

Concrete Valley®

GRC/HPC Facades

Benefits & product sheet



Concrete
Valley®



HPC / GRC FACADES

HPC is a highly durable and flexible enhanced cementitious decorative building material with unique properties. The product is designed to be light and flexible, allowing for standard and complex 3D shapes complying with Eurocode 2, the defining building standard for rainscreen facades.

Overall, this material offers solutions with advantages such as speed of construction, improved aesthetics, superior durability, and impermeability against corrosion, abrasion and impact—which translates to reduced maintenance and a longer life span for the facade.



FACADES

Concrete Valley represents expertise, craftsmanship and innovation in Europe. We bring ideas to life and create precast concrete solutions, products and solutions on our own 80,000 square meter site in the south of the Netherlands.

A sustainable group

Concrete Valley is increasingly producing sustainably. This strategy is fully embedded in our business model and culture. In addition to producing concrete elements responsibly, for which we received CSC Gold, Concrete Sustainability Council. This translates into innovative production methods (e.g. testing geopolymers), research and procurement of alternative raw materials, electrical equipment and our own generated energy.

Impressive HPC & GRC elements

We believe that a designer should never be limited by the material. That's why we offer the best engineering and manufacturing available, created by us. We are a young company with a fresh view on the use of moulds and concrete. With our experience and industry inspiring techniques, Concrete Valley offers unique and impressive precast elements and realizes challenging and complex architectural projects in HPC and GRC.



HIGH— PERFORMANCE CONCRETE

HPC C90/C105

Environment friendly

Our new generation precast concrete is extremely durable; with a solid yet flexible reinforcement. It resists forms of deterioration very well and retains its quality when exposed to all weather conditions.

Class A1 fire resistance

HPC performs well in fire testing. It has the highest fire resistance classification (A1), doesn't burn, cannot be set on fire and will not cause any toxic risk in a fire.

Abrasion resistant

The abrasion resistance of concrete depends on its composition. Our concrete products are able to resist the wear and tear of (intense) usage or exposure to extreme conditions.

Low—maintenance

Elements made by mbX have a smooth surface with a clean look and feel. Also the high—performance concrete is unlikely to collect dirt and pollution, which means it's easy to maintain.

Strong & Lightweight

Concrete has a high compressive strength, by adding fiberglass we are able to increase the flexural strength too. We can then manufacture more complex geometrical shapes including double curved panels.

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Flexible

Our high—performance concrete can be moulded as it hardens. The process starts with mould being in a 100% horizontal position. As the fibre—reinforced concrete goes from a fluid consistency to a solid material, the mould is transformed into the required geometry.



GLASS—FIBRE REINFORCED CONCRETE

GRC Grade 18

Freedom of form

GRC material allows the designer to aim for geometrically demanding outcomes. The aesthetics and structural design freedom really does push the boundaries of architectural possibilities.

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GRCA member

mbX is member of the GRCA, The International Glassfibre Reinforced Concrete Association. We produce our GRC products in accordance with the GRCA guidelines, giving you assurances that we follow the best and most up to date manufacturing guidelines.

Performance HPC

Euro Code	2.2
Flexural Strength/MOR	
Limit Of Proportionality	
Maximum fraction 4mm	
Thickness 20 to 40 mm	
Fire Resistance	A1
Weight m2	
cO2/m2 A1–A3	
Design Life	+100 years
Impact Resistance	
Finishes	
Water Cement Ration	
Water Absorption	
Breeam Rating	A+
Cement content 25%	
Maximum fraction 4mm	
Thickness 20 to 40 mm	
Water cement factor 0.28–0.32	
Fiber content 2 to 4% (including mesh)	
Liquid penetration none to < 0.1 mm (
Because of the low penetration less maintenance is need	
and also a sealent is also not always necessary (only in	
combination with sandblasting).)	
Compressive strength 70–110 N/mm2	
Bending tensile strength 10–14 N/mm	



Performance Sprayed Grade 18 GRC

Euro Code 2.2	TBC By Vericon
Modulus of Rupture	18/30N/mm2
Limit Of Proportionality	5–10N/mm2
Maximum Panel Size	4500 x 2500
Fire Resistance	A1 – A2 with polymer
Weight m2	70kg/m2
cO2/m2 A1–A3	23kg/m2
Design Life	+100 Years
Impact Resistance	BS8200 (Still recognised)
Finishes	All Natural Finishes
Water Cement Ratio	0,30 – 0,38
Water Absorption	4.5 – 5%
Breeam Rating	A+
Amount of cement in mixture	25% (instead of 50% with traditional GRC)



Man power required per 11.25m2

We Create.

PROJECTS



Metro Bond street
Londen



Bond street Londen



Metro Farringdon Londen

We Create.

PROJECTS



OAK Center
Londen



The Mall of the Netherlands (mbX)



HAUT Amsterdam (mbX)



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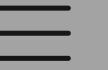
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CONTACT US



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