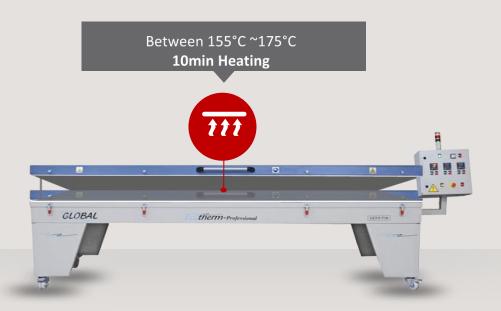






* CNC : Computer Numerical control

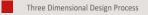
Rebate all edges before heating or put a radius on all edges.



^{*} Heating temperature should never exceed 200°C

3. Preheat HIMACS

Rebate all edges before heating or put a radius on all edges.







^{*} Heating temperature should never exceed 200°C

Three Dimensional Design Process



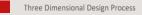
Rebate all edges before heating or put a radius on all edges.



^{*} Heating temperature should never exceed 200°C

4. Vacuum press

After thermoforming process, Let the work-piece cool down continuously.

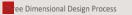






4. Vacuum press

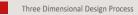
After thermoforming process, let the work-piece cool down fully.



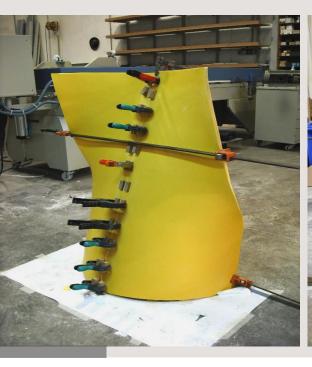




5. Glue and sand

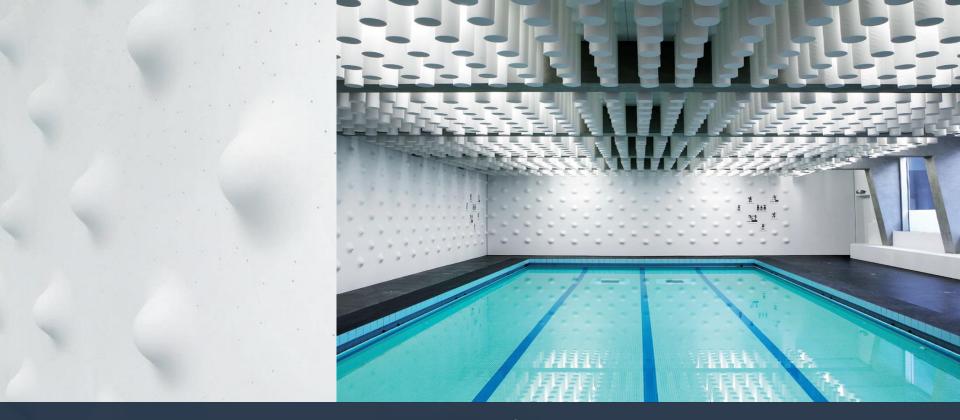










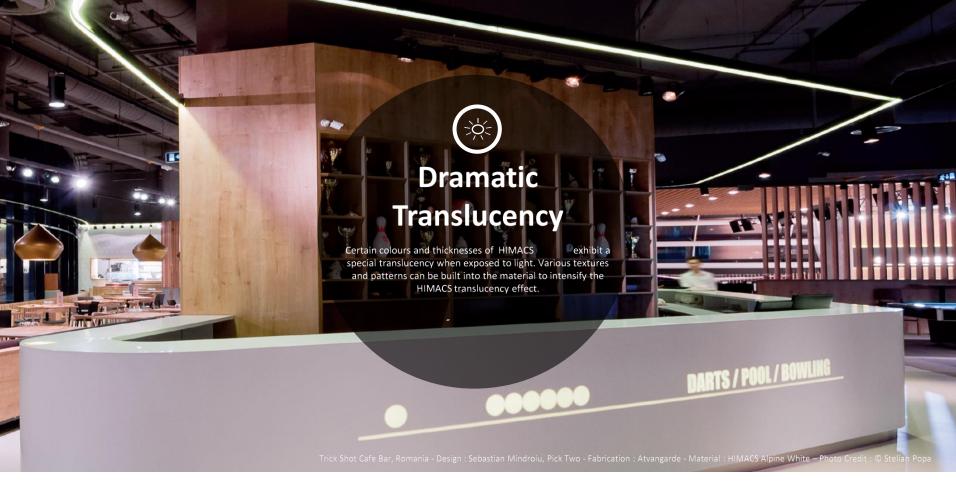


