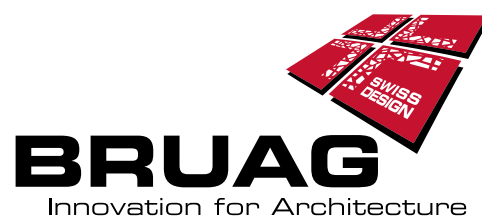


# Innovative Products for Facade and Cladding Systems

**Exterior Applications**





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The days of minimalist architecture are gone definitely. When the ideas of an innovative architect or designer combine with the latest laser technology, the result is a vast range of design variations for both exterior and interior applications. When it comes to outdoor applications, we supply customized panels for back-ventilated facades, perforated facades, balcony balustrades and even complete balcony acoustic solutions. In addition to this, you can also use our materials to design your garden.

The laser technology facilitates the creation of customized designs of the materials used for exterior applications, which means a building can be given a totally unique character.

These are the four cornerstones of our company philosophy:

### Individuality

Maximum flexibility for creative minds – because the best innovations are developed in cooperation with you. Make use of the numerous options in relation to colour, shape and material.

### Innovation

We are always searching for new materials and applications to complement our range of products to enable us to respond to any prospective challenges that may cross your path.

### State of the Art Technology

We use state-of-the art machines to produce a high quality product that aligns with your own individual wishes.

### Reliability

Working with Bruag, you can trust us to deliver on time. And should you still have any concerns we will always be there to help you.

*Technical and installation details can be found on our homepage or we can deliver them on request by e-mail or post.*

It is our pleasure to be able to share with you the numerous exterior applications of our products!

# General Overview

## Materials

When it comes to exterior applications, we recommend using our materials CELLON or Formboard top pine. While Formboard top pine is made from wood-based fibres with polyurethane bonding, CELLON is a high-pressure laminate panel (HPL), consisting of 70% cellulosic web and 30% phenolic resin. The advantages of Formboard top pine are great value and eco-friendliness (as it incorporates recycled sawdust). The special bonding used means the panels can be used for exterior applications. Nonetheless, over time the surface does change to a small extent and the

panels themselves will expand by about 3 parts per thousand. CELLON, however, is completely moisture-resistant and does not exhibit any signs of embrittlement over its lifetime of use, which constitutes a further advantage over conventional fibre cement panels; CELLON expands by no more than 1 part per thousand. In summary: you have a choice between a wood-based panel and a high-pressure laminate. The fact that every panel made by Bruag is individually laser-cut means the panels are delivered ready for assembly, which includes holes and recesses.

	Formboard top pine	CELLON®
Carrier plate	Highly-compressed, bonded wood-based panel with polyurethane bonding (without formaldehyde)	Compact high-pressure layered panel from pressed material (HPL): 70% cellulose layers and 30% phenolic resin
Thickness	10 or 18mm	6, 8 or 10 mm (other thicknesses available on consultation)
Raw material maximum format **	18x6200x2100mm; 10x6100x2100mm*	3660 x 1830mm or 3050 x 1300mm or 2440 x 1220mm*
Charging	Net calculation	
Colour choice	NCS S edition 2, RAL, Bruag ALU	
Building material class	B2 = Standard B1 with additional coating (additional charge)	Bs1d0 = Standard
Mounting method	HolzFix stainless steel screws + sealing ring (holes lasered in keeping with your specifications, at no additional cost)	
Substructure	Back-ventilated, vertical composite min. 27*80mm; metal substructure also possible	

\* Please note that the maximum width for our industrial coating machine is 1.33m. Panels that are over this size have to be hand-coated (for an additional charge).

\*\* These formats are merely the maximum size of the respective raw material panel. However, our panels are cut exactly according to your wishes which may be smaller than the raw panel. Additionally, perforations can be done over more than one panel without interruption, which allows you to seamlessly combine panels.



### Advantages/Strengths of Formboard top pine:

- Individual shapes (incl. perforations and ornamentations) made possible by use of laser-cutting technology
- Eco-friendly
- An attractive price-performance ratio (based on purchase price, incl. wastage)
- Moisture-resistant
- No particle loss as a result of moisture that originates from the bonding process
- Frost-proof
- High fracture strength
- Large formats (up to 6.20m) with no price premium
- Extensive choice of colours (over 3000 colours)
- Straight-forward installation

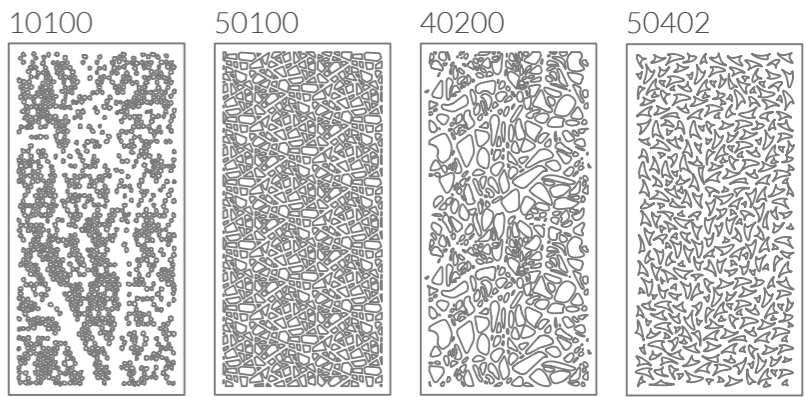
### Advantages/Strengths of CELLON®:

- Individual shapes (incl. perforations and ornamentations) made possible by use of laser-cutting technology
- Mechanically robust
- Scratch-proof, impact-resistant and shock-resistant
- Very high fracture strength
- Not brittle
- Moisture-resistant
- No swelling due to moisture load
- Frost-proof
- Termite-proof
- Extensive choice of colours (over 3000 colours)
- Natural appearance, with a matt surface
- Straight-forward installation

## Bespoke Shape and Colour

Every element is precisely designed, keeping in mind the requirements, cut to the nearest millimetre in accordance with the blueprints and coated in one of over 3000 available UV-resistant colour tones. The edges of the panels are also coated in your choice of colour. Moreover, we are able to produce large format panels, whereby Bruag calculates the net amount used. You do not pay for wastage or pay anything extra for pre-drilled holes.

In addition to giving you freedom in terms of planning, laser-cutting allows you to give the panels a completely individual design. You can design your very own perforations or select a pattern from those already available; we then take up your design and use it for production. We use DXF and DWG data formats.



For a complete overview of our design proposals visit the download section of our homepage [www.bruag.ch](http://www.bruag.ch).

