

**Betsinor**<sup>®</sup>  
Composites

*The mastery of materials...*

composite materials

1985



The logo for Betsinor Composites features the word "Betsinor" in a bold, white, sans-serif font. The letters "Bet" are set against a red rectangular background, while "sinor" is set against a dark grey background. A white curved shape overlaps the red and grey areas. Below the main name, the word "Composites" is written in a smaller, italicized, dark grey sans-serif font.

# Betsinor<sup>®</sup>

## *Composites*

Showing creative imagination is something only the best architects can do.

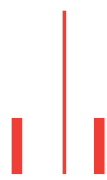
Making materials express the uniqueness of a creative work is something Betsinor does best.

For expressing the perfection of prestigious facades by exactly replicating their initial design, Betsinor has mastered the art of making materials.

For over 25 years, the company has held the secret of cementitious composite materials that restore the pure harmony of buildings. It can create smooth or granulated surfaces, light, designs, curves, etc.

Innovativeness has enabled Betsinor to develop protean components of mineral origin, endowed with key technological capabilities, such as thermal screens with earthquake resistant properties, light filtration, acoustic comfort, resistance to wear, etc.

The material can even adapt to unpredictable changes in external conditions, making it possible to rethink the complex relationship between the inside and the outside of a building.

Three vertical bars of varying heights in red and dark grey, positioned to the left of the text.

Everyday we work with you to push back the frontiers of knowledge.

# Outstanding facades

Architectural design, brand image, integration with the geographical location and fitness for purpose...  
Each facade presents a set of **complex challenges**.

This explains why Betsinor focuses first and foremost on supporting the creativity of architects in devising technical solutions that fully render the originality of each project!  
Our engineers preserve the boldness of the projects they complete.

Each building requires a novel external shell with specific qualities (for heat regulation, light capture, acoustic insulation, earthquake-resistant standards, durability, ease of maintenance, etc...).

Betsinor has developed its own exclusive processes, which meet the specifications laid down in the technical advisory notes issued by the French building research establishment (CSTB).  
The company fully meets all construction, safety and security requirements.

**And what's more it delivers buildings with remarkable character!**



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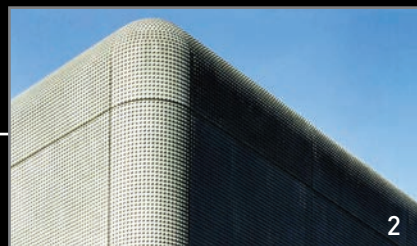
1

*Rostand secondary school - VILLEPINTE  
Owner: Regional Council of Ile de France  
Architect: Fabienne Gérin-Jean  
GFRC*



2

**2** Bus depot - THIAIS  
 Owner: RATP/SEDP  
 Architects: Emmanuel Combarel and Dominique Marrec  
 UHPC



2



3

**3** SARL La Saurie shopping centre - POITIERS  
 Owner: CFA Atlantique  
 Architects: Victor Maldonado, Atelier d'architecture A-Traits  
 GFRC



4

**4** AG2R La Mondiale Regional Office - MONS EN BAROEUL  
 Owner: AG2R La Mondiale  
 Architect: Agence Frédérique Moguez  
 GFRC

# Outstanding facades



**1** Boarding school - MARLY LE ROI  
Owner: Regional Council of Ile de France  
Architect: EURL d'Architecture Hélène Fricout Cassagnol  
UHPC



**2** Office building - ISSY LES MOULINEAUX  
SNC Forum Seine  
Owner: Bouygues Immobilier  
Architect: Christian de Portzamparc  
Project manager: COTÉBA  
GFRC - Green building



3



4



5

**3** Media library - COURRIÈRES  
 Owner: Municipality of Courrières  
 Architect: Karine Millet  
 GFRC

**4** POTHIER secondary school - ORLÉANS  
 Owner: Regional Council of the Centre  
 Architect: Vaconsin Gailledrat  
 GFRC

**5** Rives de Bercy Office Building - CHARENTON LE PONT  
 Owner: Parnasse Promotion Immobilière  
 Architect: Atelier 3 AM André Martin  
 GFRC



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**6** Hilton Champs Elysées - PARIS  
 Owner: SIHPM  
 Architect: Atelier 41  
 GFRC

# Conquering light

Slender, airy cladding panels are a very good example of modernism, enhancing the overall perception of the building project.

Architects are free to give them any shape they wish and to design all types of symbolism: Betsinor manufactures them as close to architects' intentions as possible!

Linking the «shell» of a building and the natural elements of light, sun and wind, the panels are fixed to the structure in the form of canopies, screens and curtains whatever the latitudes and longitudes.