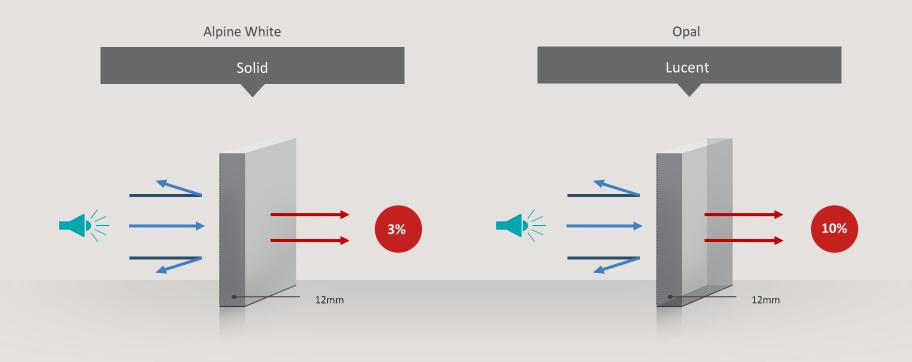
Swimming Pool, France

Design; Yoonseux Architects, France - Engineering: ETHA - Fabrication: ASKA Interior, France - Material: HIMACS Arctic White - Photo credit: @Alexandra Mocanu



Design: preiswerk marek architekten - Engineering: 5D Engineering - Material: HIMACS Alpine White - Photo credit: © Uwe Röder







Solid vs Lucent Solid (CNC fabrication) 6mm 6mm

Solid vs Lucent Solid (CNC fabrication) **3**% 3% 18% 6mm



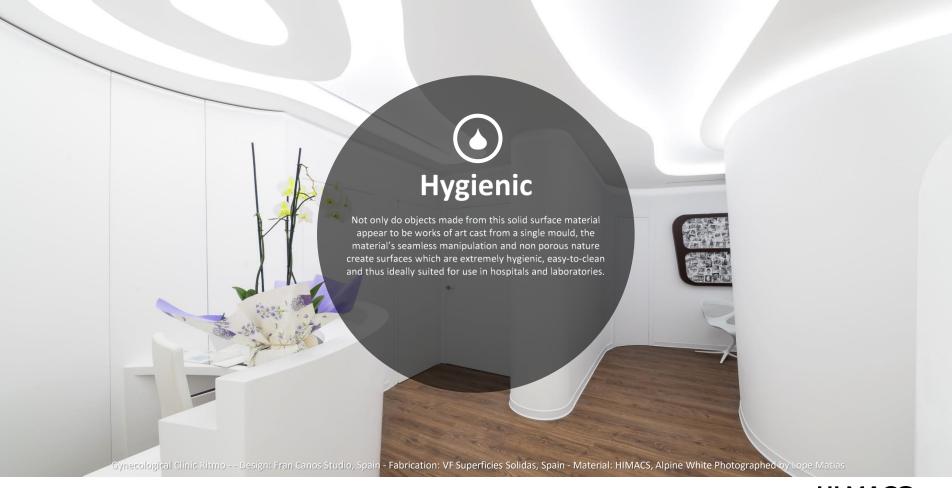
HI·MACS





Silver Mountain, Romania

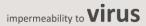
Design: Robert Marin, Nuca Studio – Fabrication: Atvangarde Surfaces - Material HIMACS, Opal - Photo credit: Stelian Popa





Non-porous material









bacteria



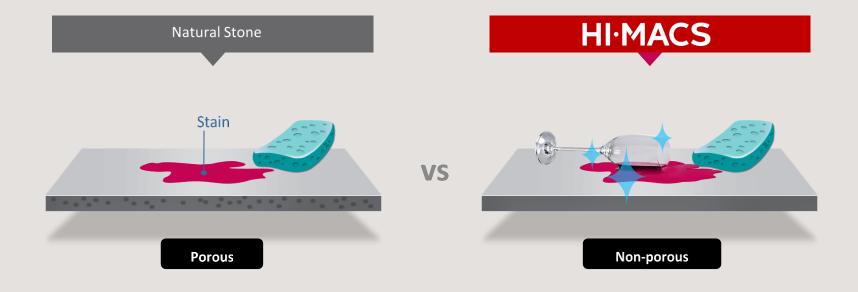




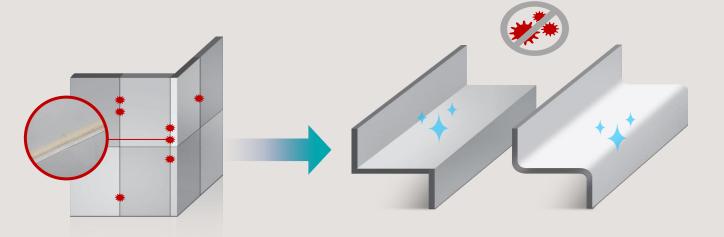


Non-porous material





Easy-to-clean, Seamless Fabrication



Seamless joints between two panels, a smooth and non-completion which does not hold dust





