



FuturZement C.2 SuperDry

nanostructured high performance cement/concrete

high early strength ☼ high final strength ☼ super durability

ideal binder for quick repair

super fast + super strong = SuperDry



FuturZement C.2 represents further activation of ordinary Portland cement (OPC) with high kinetic processing (HKP) applying Simoloyer® technology. Due to the activation FuturZement C.2 shows a super fast setting at good workability and high early and final strength and is highly sustainable and highly economic. Its application also leads to substantial saving of CO₂ because less cementitious material is necessary due to its high durability and resulting less building repairs.

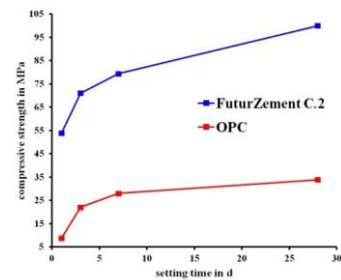
Fast setting mortar or concrete

FuturZement C.2 can be applied for repairing purposes within streets, roads, bridges, dams and other building parts that have to be fixed in short times to avoid long downtimes.

- six times higher initial strength (obtained in preliminary results)
- maximum compressive strength of 1GPa!!! (attained from cement mortars from FuturZement C.2)
- setting time: 2-3 min



testing machine for FuturZement C.2 specimens' strength evaluation

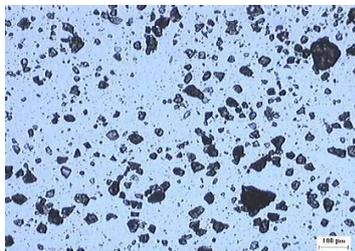


compressive strength: FuturZement C.2 provides 3x higher final strength and 6x higher initial strength than OPC

Powder properties

FuturZement C.2 is to the best advantage because of its improved powder properties compared to OPC.

- more homogeneous microstructure
- small mean particle size: d_{50} about 2 μm , just few medium sized particles (10 μm) and isolated 100 μm particles
- specific surface area (BET): of 5 m^2/g .



optical micrograph of GCC-OPC cement powder (as received)



optical micrograph of GCC-HPPC cement powder (processed under the code m60-40-500)

Road maintenance by FuturZement C.2

Due to the very fine powder suitable for repairing applications.

- smooth and durable surface
- quick binding properties
 - ⇒ maintenance and repair of roads
 - ⇒ removal of potholes
- high structural density
 - ⇒ increased durability
 - ⇒ reduction of maintenance

Aesthetic or artistic purposes

Sculptures, ornaments or other decoration as well as restoration of monuments are possible with FuturZement C.2.

- high quality surface
- higher durability (dense structure)
 - ⇒ lower costs for maintenance, restoration and downtimes



sculptures made by conventional OPC (left) and by refined HPPC (right)



small cubes - high performance, sculptural purposes obvious

Industrial volume in semi-continuous operation

The application of FuturZement C.2 is cost-effective and economically and ecologically recommended.

- theoretical daily production of > 720 kg by CM20 and 3.6 t by CM100.
- additional cost to each ton of concrete only € 7.00 per ton*!!!

* (cost calculation based on a Simoloyer® CM900-plant incl. investment, maintenance, labor costs, energy and water (Oct 2012, GER: 0.10 €/kWh), operating time: 6,000 h/a, depreciation period: 20 years)