Thanks to angles of refraction and reflection, openwork and gaps, the lamellar installations designed with all the rigour that Betsinor's design office can mobilise fulfil their technical and environmental purposes, namely capturing light, protecting from the sun, regulating heat, while ensuring harmony between aesthetics and materials.

**We have successfully risen to the challenge, as our buildings testify.**



- 1** Clairmarais silo parking lot - REIMS  
Owner: EFFIA Concessions  
Architect: AREP  
GFRC - MATIV®
- 2** Intermodal hub - GRASSE  
Owner: Pôle Azur Provence  
Architect: Es-pace Urbanisme et Architecture  
GFRC - MATIV®
- 3** Joliette secondary school - MARSEILLE  
Owner: Bouches du Rhône County Council  
Architect: ILR  
GFRC





4

**4** Swimming-pool - CLICHY LA GARENNE  
 Owner: Municipality of Clichy la Garenne  
 Architect: ENIA  
 UHPC



6



6

**5** Le Spallis office complex - SAINT DENIS  
 Owner: Bouygues Immobilier  
 Project manager: SCAU  
 Architect: Agence d'architecture A. Bechu - Tom Sheehan  
 GFRC - MATIV®

**6** Dojo Rosette de Mey - LILLE  
 Owner: Departmental council of the North  
 Architect: Rudy Ricciotti  
 UHPC



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# Light and materials

Openwork panels have made their appearance in towns and cities - and in people's life by adjusting the role of light at will, allowing it to penetrate inner spaces.

Proprietary manufacturing processes and matrices made to measure allow architects to achieve the exact effect that they desire. With Betsinor, nothing need be an obstacle to the imagination.

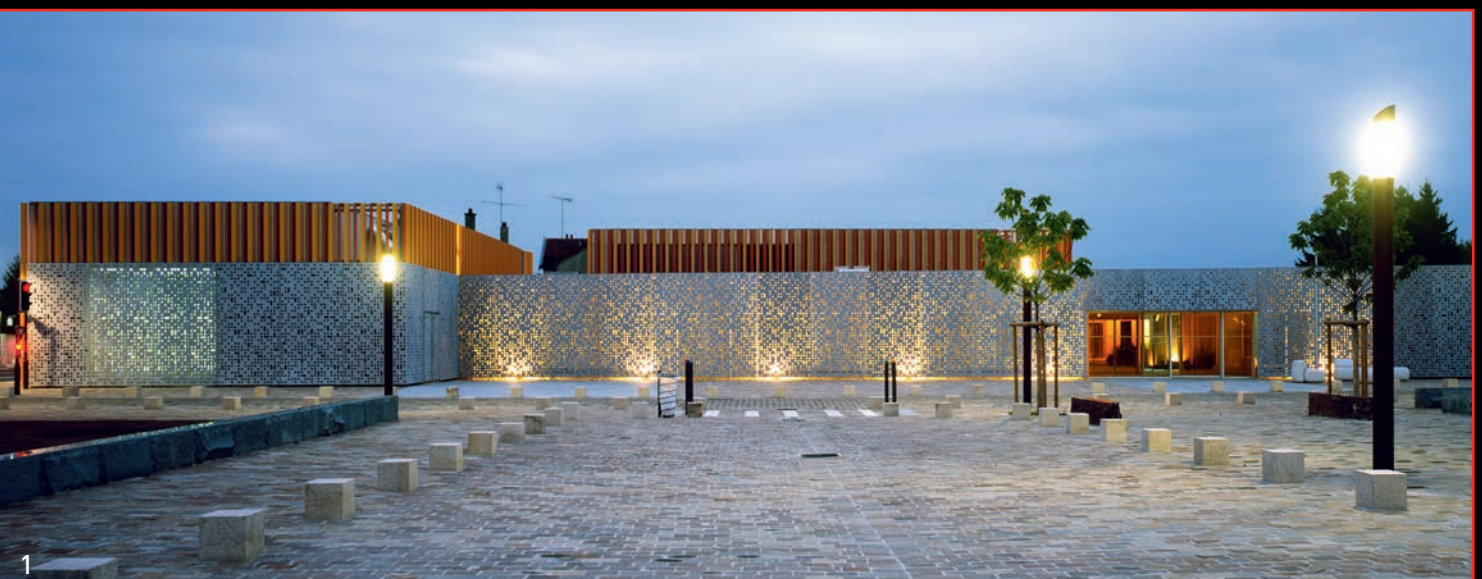
The Betsinor design and engineering office puts all its skills and experience to work to produce the most complex shapes.

These grids of slats at the front of the structures act as a skin and membrane that keep light and heat under control.