Maktub Hospital, Spain

Design : Elisa Valero - Fabrication : Muebles Maderama s.l.- Material : HIMACS Alpine White - Photo credit : © Fernando Ale





Iron Ball Drop Test

Heat Resistance Test

Thermoforming Test

Hot-pan Test

UV Test

There are a wide range of products currently on the market, and some may look like HIMACS, but in reality the quality is far inferior.

We carried out a number of tests to provide a comparison between HIMACS and the «U.P.E» or «Mixed» products. Please see below the description of the material tested:

HI-MACS

- G04 White Quartz
- 12 mm
- Composition :
 - 30% aprox. Acrylic (PMMA + MMA),
 - 3% aprox. Natural Pigments,
 - 67% aprox. ATH

UPE/Mixed Product

- Similar colour
- 12 mm
- Composition :
 - 5% MMA or less,
 - 30% UPE,
 - 62% ATH,
 - 3% additives.

Iron Ball Drop Tes

500g Iron ball 90cm/height Heat Resistance Test

Thermoforming Test

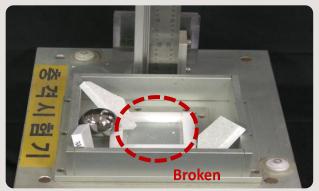
Hot-pan Test

UV Test

HI·MACS



Mixed Product



*this result is valid for G04 colour only, 12 mm

Iron Ball Drop Test

Heat Resistance Test

1 hour in 170°C oven

Thermoforming Test

Hot-pan Test

UV Test

HI·MACS







 $\Delta E : 1.61$

*this result is valid for G04 colour only, 12 mm

ΔE: 22.87

Iron Ball Drop Test

Heat Resistance Test

Thermoforming Test

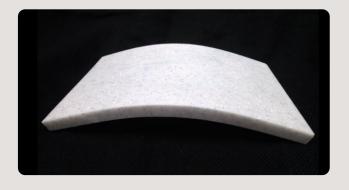
Being formed after 1 hour in 170°C oven

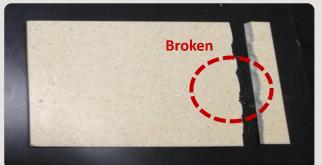
Hot-pan Test

UV Test

HI·MACS







Hot-pan Test

Iron Ball Drop Test

Heat Resistance Test

Thermoforming Test

Hot-pan Test

Putting 280°C hot-pan for 10 minutes

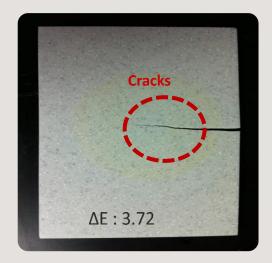
UV Test

HI·MACS



*this result is valid for G04 colour only, 12 mm.

Mixed Product



Iron Ball Drop Test

Heat Resistance Test

Thermoforming Test

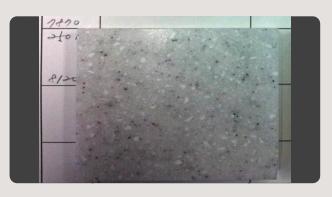
Hot-pan Test

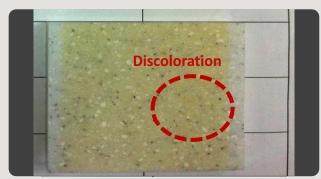
UV Test

250 hour in accelerated weathering test machine (equivalent to 375 days)

HI·MACS







 $\Delta E : 0.62$

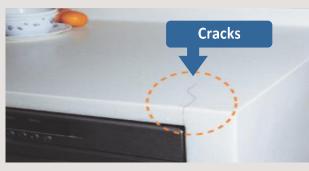
 $\Delta E : 16.91$

*this result is valid for G0004 colour only and for 375 days exposure

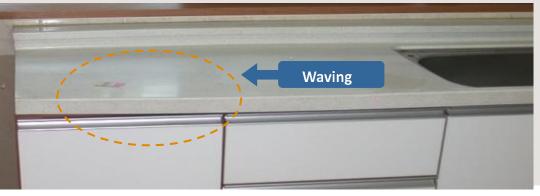
Mixed product claims

One year after Installation (Goyang city, Korea)