# Back-Ventilated Facades

Are you fed up of having to adapt your choice of facades to the choices made available by the panel manufacturers and of having to pay extra for every little cut and every pre-drilled hole?

Then you have come to the right place. We accommodate your wishes and provide large-format facade panels that exactly match your conceptions.



## Formboard Top Pine and CELLON Used in Line with their Strengths

Sometimes a mixture between Formboard top pine and CELLON is the right solution and a number of school buildings in Winterthur designed by the same company exemplify this very well. While the planners used CELLON in areas subject to more weathering, they chose to use Formboard in the other areas. The fact that Bruag uses the same coating for both materials means that you can hardly tell the difference where Formboard top pine and CELLON have been used. This well-thought out combination of our materials – that took into consideration the applications to which they are best suited – resulted in real cost savings.

Country / Place:	Switzerland/Winterthur
Project Name:	Winterthur Schools
Material:	CELLON®, 8mm; Formboard top pine, 10mm
Colour:	NCS S 7010 R10B
Architect / Planner:	Baltensperger Seuzach



## Bespoke Panel Shapes that Facilitate Exceptional Buildings

For their 'UNUS' project, the architects of Adank & Partner created modular housing units which are convincing not just from the perspective of their adaptability, but also with respect to their unique design. For the facade cladding, they chose to use CELLON. Bruag's flexible construction methods enabled the architects to tackle the building's unusual angles without encountering any problems; this was because they were able to order not only rectangular panels but also conically-shaped panels.

Country / Place:	Switzerland/Kreuzlingen
Project Name:	UNUS Kreuzlingen
Material:	CELLON®, 8mm
Colour:	RAL 9010, NCS S 1070-Y50R
Architect / Planner:	Adank & Partner Amriswil



### So weather-resistant is CELLON

Temperatures above 40 degrees Celsius, sand storms, hurricanes, high altitudes or extremely humid environments: CELLON is resisting any external influences, even when perforated. Compared to Aluminium, CELLON is considerably lighter and more economical in the same thickness. Furthermore, CELLON is mechanically robust, scratch and humidity resistant, frost-proof and termite-resistant. The high-pressure laminate (HPL) panel is available in a thickness of 6, 8 and 10mm and can be perforated in your individual design and coated in one of more than 3000 colour shades.

## Large-Format Facade Panels and Logos Made of the Same Material

Glowing yellow and brash green are the company colours of Neuteerbit AG in the Swiss city of Salmsach. This made it easy for the architects and the client to decide on which colours to use for the renovated facade of the road construction company's headquarters. The CELLON panels used as facade as well as window frames and lower ceilings were custom cut by laser and then coloured. Additionally, Bruag also delivered the prominent company logo. Corporate identity in every detail is feasible in a budget friendly way using the wide variety of Bruag products. "The total freedom of shapes and colours made us choose Bruag", says architect Martin Holzner of Bischof Partner Architecture. By the way: already for the corporate logo, four different RAL colours have been used.

### Unusual Ideas Without Additional Charges

Whether it is CELLON, Formboard top pine or MDF in large or small sizes, as unusual as your plans may be; we only charge the net size of your panel and you pay what you get. We live our slogan: "Individual design does not have to be expensive". We also deliver small quantities such as company logos in your desired colour and add additional recesses for lamps or other installations. This not only makes the installation easier but also much more efficient.

Country / Place:	Switzerland/Salmsach
Project Name:	Neuteerbit
Material:	CELLON®, 8mm
Colour:	NCS S 7500-N, RAL 1023, RAL 6037, RAL 3020, RAL 9016
Architect:	Bischof Partner Architektur, Romanshorn



## Colour Your Life

Colours can provoke widely varying reactions in people. This means there is great potential in colour selection. Whereas conventional facade elements are available in only few colours, Bruag's panels are available in an array of over 3000 different colours (i.e. NCS, RAL, Bruag Alu).

The architects of the tennis arena in the booming town of Doha – which regularly hosts tournaments at the highest level – were struck by the broad variety of available colours, and they went ahead and employed three different colours for the facade.

Country / Place:	Qatar/Doha
Project Name:	Doha Tennis Stadium
Material:	Formboard top pine, 10mm
Colour:	RAL 1014, RAL 1017, RAL 7008
Architect / Planner:	Nüssli AG Hüttwilen

# Completely New, Completely CELLON

A plain facade combined with perforated elements: interesting angles, expressive shapes and fine colors are characterizing the visual appearance of the structure. Uniform is the material: Cellon. The material has been used everywhere from entrance area over the façade with perforated elements to the lower ceiling and the gable roof. Cellon offers endless opportunities.



Country / Place: Near Lake Constance  
Project Name: Residential and Office Building  
Material: CELLON®, 8mm  
Perforation: Plain façade and perforation 10100  
Colour: DB 703  
Architect / Planner: Benjamin Heller, Radolfzell

# Perforated Cladding

A building as individual as its owner?

Our delicately-perforated facade elements instantly make a building eye-catching. Take the opportunity of employing one of our entirely bespoke facades.

## Perforation in perfect harmony: Outshining Appearance

Delicate perforation patterns for interior and exterior application, functional aesthetics, urban design fully according to your individual concept: The flexibility in design is nearly unlimited. You cannot only order panels according to your customized design idea, but also different panel sizes, designs or perforations running through several panels without interruption are not an issue. Even better: These customized architectural solutions are not only available, but also affordable.

“The perforated facade by Bruag with backlight allows us to immediately display what makes our company special”, says Anja Bärtele of Herbert Waldmann GmbH & Co. KG. The family owned company with a three-generation long history develops and produces top of the line lamps for industrial applications, offices, healthcare companies and medical phototherapy equipment. The new showroom, to which the facade perforation has been designed according to inspirations drawn from bionics, has become a mirror of the strategic direction of the company and a lighthouse for the whole region. The facade with hexagon perforations is not only a highlight in the dark, but also during the day, thanks to its strong contrasts.