High up, in staggered rows, complete sections or gigantic walls, these openwork panels are suitable for all kinds of structures and embellish the facades by bringing them to life.

**Inside, the quantity of light transforms what you see and the quality of life!**

**1** Sedan Torcy cultural centre - SEDAN  
Owner: Municipality of Sedan  
Architect: Ph. Gibert  
UHPC





2

**2** Rive Gauche Masséna Est - PARIS  
 Comprehensive Urban Development zone (ZAC)  
 Owner: OPAC de Paris  
 Architect: Agence BADIA BERGER  
 UHPC



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**3** Modern Art Museum - VILLENEUVE D'ASCO  
 Owner: Communauté Urbaine de Lille  
 Architect: Manuelle Gautrand  
 UHPC



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**4** Day-nursery - TOURRETTE LEVENS  
 Owner: Ville de Tourrette  
 Architect: Heams et Michel Architectes  
 GFRC

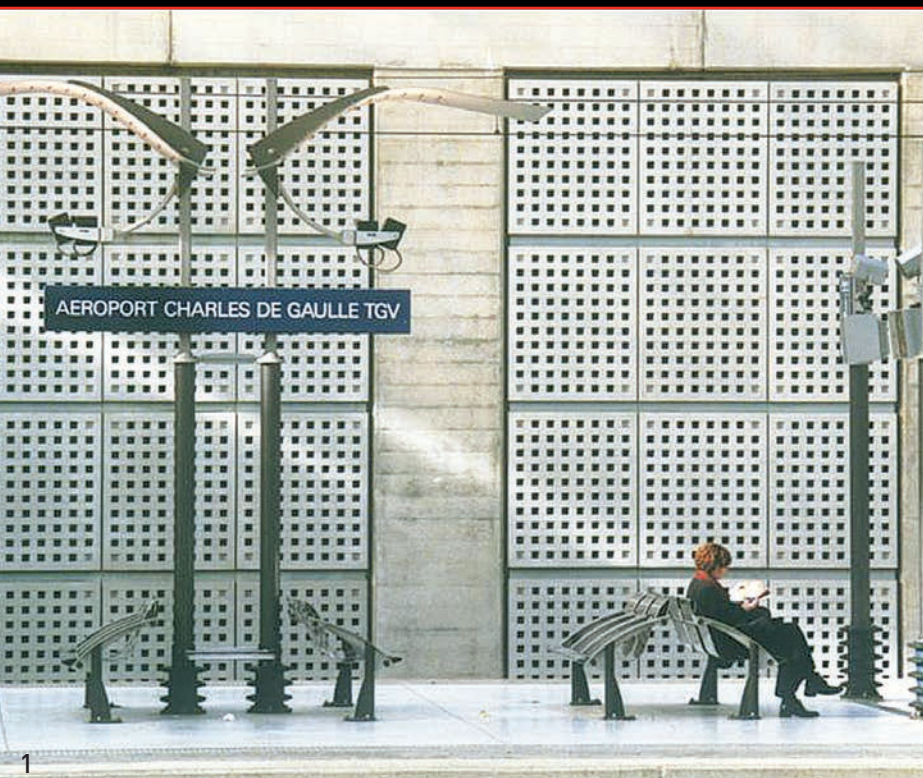
# Acoustic comfort

In addition to regulating light, treating heat and dealing with seismic hazards, Betsinor is able to offer **innovative solutions** for enhancing acoustic comfort.

To capture or deaden sound, Betsinor develops tailor-made slats, perforated cladding and panels with high absorption coefficients.

Furthermore, these products feature high tensile strength, great rigidity and also look good.

Public spaces fitted with Betsinor solutions provide a significantly more comfortable and calmer "atmosphere".