Comparison Results

Product	HI·MACS	Mixed Products
Main Component	- Approx. 30% MMA + PMMA	- Approx. 35% UPE + 5% MMA
Hygiene	- Eco-Friendly proven Certificate (NSF) - Harmless to Human body - LGA Certificate	- No proven Data - Harmful dregs like Styrene Monomer possibly remain
Strength	- Excellent : resist the drop of a 500g steel ball from 90cm high - Flexural Strength: 6.643 Kgf/m²	- Subject to be broken or damaged by impact - Flexural Strength: 3.247 Kgf/m²
Hardness	- Excellent : Barcol hardness: 61	- Subject to be scratched - Barcol hardness: 50
Discolouration in natural weather condition (in 375days)	- no visible change - ΔE : 0.62	- Subject to be yellowish - ΔE: 16.91
Discolouration by heat (1 hour in 170°C oven)	- Low Discolouration - ΔE : 1.61	- Subject to be yellowish - ΔE : 22.87
Fire Resistance	- Classified as B1	- No classification data - Estimated to be classified as B2
Thermoforming	- Suitable	- Not Recommended

These results are only valid for the test presented earlier, please refer to our guarantee conditions for applications to all colours and sheet thicknesses.





Explore new ideas for endless possibilities



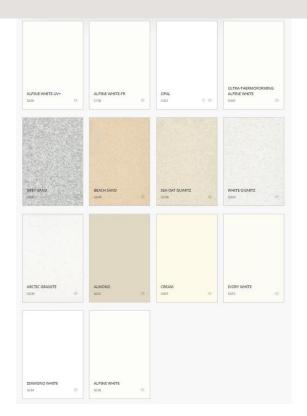








10 years warranty on colours' UV resistance



The HIMACS resistance to UV radiation surpasses that of any other solid surface.

That is why, on the following colours, we offer a 10 years warranty on colours' UV resistance and loss of gloss over 40%, 10 years on colour leaching and 20 years on colour peeling, swelling or delaminating.

HIMACS Alpine White for special requirements

HIMACS UV+ - Improved UV resistance



HIMACS FR – Minimal flammability



HIMACS Exteria® Certificates

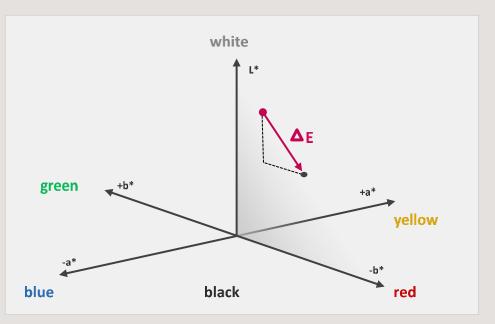


HIMACS by LX Hausys has obtained the French QB certification and CSTB ATec "Avis Technique" for facade applications in S828 Alpine White. (Avis Technique 2.2/18-1795_V1).



Fixed with KEIL inserts and a BWM structure, HIMACS façade in S728 – Alpine White successfully passed the ETA tests (European Technical Agreement).

Delta E values - ID		
E value	meaning	
0 - 1	a normally invisible difference	
1 - 2	very small difference, only obvious to a trained eye	
2 - 3.5	medium difference, also obvious to an untrained eye	
3.5 - 6	an obvious difference	
> 6	a very obvious difference	





Fire resistance

The HIMACS-FR-quality passed the fire rating test with far better results than any of the other mineral materials: The achieved SBI test According to EN-13501-1 is the impressive proof of this.

EN 13501-1

B-s1-d0 classification

Equivalent to BR class 0
Certification. The EN 13501 is the European fire resistance requirement
B = classification level
S1 = low smoke density
D0 = non droplets

NFP 92-501

M1 classification

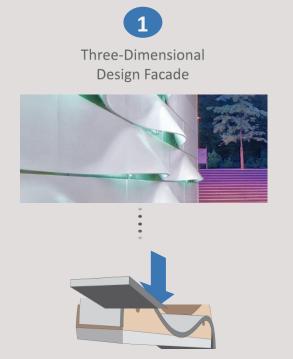
M1 classification that HIMACS has a low flammability. The NFP 92-501 is the French fire resistance requirement



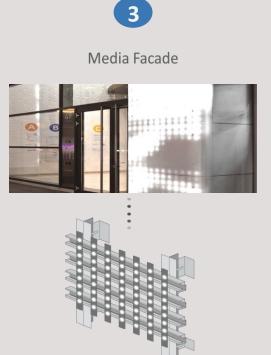
Classification B1

B1 classification that HIMACS has a low flammability. The DIN 4102-2 is the German resistance requirement