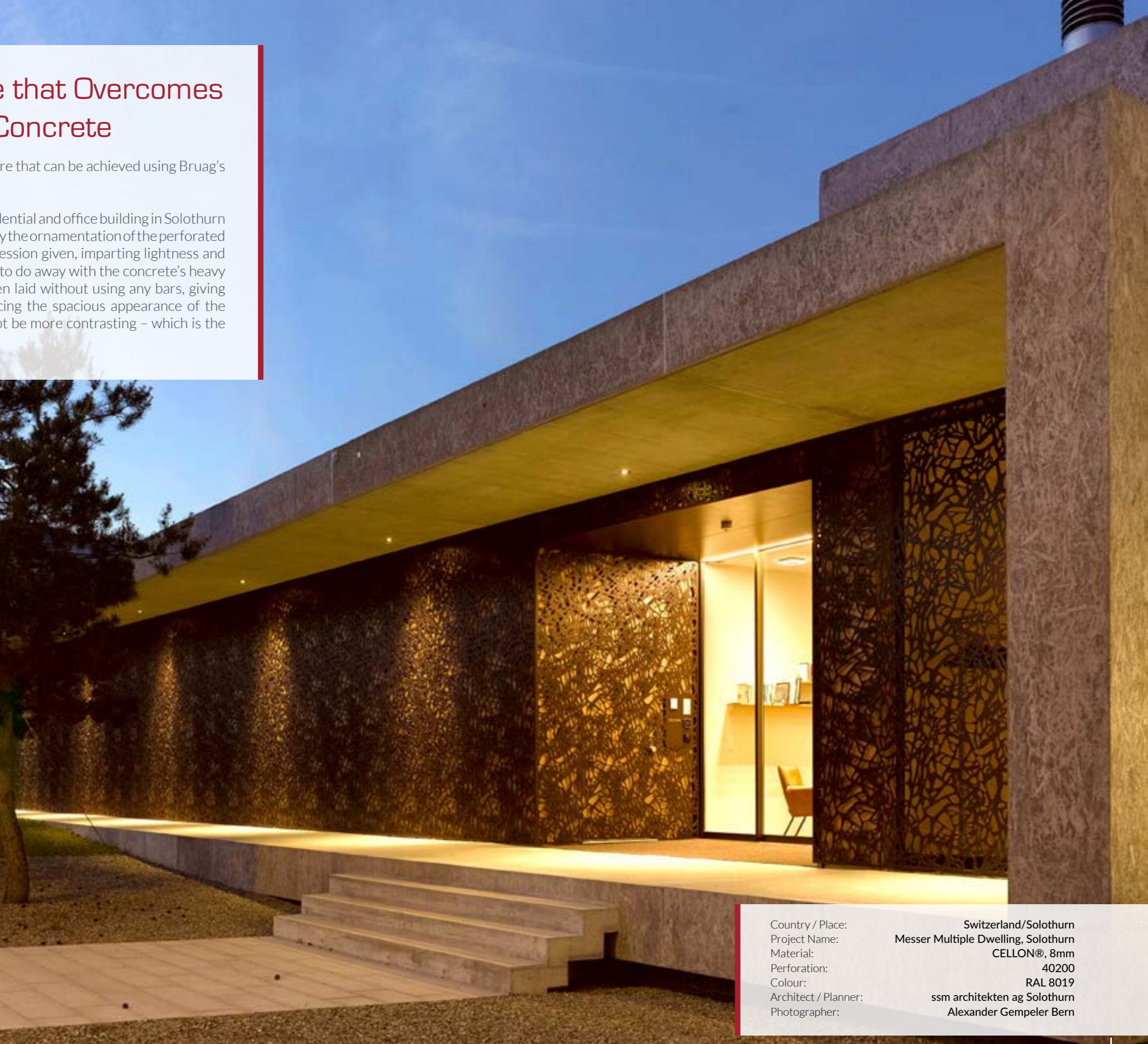
Country / Place:	Germany/Villingen
Project Name:	Showroom Herbert Waldmann GmbH & Co.
Material:	CELLON® 10mm (Primary Facade), Formboard top pine 10mm (Secondary Facade)
Perforation:	Individual Customer Design
Colour:	Exterior anthrazite, Interior white RAL 9016
Architect / Planner:	Gruppe 70 Thomas Scherlitz, Niedereschach



# A Delicate CELLON Facade that Overcomes the Heavy Appearance of Concrete

This project demonstrates the type of delicate architecture that can be achieved using Bruag's perforated elements.

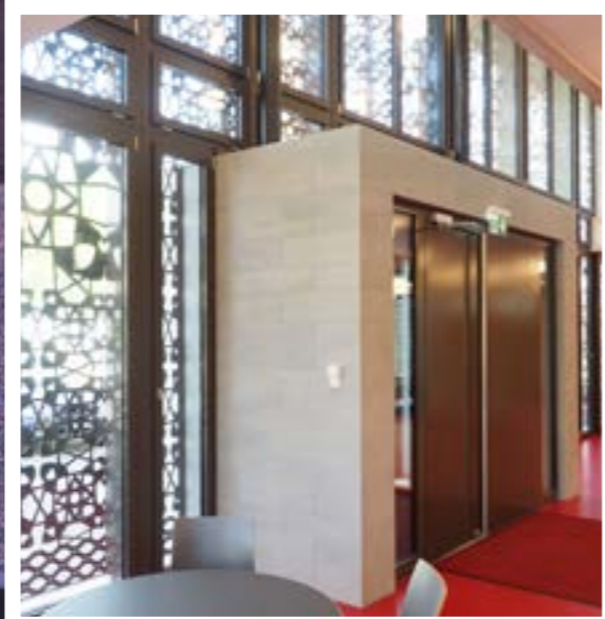
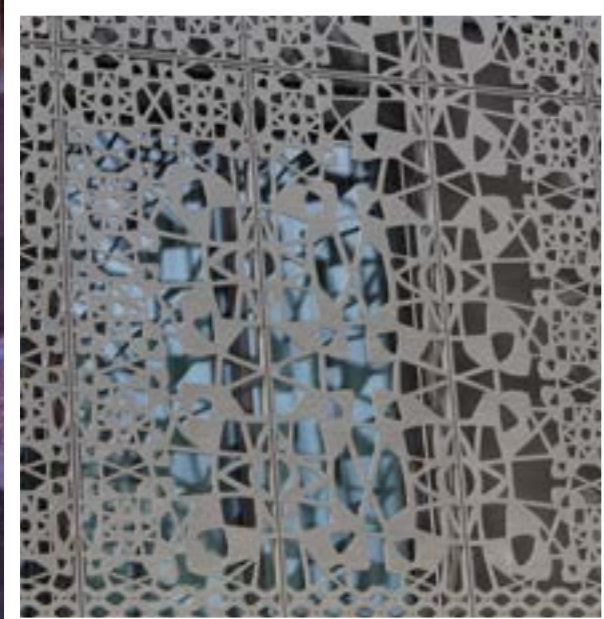
A monolith with sculptural character – this is how the residential and office building in Solothurn comes across. A vast exposed concrete screen is adorned by the ornamentation of the perforated facade. This playful contrast invigorates the overall impression given, imparting lightness and transparency. The organically-perforated surfaces serve to do away with the concrete's heavy appearance. Furthermore, the CELLON panels have been laid without using any bars, giving consistency to the perforation pattern, further reinforcing the spacious appearance of the facade. The two materials found in this building could not be more contrasting – which is the very reason they bring each other into the limelight.



