



FuturZement C.1 | FuturBeton C.1

nanostructured cement/concrete

high strength ☀ CO2-low ☀ super durability

all advantages for EUR 7,00 / ton of concrete

(additional full cost, CM900, Germany 2012-10)



Industry:

construction-industry

with FuturBeton can build more faster | sleeker | higher | cost-effective | durable | environmentally friendly with | better surface and | less steel

steel-industry

the today's semi-waste GGBS turns into a super-activated high value product (30% additive to OPC > FuturZement)

Product/innovation 100% ready to market proved:

- technologically** → public bridge in Germany !
- economically** → +7,00 EUR/ton as of 43.000 tons p. a. (1x Simoloyer® CM900)
- ecologically** → 20 % CO2-emission savings in cement manufacturing process

Technical advantages:

- strength** 100-120 MPa after 28 days
- early strength** 40 MPa on the first day
- durability & surface application** super fine pores, to date full performance after 1 year under water except Simoloyer® plant, common cement/concrete processing route

Cost advantages:

- higher strength** → less material, replace steel
- higher early strength** → build faster
- higher durability** → less material, build less often
- better surface** → can represent cost-advantages as well
- CO2 savings** → can represent cash earnings/savings as well

| compared properties | FuturBeton | ordinary concrete |
|--|---|-------------------|
| compressive strength [MPa] after 2 days | > 60 | -- |
| compressive strength [MPa] after 28 days | 110 | 30 - 55 |
| elasticity modul [N/mm ²] after 28 days | 41.900 | 36.000 |
| cement content [% w/w] | 17 | 15,7 - 16,1 |
| density [kg/m ³] | 2.440 | 2.000 - 2.600 |
| water/cement ratio | 0,39 | 0,45 - 0,6 |
| freezing-thawing resistance / weathering rate [g/m ²]* *after 28 cycles without air entraining agents | 294 | 400 - 800 |
| porosity [%] - air pores | porosity data under investigation, so far only very encouraging 1-year-under-water bulk tests | |
| porosity [%] - capillary pores | | |
| porosity [%] - gel pores | | |



the bridge "Rosenthal" at Olpe/Germany established on November 14, 2012



12 ton roof balustrade, Villa ZCS at Siegen/Germany established on June 21, 2013