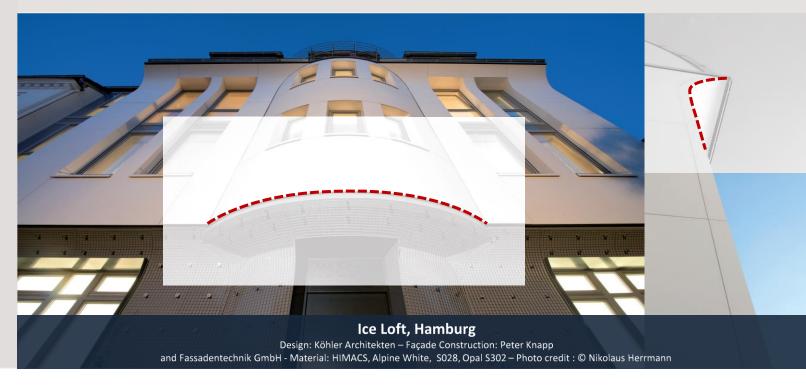






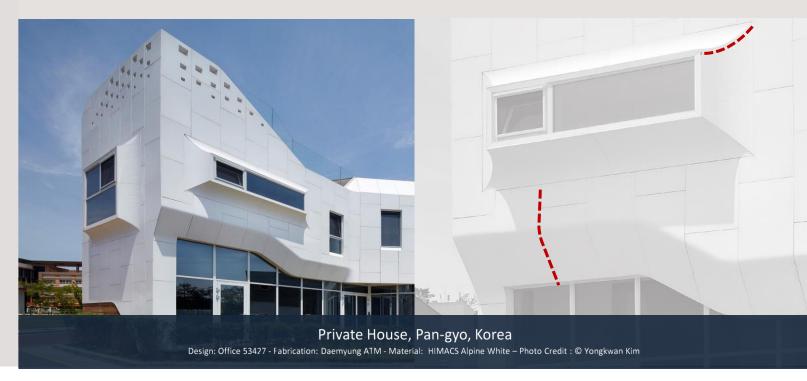


Three-Dimensional Design Facade





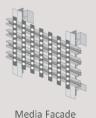
Three-Dimensional Design Facade

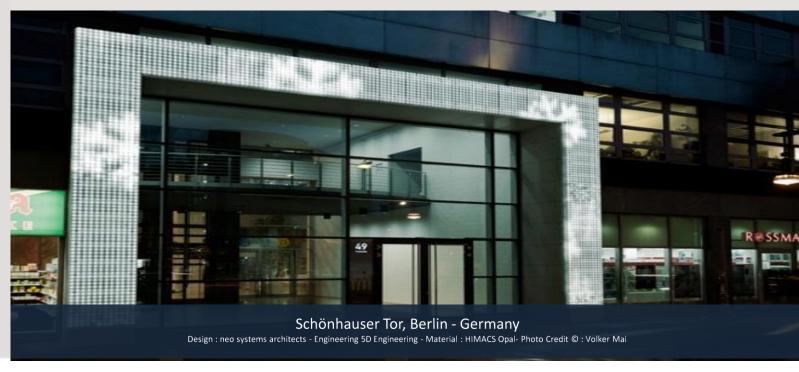




Design Skin Facade

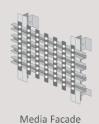


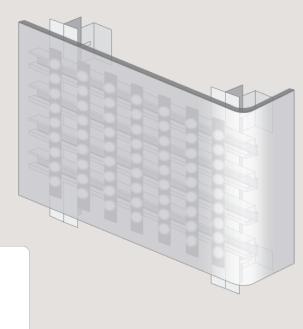






Leurocom LED Track







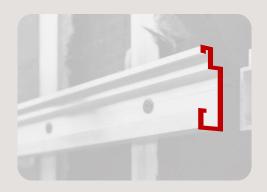
HI·MACS

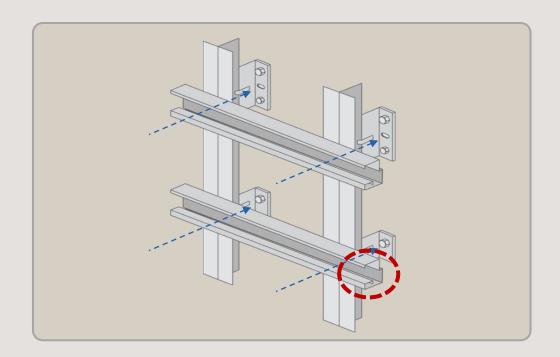
To build HIMACS facades, LX Hausys suggests using a structure made from a ventilated façade system using BWM fixings.