Country / Place:	Switzerland/Solothurn
Project Name:	Messer Multiple Dwelling, Solothurn
Material:	CELLON®, 8mm
Perforation:	40200
Colour:	RAL 8019
Architect / Planner:	ssm architekten ag Solothurn
Photographer:	Alexander Gempeler Bern

## A Facade with Character

An individual perforation not only allows giving your façade an individual character, but also a completely new and custom significance. Another option is combining the past with the future by adding a modern yet custom element. This has, for example, been used by the building owners in Rümlang. With Bruag, you can choose your individual shape and colour or pick one of over 100 standard perforations. True to our claim of offering payable flexibility, custom designs are possible without extra charge.



Country / Place:  
Project Name:  
Material:  
Perforation:  
Colour:  
Architect / Planner:

Switzerland/Rümlang  
Building of Church Rümlang  
CELLON®, 10mm  
Individual Design  
RAL 080 30 05  
Langmeier Frei Architekten AG,  
Watt-Regensdorf



Country / Place: Switzerland/Visperterminen  
 Project Name: Sliding Screens, Private Home  
 Material: Formboard top pine, 18mm  
 Perforation: 10100, scale: 1.25x  
 Colour: Bruag Alu Anthracite  
 Architect / Planner: Vomsattel Wagner Architekten Visp

## Light and Shadow, Tradition and Modernity

Perforated Bruag facade panels can also be used as sliding shutters, providing a special ambience both day and night. The exquisite perforations give rise to a whole variety of lighting patterns, depending on the time of day and the angle of sunlight. During the day, beams of sunlight seek a path through the imaginative pattern of perforations, giving rise to an interesting array of shapes in the interior. During darkness, fascinating lights and shadows penetrate to the outside.





## Marriott Guests Face to Face with Creative Balcony Cladding

The new Marriott Hotel in the Haitian capital of Port-au-Prince demonstrates the benefits of close, productive collaboration between architect and supplier. The Irish architect at the helm, Hugh Murray, was enthusiastic about the individuality offered by Bruag's products and working alongside the company, he developed a bespoke perforation. The outcome was a perforated facade and balcony cladding design inspired by Caribbean seaweed which really lived up to the client's distinguished name. It was not only the design that the decision-makers found persuasive – it was also the CELLON panels' ability to withstand extreme weather conditions, including hurricanes. It was furthermore possible to upgrade both new and existing balconies using Bruag's balcony balustrades, making both into highlights. If only everything in life was that easy!

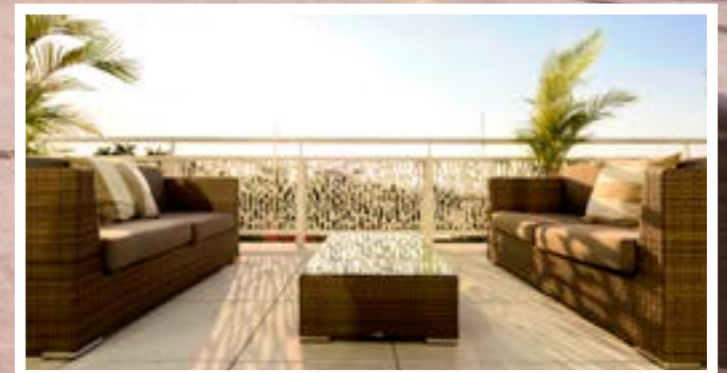
Country / Place:	Haiti/Port-au-Prince
Project Name:	Marriott Port-au-Prince, Haiti
Material:	CELLON®, 8 & 10mm
Perforation:	Individual Design
Colour:	RAL 9010
Architect / Planner:	Hugh Murray Architects Dublin
Photographer:	Seán Murray SMV Dublin

## Balcony Balustrades

Are you looking for a stylish semi-transparent balcony balustrade?

Thanks to the complete flexibility of design offered by laser cutting, the visibility of the balustrades can be adapted to suit residents' requirements in a completely bespoke manner.

Balustrades that can be made to match your design concepts – exactly!





Country / Place:	Switzerland/Abtwil SG
Project Name:	Minergie-P-ECO MFH Sonnenbergstrasse Abtwil
Material:	Formboard top pine, 18mm
Perforation:	50100
Colour:	Bruag Alu Bronze
Architect / Planner:	Visiobau Muolen
Photographer:	Sabrina Schena Heerbrugg

## Seeing Without Being Seen

Not obstructing the residents' view while at the same time not allowing the residents to be too visible – this is a conflict of interest which often confronts those designing balcony balustrades. Thanks to the way individual designs can be implemented, the degree to which Bruag's semi-transparent balustrades allow light through can be matched to residents' needs in a completely bespoke manner. The flexibility offered by our perforations additionally promotes interaction between light and shadow, such that the ambience on the balcony varies according to the time of day.

For this project, the architecture firm Visiobau opted to use Bruag products for the facade in addition to the design flexibility offered by our balcony balustrades. Ecologically-friendly Formboard top pine panels precisely suited their concept of an eco-friendly building certified as Class A by the Ministry of Energy.



# Stylish in Every Detail: Fully Individual, Fully CELLON

The multifamily homes strategically located at a picturesque location next to Lake Zurich are proof, that Bruag products allow for individuality in every detail while limiting complexity. Ventilated facades, balcony and ceiling claddings to the garage door: completely in Cellon and produced according to the individual wishes of the architect regarding shape and colour.



Country / Place:	Switzerland/Kilchberg
Project Name:	Multiple Dwelling Seestrasse 108 Kilchberg
Material:	CELLON®, 8 & 10mm
Perforation:	Individual Design
Colour:	Bruag Alu Gold, Bruag Alu Schiefer dunkel
Architect / Planner:	Rota Architekten, Zurich





Country / Place: Switzerland/Gais  
 Project Name: Klinik Gais  
 Material: CELLON®, 8mm  
 Perforation: 50112 scaled  
 Colour: elfenbein  
 Architect / Planner: Mayer Architektur St. Gallen

## In the World of Nature

The clinic “Gais” in the Swiss countryside differentiates itself with an outstanding cuisine and a picturesque environment. Thanks to a new construction, the clinic also offers contemporary architecture. The most remarkable feature are its semitransparent balcony claddings. “The balcony claddings break up the concrete and give the building something unique” says the enthusiastic architect Rolf Mayer. The interaction of light and shadow creates a play of light and shadows that finds its way into the patient’s rooms. Architect Mayer is convinced: “Through the lights and shadows, patients experience the changing seasons much more intensely”.