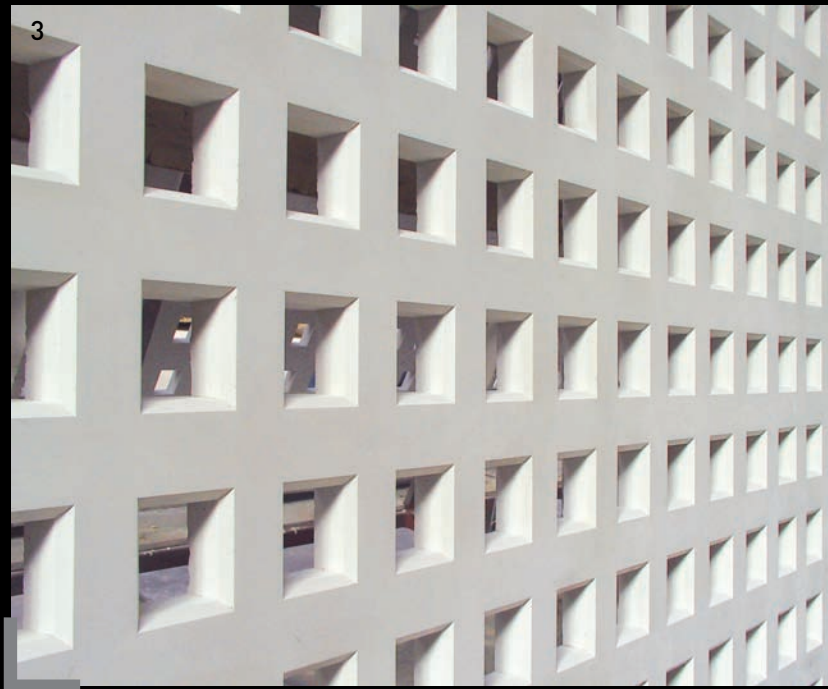


**1** High-speed train station Paris Charles-de-Gaulle airport - ROISSY  
Owners: ADP and SNCF  
Architects: Paul Andreu - JM Duthilleul  
GFRC

**2** Road ventilation - LYON  
Owner: SERL Lyon  
Architect: C. Dordilly  
GFRC



**3** Lehrter station - BERLIN  
 Owner: Die Bahn  
 Architect: GMP  
 GFRC



3



**4** Eole station - PARIS  
 Owner: SNCF  
 Architect: AREP  
 GFRC

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**5** Road ventilation - MARSEILLE  
 Owner: Communauté Urbaine Marseille Provence  
 Project manager: AMADEO  
 Execution project manager: INGEROP  
 GFRC



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# High profile developments

Betsinor teams continually seek ways to improve the plasticity of materials, to broaden the range of possible textures and to adapt construction processes to meet the creative requirements of architects. They often operate in France and abroad in high profile developments (iconic sites, listed heritage buildings).

## Guided tour...



1

Opera - ASTANA (Kazakhstan)  
Owner: State of Kazakhstan  
GFRC

2

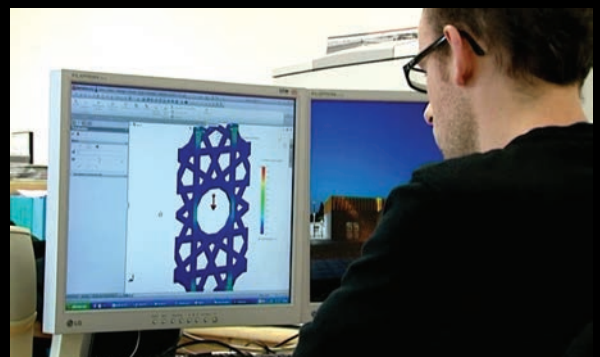
"Shangri La" tulips by Kusama for LILLE 2004  
GFRC

3

Géode theatre in Alexandria - Egypt  
Owner: Bibliotheca Alexandrina Ministry of Education  
Architect: SNOHETTA HAMZA CONSORTIUM  
GFRC



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The multidisciplinary design office and Betsinor teams are ready to take up the architectural challenges set by architects

# Experience and processes

## Industrial processes used by Betsinor



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Betsinor is one of the leading producers of glass reinforced cementitious architectural components.

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Betsinor uses two glass reinforced concrete matrices: GFRC and UHPC. These can be moulded to many shapes for long-lasting applications in all kinds of creative developments. Betsinor's technical prowess makes all ambitious projects possible – in complete compliance with the technical advisory notes entitled CSTB GIREC V and UHPC (Ultra High Performance Glass Reinforced Concrete).

### Simultaneous projection

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This process can be used for GFRC applications. It makes it possible to create the most innovative shapes and to make façade panels of up to 18m<sup>2</sup> in surface area.

### Vibrated casting

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This process is used for GFRC and UHPC applications. It provides technical and aesthetic solutions to the creation of perforated or textured panels with surface areas of up to 4.5m<sup>2</sup>.

### The MATIV<sup>®</sup> injection process

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This is a vacuum casting system for GFRC and UHPC applications. It significantly enhances mechanical properties, as confirmed by the technical assessments carried out by the CSTB (the French building research establishment).

This process reduces the porosity of materials. All surfaces of the component thus produced therefore have the same quality of finish, which encourages architects to be even more creative.



A home in COLLONGES-BELLERIVE (Switzerland) on the banks of Lake Geneva  
Architects: PY Auboiron, Pentacle



Quai Branly Museum - PARIS  
Architect: Jean Nouvel





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Betsinor Composites is member of the  
Glassfibre Reinforced Concrete Association