Step 1

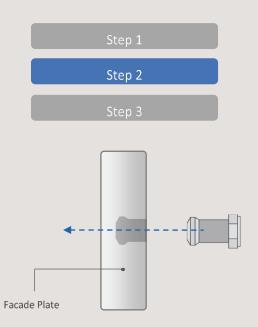
Step 2

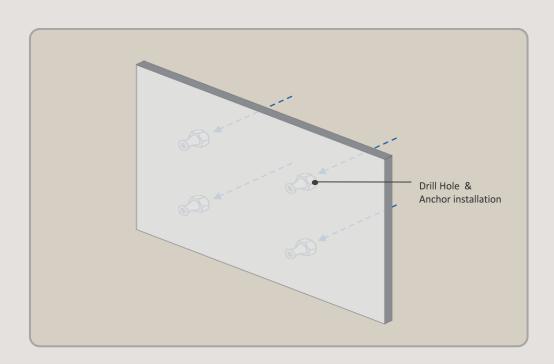
Step 3





To build HIMACS facades, LX Hausys suggests using a structure made from a ventilated façade system using BWM fixings.



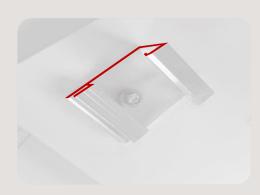


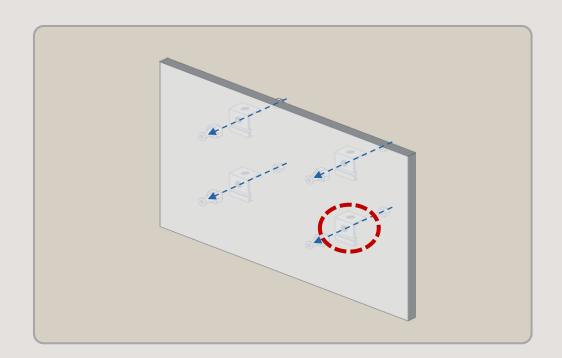
To build HIMACS facades, LX Hausys suggests using a structure made from a ventilated façade system using BWM fixings.



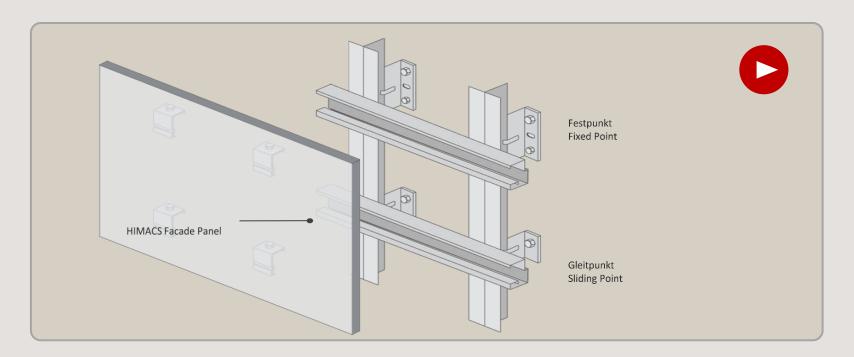
Step 2

Step 3



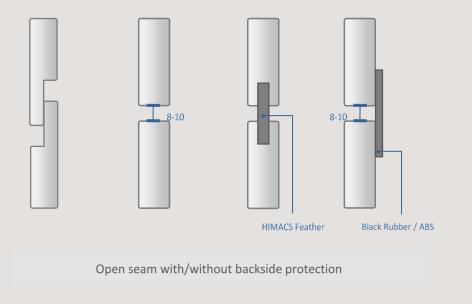


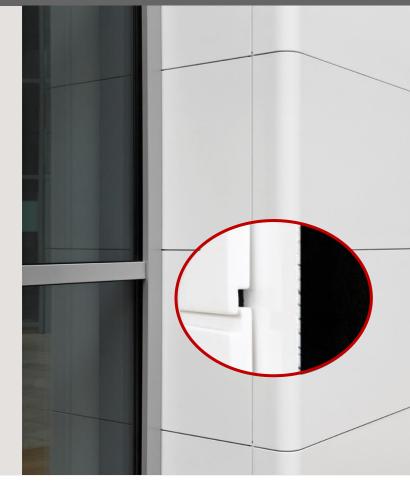
To build HIMACS facades, LX Hausys suggests using a structure made from a ventilated façade system using BWM fixings.