Country / Place: Switzerland/Luzern  
 Project Name: MFH Längweiherstrasse 28/30/32  
 Material: CELLON®, 8mm  
 Perforation: 10100  
 Colour: ALU Satine  
 Architect / Planner: Tripol Architekten Luzern

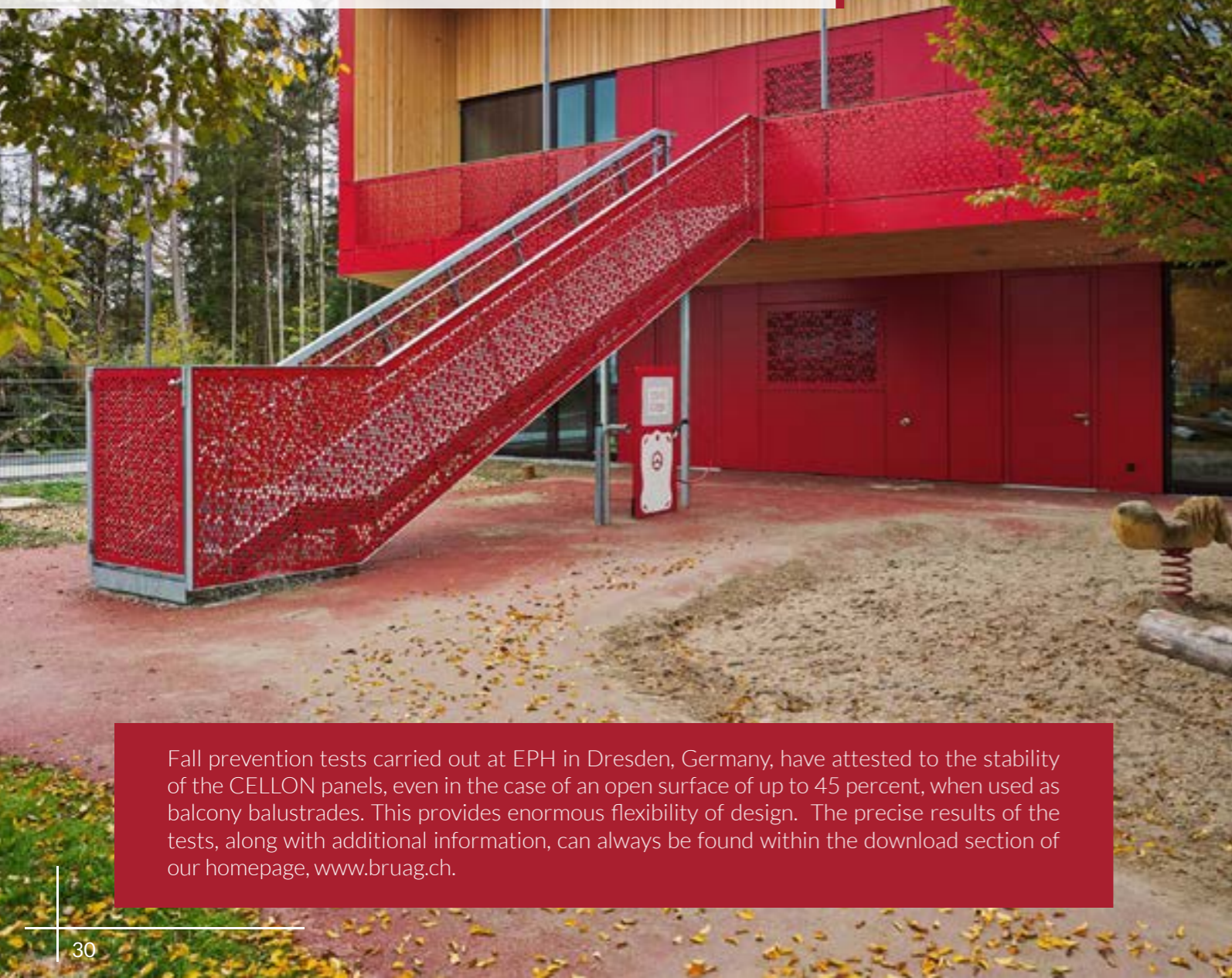


## Functional Aesthetics

Aesthetic, unique, safe and even child-friendly. The 10 millimetre thick CELLON panels have been proven on their fall protection and certified as safe. Combining stability and the individuality of laser technology, our balcony parapet system offers a simple and impressive design element whose transparency can be adapted to the wishes of the inhabitants. From concept to CAD, from CAD to the laser-cutting equipment, from the laser to the industrial coating machine and finally the finished product, what we have is a balustrade that gives any building a definite degree of uniqueness.

Cheerfully patterned in a warm red colour in this day nursery in Gilching, the panels are not only a creative highlight but also a perfect protection for energetic children.

Country / Place:	Germany/Gilching
Project Name:	Kindertagesstätte Gilching
Material:	CELLON®, 10 mm; Formboard top pine, 18 mm
Perforation:	Individual Design
Colour:	RAL 3000, RAL 3011
Architect / Planner:	Michaela Weingut, Hirner & Riehl Architects, Munich
Photographer:	Julia Schambeck



