



Product information

Microsit[®] 20

**Pozzolanic additive –
for high performance cement-based construction materials**

Description

Microsit[®] 20 is a new additive for the production of high-quality mortars and concrete. Microsit[®] 20 consists essentially of SiO₂ and Al₂O₃ and therefore belongs to the class of aluminosilicates.

Chemical composition (M.-%, approx.)

| | |
|--------------------------------|----|
| SiO ₂ | 52 |
| Al ₂ O ₃ | 25 |
| Fe ₂ O ₃ | 7 |
| CaO | 5 |

Physical characteristics (approx.)

| | | | |
|----------------------------|-----------------|-------------------------|------------------------|
| LOI | | 3.4 % | (EN 196, part 2) |
| Particle shape | | spherical | |
| Blaine value | | 6000 cm ² /g | |
| Specific density | | 2.50 g/cm ³ | (EN 196, part 6) |
| Bulk density | loose | 0.74 g/cm ³ | |
| | vibrated | 0.90 g/cm ³ | |
| Colour | | grey | |
| Water demand | (Kat. S) | 92,5 M.-% | (DIN EN 450-1, app. B) |
| Particle size distribution | d ₁₀ | ≤ 3 μm | (laser granulometer) |
| | d ₅₀ | ≤ 6 μm | |
| | d ₉₅ | ≤ 20 μm | |

Function

The special particle size distribution and the spherical shaped particles of Microsit[®] 20 improve the flow properties. The mainly vitreous particles increase the mechanical properties through their pozzolanic reaction.

| | | | |
|-----------------|-------|-------|--|
| Relative spread | | 105 % | (DIN 18555, part 2) (mortar ref. with CEM I 42.5) |
| Activity index | 28 d: | 88 % | (EN 196, part 1) |
| | 90 d: | 100 % | (EN 196, part 1) |



Advantages

Microsit[®] 20 is characterised by a very fine and defined particle size distribution. The particle size distribution is uniform and the particles almost perfectly spherical.

The use of Microsit[®] 20 allows optimising the particle size distribution of mortars and concrete in the fine particle range. Hereby, a high packing density and durability of the cement bound matrix can be realised.

Microsit[®] 20 reduces the water demand and improves rheological properties.

Application

Due to its excellent workability properties and its high pozzolanic reactivity Microsit[®] 20 is best suited for the production of construction materials with special properties, such as

- self compacting construction materials with high fluidity
- high-strength and wear-resistant mortars and concrete
- mortars and concrete with high resistance to chemical and physical attack
- injection mortars, very fine binders for pressure grouting

The quality measures applied during production guarantee the outstanding product characteristics and the robust product quality. Microsit[®] 20 has a quality certificate and is in accordance with DIN 1045-2 as an additive.

Addition level

Dosage of Microsit[®] 20 is dependent on the desired properties. Typical addition levels are 8 - 15% of binder content.

Compatibility

Microsit[®] 20 is compatible with Portland cement and hydraulic binders, including ground blast furnace slag, fly ash and hydrated lime.

Health & Safety

Refer to Material Safety Data Sheet for full details.

Packaging

In bags of 25 kg or in big bags of 1000 kg, or bulk.

Storage

To guarantee storage stability of the material, the following conditions must be applied

- store in a dry place
 - keep containers and bags closed
 - use up opened bags within 3 days
- Under these conditions the material will be stable for 6 months after delivery. Older material shall be checked for possible agglomerates before use.

The above information and recommendations are based upon our experience and are offered merely for advice. They do not absolve the consumer from making his own tests. Responsibility for damage arising from the use of our products cannot be derived from the recommendations given. The observance of any intellectual property rights of third parties is the responsibility of the consumer in each case.

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