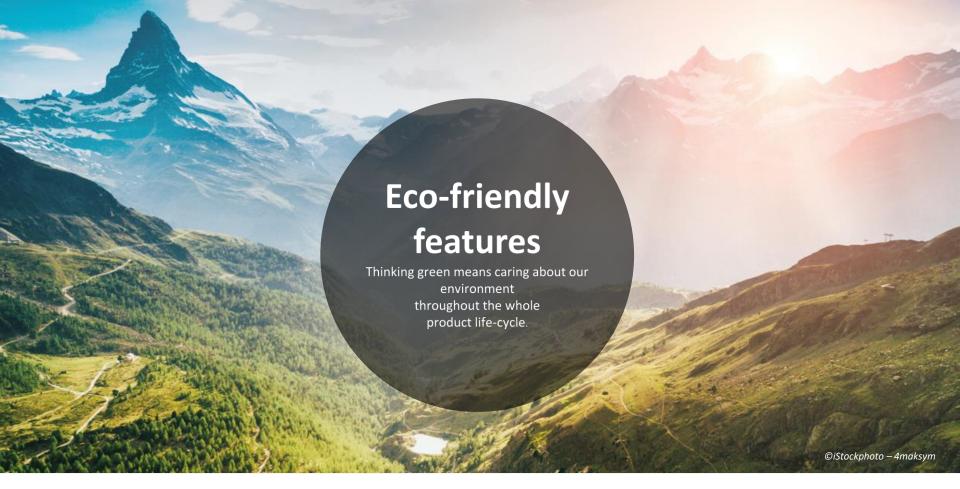


Seams Design

HIMACS has natural contraction and expansion properties related to temperature changes We suggest leaving gaps of 8 to 10mm between each panel.







Quality means thinking about tomorrow today.

MATERIAL

COMPOSITION

HIMACS consists of 67% natural minerals, 30% finest acrylic and 3% natural colour pigments.

PROCESSING

HIMACS allows for virtually waste-free processing.
HIMACS installations are extremely strong and durable.
They can easily be renewed to their original
appearance, meaning they don't have to be replaced,
thus giving a positive long-term environmental
footprint.

+ + + MA

MATERIAL SAFETY

HIMACS is completely free of formaldehyde, VOC emissions and nanoparticles, ensuring particularly high indoor air quality.

LOGISTICS

Whether in transport or logistics, our selected partners meet the highest ecological standards.

MANUFACTURING PROCESS

HIMACS is produced in an energy-efficient and resource-saving manner. This includes consistent waste reduction, the recycling of pre-industrial off-cuts and water savings. The production plants themselves – such as those in Cheongju (Korea) or Atlanta (USA) – also comply with all environmental guidelines.



Certificates, environmental product Declarations and regular tests:

DGNB

GERMAN SUSTAINABLE BUILDING COUNCIL (DGNB)

HIMACS has achieved quality level 4 of 4 – the best rating – for the local environmental impact of the overall product (2018). The DGNB system is a holistic and unique certification system for sustainable construction.



BUILDING RESEARCH ESTABLISHMENT ENVIRONMENTAL ASSESSMENT METHOD (BREEAM)

Among other ratings, the material complies with "Hea 02 Indoor Air Quality" for particularly good air quality. BREEAM is one of the world's most important global rating methods for sustainable architecture.



LEADERSHIP IN ENERGY AND ENVIRONMENTAL DESIGN (LEED)

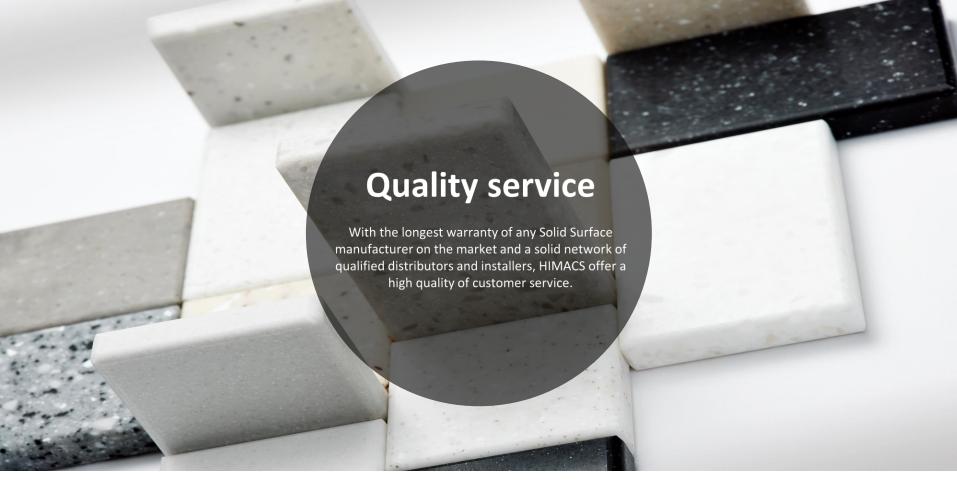
Is a standard voluntary system to certify high performance of buildings, from the US Green Building Council (USGBC). LEED certifies buildings using a credit system. Architects and planners using HIMACS for their project can claim EQ Credit for Low-Emitting Materials with the category Indoor Environmental Quality (EQ).