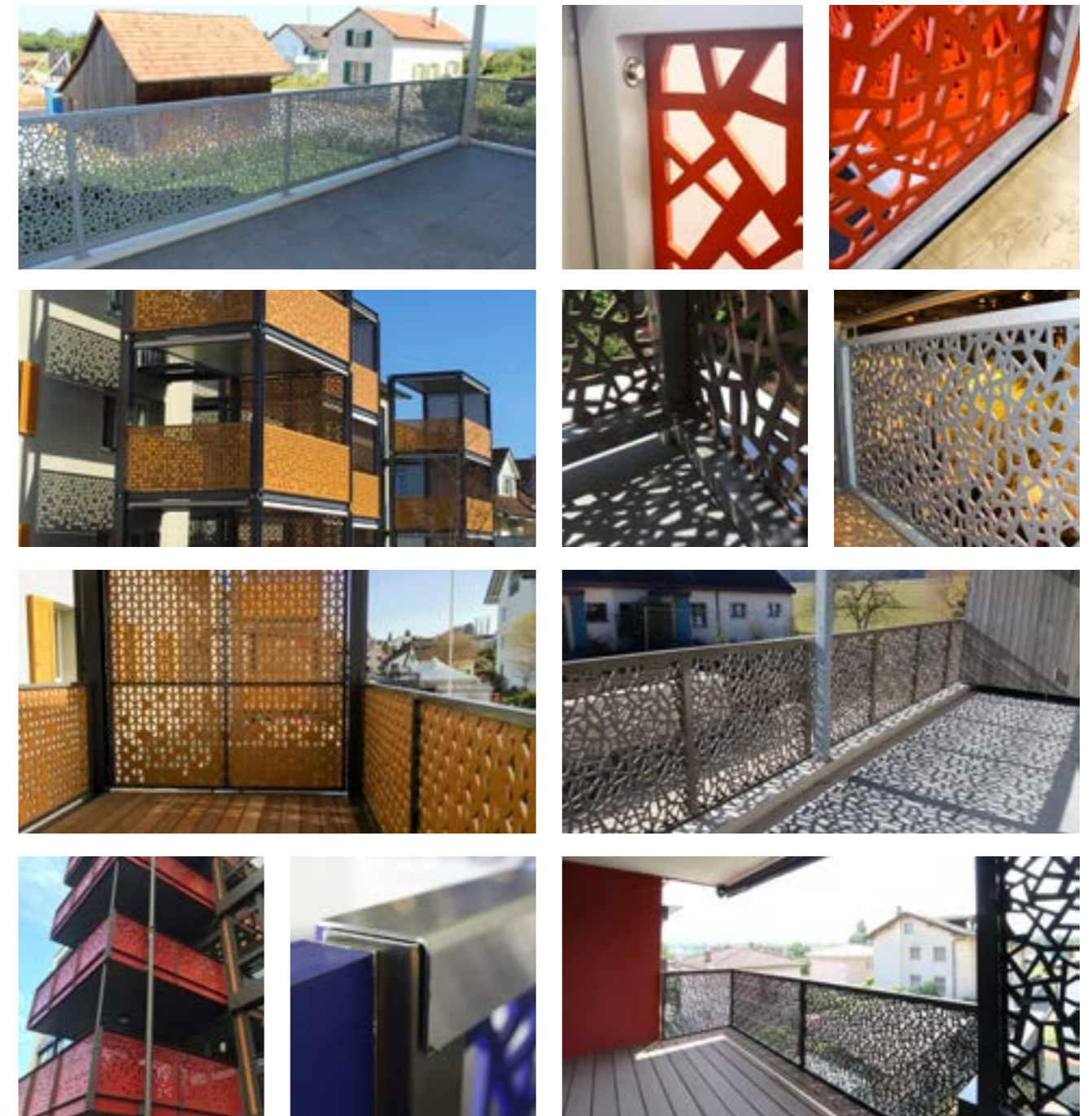
Fall prevention tests carried out at EPH in Dresden, Germany, have attested to the stability of the CELLON panels, even in the case of an open surface of up to 45 percent, when used as balcony balustrades. This provides enormous flexibility of design. The precise results of the tests, along with additional information, can always be found within the download section of our homepage, [www.bruag.ch](http://www.bruag.ch).

## Spanning Great Distances and Easily Installed

When it comes to mounting the balcony balustrades, an all-round metal frame sized is what we recommend. The panels can even be installed up to a width of 3.6 m. When it comes to splitting the panels, you do not always have to introduce a bar – the perforation pattern can continue across several panels unbroken so as to create an oversized appearance.

It is basically no longer necessary to install a hand rail. As an alternative, a U-shaped covering may be used, for instance.

The following pictures show you some of the ways in which our balustrades can be mounted:



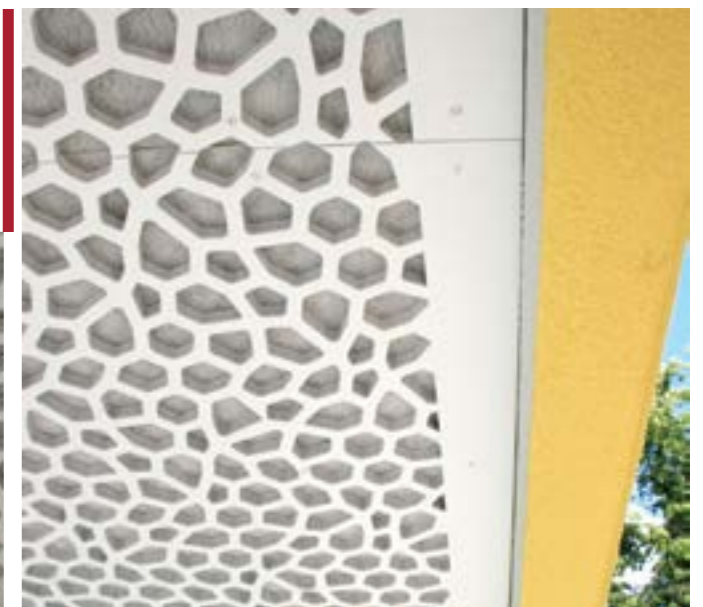
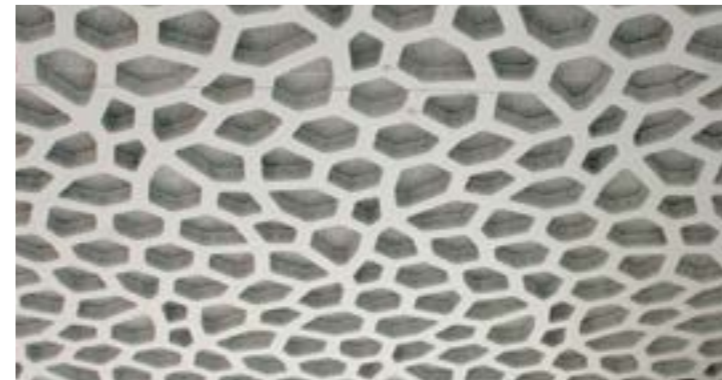
It is not only the installation which is less expensive than when other materials are used, but the costs associated with the panels themselves are less than when glass is used, for example. Bruag adopts an approach of charging by the net amount used. So you neither pay for wastage nor pay any additional amount for pre-drilled holes in cases where these need to be prepared in advance.



# Balcony Acoustics

People are noisy. And we all drive a car.  
Your problems are solved – with Bruag's new acoustic elements. The solution is noise reduction – and what better way to achieve it than an acoustic system that aesthetically improves your balcony?

Country / Place: Switzerland/Winterthur  
Project Name: MFH Schaffhauserstrasse Winterthur  
Material: Formboard top pine top pine, 18mm  
Perforation: 50200  
Colour: RAL 9016  
Architect / Planner: Architekturbüro Frei + Graf AG Weinfelden  
Photographer: Hollenstein Architekten Winterthur



## An Effective Acoustics System

Noise is a daily issue in populated areas. More and more apartments are being built close to roads and railway lines. This requires use of efficient noise reduction systems. Bruag's acoustic solutions for interior and exterior applications provide a reduction in noise pollution. On the one hand, the Bruag system reduces the noise from the streets or the railway. On

the other hand, conversations held on the balcony cannot be heard by neighbours and pedestrians. The degree of noise reduction achieved by Bruag's system has already been tested and its effectiveness has been confirmed: the acoustics panels can reduce noise by over 15%.

