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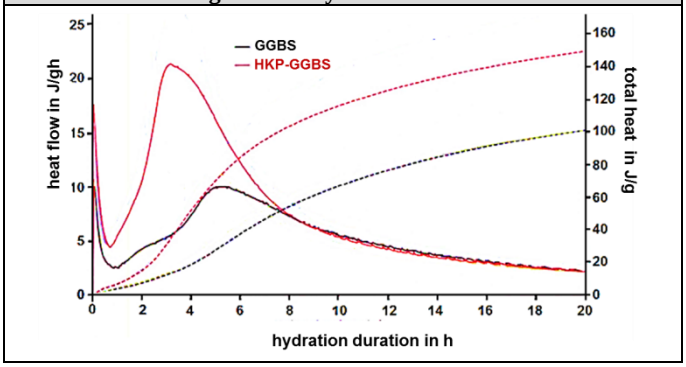
Nanostructured Ground Granulated Blastfurnace Slag (HKP-GGBS)
- additive for sustainable construction materials with high durability -

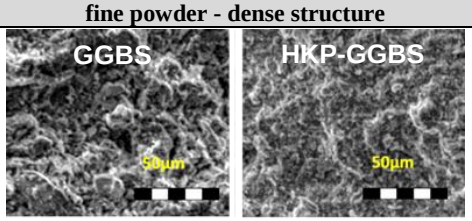
HKP-GGBS represents Ground Granulated Blastfurnace Slag super activated by High Kinetic Processing (HKP) applying the Simoloyer®-technology. This results into nanostructured cement which is super reactive and concrete that is more than twice as strong as ordinary concrete at superior durability and substantial CO_2-emission saving.

high reactivity of HKP-GGBS



HKP-GGBS - values	
specific surface area	2.2 m²/g
partcle diameter	7.4 µm
density	2.9 g/cm³
Blaine surface	~ 6700 cm²/g

fine powder - dense structure



HKP-GGBS - properties

- sustainable recycling of industrial waste material
- very fine powder material
- realization of sophisticated surface quality
- substitution of high lime clinker without loss of reactivity
- high resistance against aggressive media
- additive for FuturZement C.1 or alternative slag cements

FuturZement C.1 - values	
cement strength class	52.5 R
composition HKP-GGBS/OPC	30% / 70%
specific surface area	2.7 m²/g
particle diameter	7.3 µm
density	3.03 g/cm³
Blaine surface	5670 cm²/g

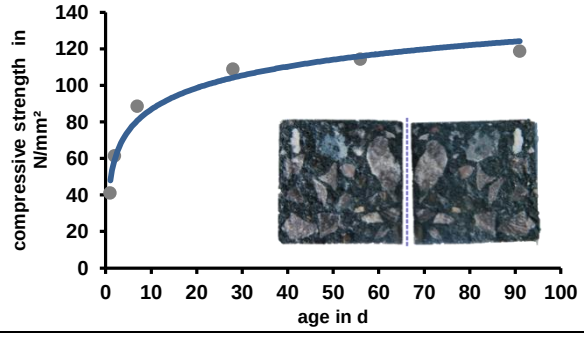
high surface quality

FuturZement C.1 - properties

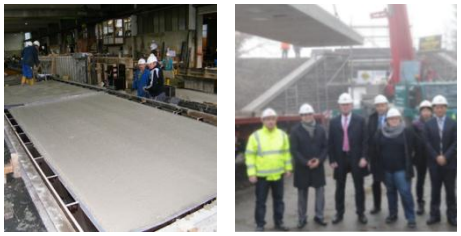
- enormous CO_2-saving potential:120 kg CO_2/t cement (20%)
- dense packaging due to particle size distribution
- superior cement/binder for FuturBeton C.1 and alternative construction materials

packaging	
liter	**kg**
13	10
31,5	25

FuturBeton C.1 - high compressive & high early strength



100% ready-to-market



world's first public bridge made of FuturBeton C.1 the bridge „Rosenthal" at Olpe/Germany (11/2012)

FuturBeton C.1 - properties & values	
concrete strength class	> 100 N/mm² (High Performance Concrete)
weathering (CDF-method)	294 g/cm² (max. 1500 g/cm² allowed)
chloride migration coefficient (CMC-method)	$1.4 \cdot 10^{-12}$ m²/s (very low diffusion after 95 days)
sulphate resistance	high (nearly no expansion)

implementation on an industrial scale for	
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)