ENVIRONMENTAL BUILDING CERTIFICATE – GRADE "OUTSTANDING"

The Korean Air Cleaning Association certifies that HIMACS complies with the Korean regulations for environmental building materials.





Quality Club

HIMACS Quality Club: A network of highly qualified fabricators and installers.

Join the HIMACS Quality Club!

Certify your fabrication expertise by taking part in our Training Programme and become a HIMACS Quality Club Member.





Benefits:

- To **control & ensure the high quality** of fabricated products made with HIMACS material.
- HIMACS 15 Year Limited Installed Warranty can only be offered by HIMACS Authorized Fabricator.
- Only HIMACS Authorized Installer can propose the 15 Year Limited
 Installed Warranty on products fabricated by an Authorized HIMACS
 Fabricator.

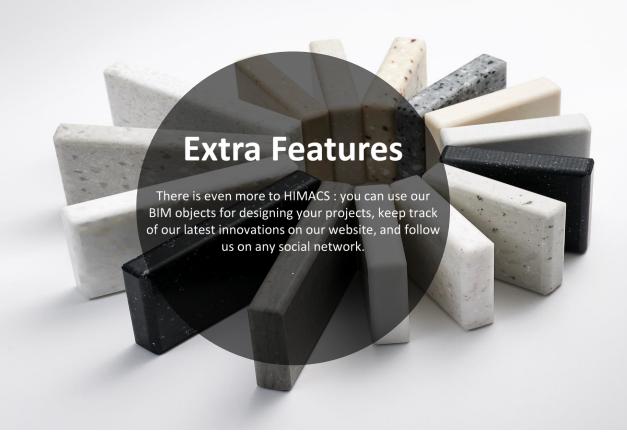
15 years warranty

Quality pays for itself: With its 15 year limited installation warranty, HIMACS offers the longest warranty of any Solid Surface manufacturer on the market.

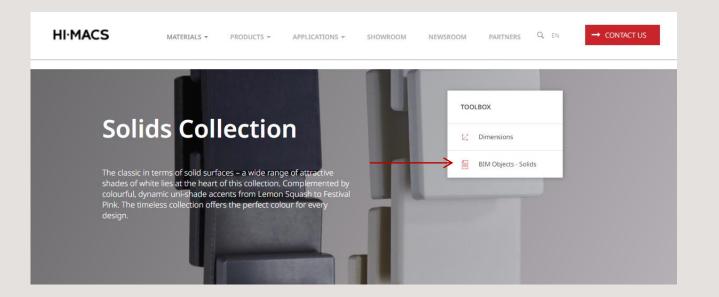


Loyalty is rewarded with a 15-year material-warranty* for material fabricated and installed by a member of the HIMACS Quality Club.

^{*} Please refer to our website for more detailed information on our warranty conditions.



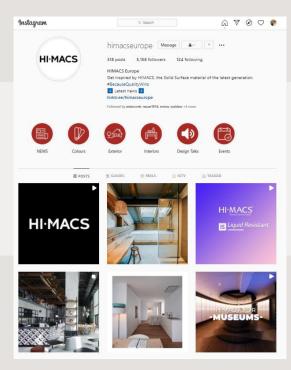
BIM Objects





Social Media

Connect with HIMACS on all major social medias :



HIMACS #BecauseQualityWins

<u>Instagram | Facebook | LinkedIn | Pinterest | YouTube | Twitter</u>

HIMACS IS AN OUTSTANDING SOLID SURFACE MATERIAL THAT CAN BE MOULDED TO ANY SHAPE - FROM BEAUTIFUL WORKTOPS TO STUNNING FACADES.

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For more information Website

HIMACS is an outstanding solid surface material. A delicate composition of acrylic, minerals and natural pigments that combine to create a smooth, non-porous, thermoformable and visually seamless

Thanks in a large part to this quality and the outstanding flexibility in fabrication and design, HIMACS offers countless advantages over conventional materials.

http://www.himacs.eu



LX Hausys