

Quantz®

The Next Generation of cement bonded materials!

QUANTZ is the Next Generation of cement bonded materials with steel and ceramic like performance. It's an substantial advancement of the class of Ultra High Performance Concretes.

THE PERFORMANCE of Quantz is much more than only a high compressive strength. Rather, performance stands for perfect workability, high quality, customized high compressive and flexural strength, impermeability and an overall ecological and economical effectivity.

CUSTOMIZED MATERIAL PROPERTIES can be set up regarding the requirements of the application, production or environmental conditions.

LOCAL RAW MATERIALS will be used for the development of Quantz. Shipping of raw materials is not necessary and thus costs and emissions are reduced.

THE DURABILITY of the material is extremely high. Long-term studies and research projects evaluated a much better durability compared to regular concrete.

THE WORKABILITY can be adjusted in context to the production processes: From earth moist to self compacting

THE PRIZE of Quantz per m³ depends on the prizes of the local available raw materials and production costs. Compared with regular UHPCs (Ultra High Performance Concrete), the prize is ³⁻⁴ times lower.

ADVANTAGES

- developed with local raw materials
- perfect workability
- from earth moist to self compacting
- customized compressive strength
- customized flexural strength
- customized porosity
- cost-effective
- sustainable
- available: worldwide

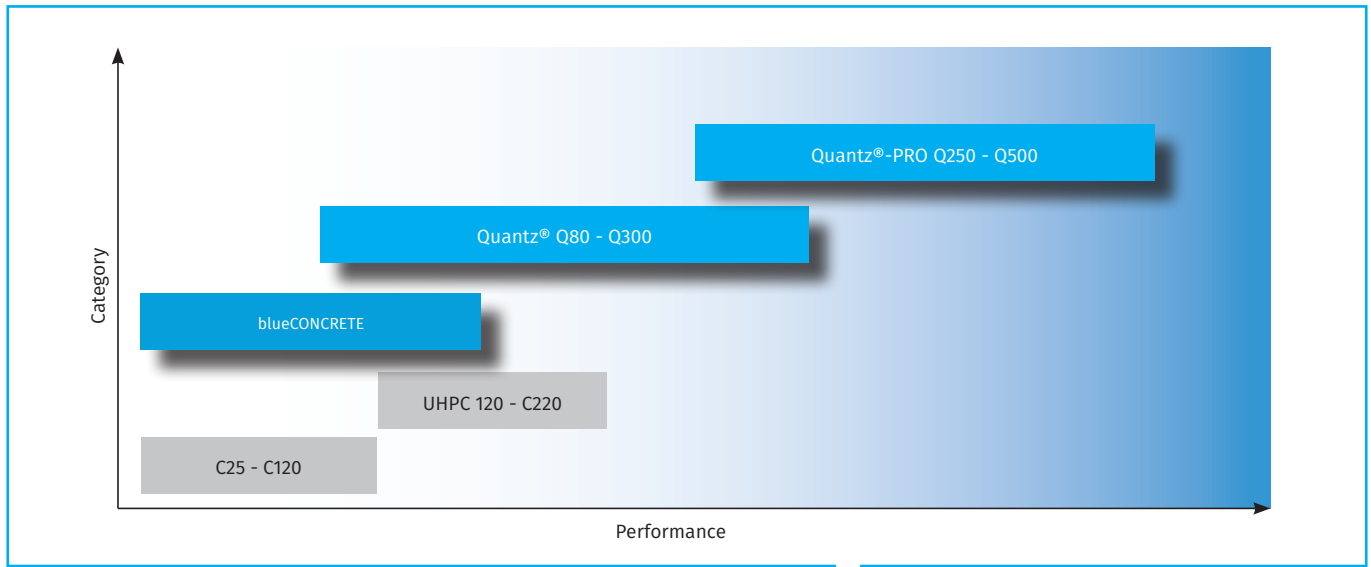
APPLICATIONS

Scyscraper structures, bridges, highway coatings, walls, floors, ceiling, tunnels, pre-cast segments, industry floorings, facades (bearing or curtain), exposed concrete, interior design, table ware, sanitary panels and accessories, tiles, flagstones, machine foundations, constructive machine elements and security industry.

DESIGN

- all kind of colors - also snow-white and black
- from very rough surfaces to a high glossy self-cleaning finish
- no additional coatings are needed
- no limits for forms and shapes
- unit thickness from 2 mm up to meters





TECHNOLOGY

Quantz will be developed individually for customer preferences. With modern, outstanding mathematical algorithms and know-how on packing density and calculation of waterfilm thickness, that are representing the top of the state of the art, we will create your individual Quantz. The material will be composed on consideration of local aggregates and local fabrication processes as well as environmental conditions.

> For detailed information: contact@gtecz.com

TECHNOLOGY TRANSFER

The result is a unique material, that allows thinking concrete without limits. With Quantz, you will not only get a new material, you will get Know-How: G.tecz as developer of Quantz will brief and consult you in fabricating and applying Quantz as well as launching quality assurance or performing inhouse training.

SUSTAINABILITY

The sustainability, the economic effects and the performance are directly related with each other. Usage of your local raw materials will reduce CO₂ emissions but strengthen the local market. Structures can be more filigree, concrete volume reduced and thus CO₂ emissions decreased.

BUSINESS MODELL

The business model does have two phases - development, production & service. G.tecz charges a development fee to cover the initial development costs. Those will be pro-rata refunded with production licence fees. With the licence fees comes the already included G.tecz service.

RANGE of QUANTZ

Quantz is not a standard product. In general, material parameters are adapted regarding individual demands and vary. The following list will show you the range of possible material parameters:

	typical	range
- compressive strength	175	80 – 500 MPa
- tensile strength	7	3 – 20 MPa
- flexural strength (matrix)	15	3 – 27 MPa
- flexural strength (reinforced)	25	5 – 75 MPa
- fracture energy	55	50 – 90 kN/m
- possible unit thickness	> 2	> 2 mm
- carbonating	1,5	1,5 mm after 3 years
- chloride-diffusion	n.m.	not measurable
- water resistance	n.m.	not measurable
- frost-resistance	< 100	< 100 g/m ²
- dispersion	80	up to 80 cm
- shrinkage	1	1 – 1,5 ‰
- crack width	<< 0,1	<< 0,1 mm
- weight	2,4	0,6 – 2,7 t/m ³

QUANTZ

Quantz, the new cement bonded high-tech material will change your point of view and opens new markets - whether it's the building industry, machinery industry or consumer market.

Please contact us for detailed information.

