LARSEN

TECHNICAL DATA SHEET

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MICROSILICA

Microsilica or Silica Fume is a very effective pozzolanic material used to produce very dense, lower permeability concretes with few voids and greatly increased abrasion resistance. It is a by-product from the production of ferrosilicon alloys. In conventional concrete, water reacts with the cement to form crystals, which grow and densify to bond aggregate particles together. Microsilica reacts with free lime to produce calcium silicate hydrate crystals which grow to fill the voids which would otherwise be occupied by pore water.

INCREASES CONCRETE DENSITY
INCREASES COMPRESSIVE STRENGTH
IMPROVES MIX COHESION
IMPROVES ABRASION RESISTANCE
REDUCES PERMEABILITY
REDUCES RISK OF ASR

TECHNICAL INFORMATION

FORM: Free-flowing grey powder

BULK DENSITY: 600 kg/m^3

SPECIFIC GRAVITY: ~2.1 kg/m^3

PARTICLE SIZE: 60% < 1µm

AGGLOMERATE SIZE: 0.1 – 0.5 mm

TYPICAL BENEFIT @ 10%BWC

COMPRESSIVE STRENGTH: up to 50% increase

TENSILE BENDING STRENGTH: up to 50% increase

WATER PENETRATION: up to 75% reduction

PERMEABILITY: up to 25% reduction

DIRECTIONS FOR USE:

DOSAGE
Microsilica is typically used at a dosage of 6 – 10% by weight of cement. It is recommended that due to the addition of the very fine Microsilica, approximately 25kg/m^3 of fine aggregate is replaced with 25kg/m^3 coarse aggregate. Also, as the water demand will increase, it is recommended to incorporate a superplasticiser when designing the mix, e.g. Chemcrete 100Plus. For advice, contact Larsen Technical Department.

DISPENSING
Microsilica should be added with the aggregates either on the belt feed or in the truck.

COMPATIBILITY
Microsilica can be used with all types of Portland cement. It can also be used with other admixtures. When used in conjunction with other admixtures, each must be dispensed separately into the concrete mix. Please consult our Technical Department.

OVERDOSAGE
Severe overdosage can cause severe loss in workability.

CURING
Due to the low amount of bleed associated with Microsilica concrete, correct curing of the concrete is critical.

STORAGE
This product must be stored in closed containers in dry conditions.

SHELF LIFE
24 months in unopened manufacturer's containers.

PACKAGING
25kg bags.

For further information consult our Technical Department
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www.larsenbuildingproducts.com