*In addition to outdoor applications, we also have various room acoustic systems for indoor use.  
For more information and advice on levels of absorption, see [www.bruag.ch](http://www.bruag.ch) or our interior applications brochure.*



Country / Place: Switzerland/Zürich  
Project Name: MFH Witikonstrasse Zürich  
Material: Formboard top pine top pine, 18mm  
Perforation: 50200  
Colour: RAL 9016  
Architect / Planner: a4D Architekten AG Zürich  
Photographer: David Halter

# Landscape Applications

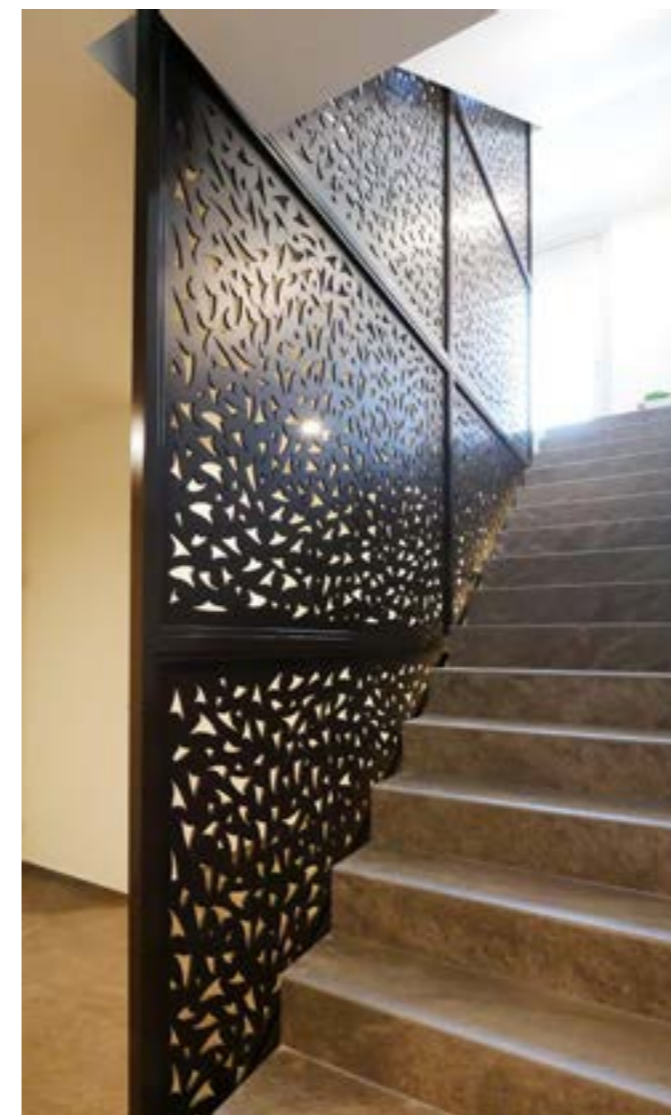
Are you looking for a garden that is going to form your ideal retreat?

These days, the gap between housing units is getting ever smaller. We can provide you with stylish semi-transparent partition walls, plus other products relating to garden design.

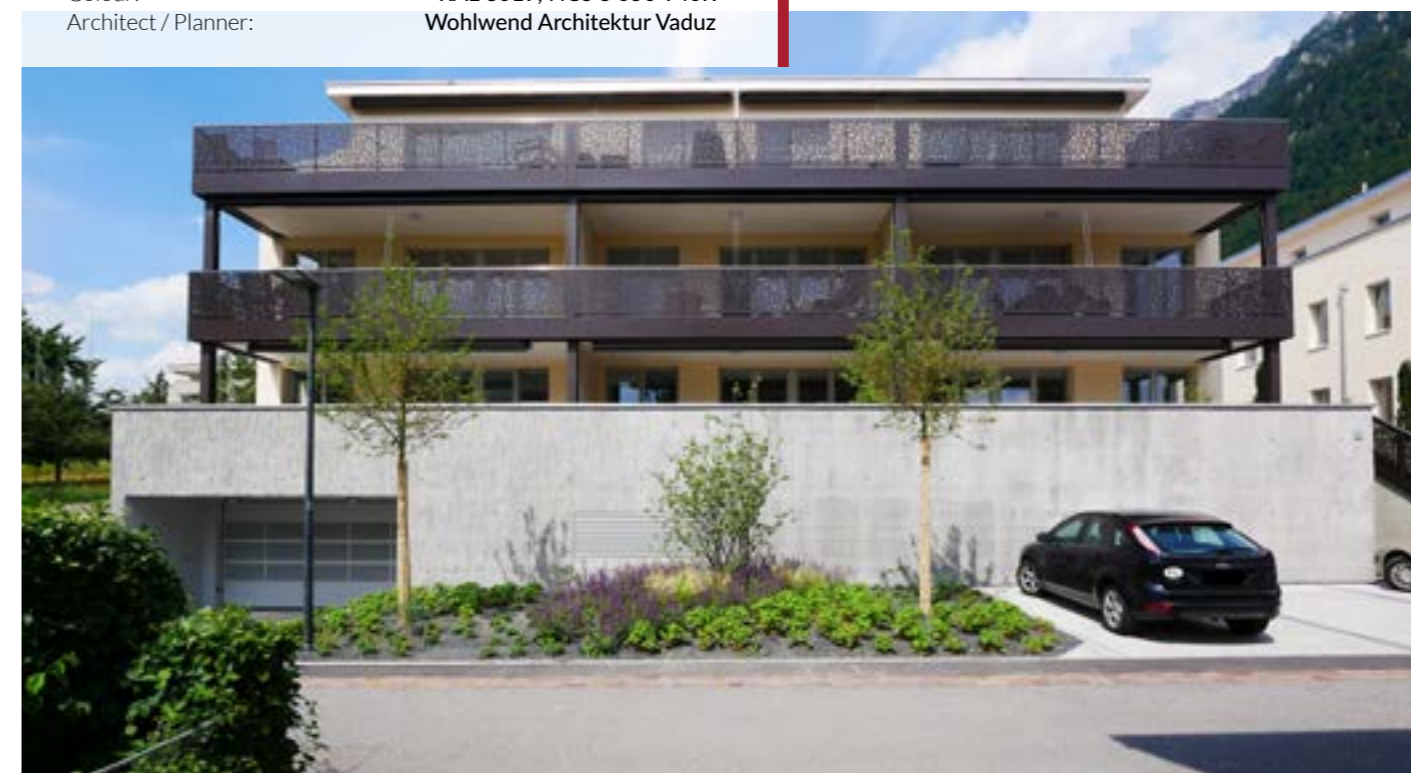


## Charming Urban Living

The inhabitants of the building complex “Quäderle” in Vaduz can enjoy the benefits of living in Liechtenstein’s capital while still being in a green environment. However, this is not the only unique feature of the project. “We wanted to take up the grapevines which have been present on the site for a long time.”, says Architect Alex Wohlwend. The green façade and the perforated Cellon panels used in the stairway are further eye catchers and embody the architect’s vision of a complex combining countryside and urban living. The balcony claddings and stair railings have been colored in a warm dark brown. In contrast to that, the balcony partition walls have been coated in a brighter color and were produced in one piece.

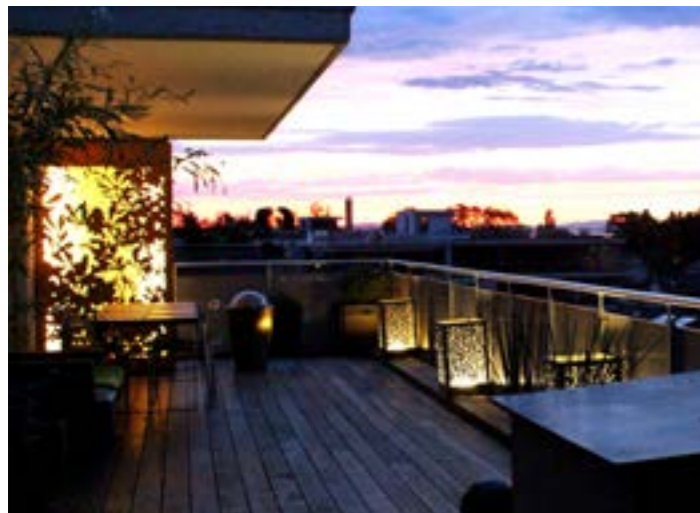


Country / Place:	Liechtenstein/Vaduz
Project Name:	MFH Quäderle Vaduz
Material:	CELLON®, 8mm & 10 mm
Perforation:	50402
Colour:	RAL 8019, NCS S 050 Y40R
Architect / Planner:	Wohlwend Architektur Vaduz



## Oriental Garden Design thanks to Playful Perforations

Perforated CELLON panels are also very suitable for use in garden design and they can be used for an extremely broad variety of applications: for anything from partition walls, to plant pots and to illuminated shells.

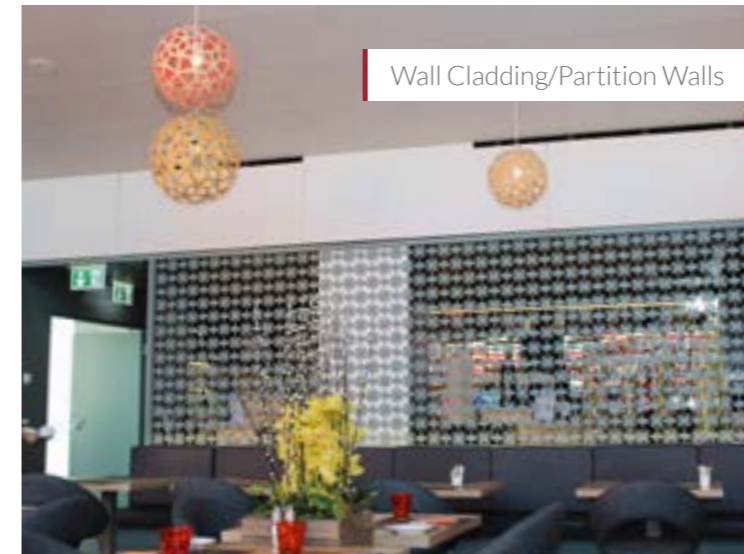


## Interiors

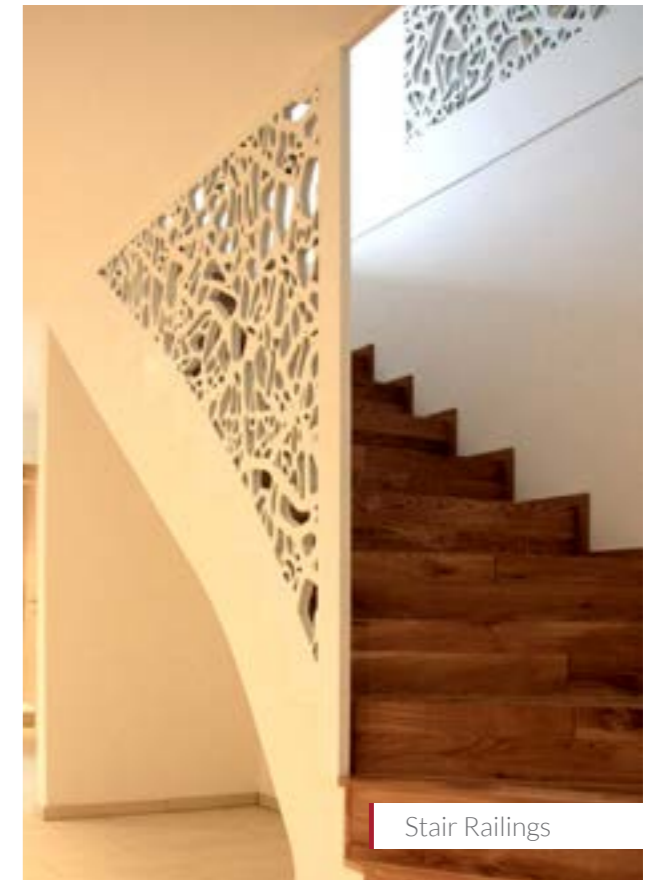
Bruag also provides products for interior use. Please do not hesitate to request the relevant brochures.

Please visit our website for further information

[www.bruag.ch](http://www.bruag.ch)



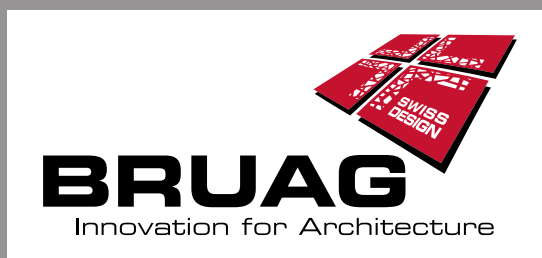
Wall Cladding/Partition Walls



Stair Railings



Room Acoustics



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