

PRISM JOHNSON LIMITED
RMC India Division
Construction Chemicals Business

Technical Datasheet

Construction Chemicals

ENDURA MICROFINES

DESCRIPTION

Endura Microfines is a super fine (mean size of 45μ), amorphous high silica content non-crystalline, pozzolanic powder supplied in the densified form. Endura Microfines is used in concrete mixes to replace part of the cement content and enhance the resultant concrete's water impermeability and/or increase compressive strength.

PRODUCT APPLICATION

- ✓ Pre-cast & cast-in-situ concrete elements High performance concretes
- ✓ Marine structures such as bridges, causeways, piers, jetties, shipbuilding yards, ports and quays
- ✓ Oil, gas & petrochemical processing structures
- ✓ Below grade structures exposed to aggressive ground waters such as foundations, rafts, basement walls & floors and underground tunnels Structures exposed to high abrasion such as concrete roads, bridge decks & factory floors
- ✓ Improved durability and extended sustainability

ADVANTAGES

Endura Microfines is the result of careful processing and densification. Densification of the silica fume significantly reduces dusting, health hazards whilst minimizing storage space requirements.

Endura Microfines is regularly tested to conform with ASTM C 1240 requirements & IS 1727-1967; RA 2013.

Endura Microfines is added at the batch plant in the powder form to the dry constituents of the mix or as a liquid suspension after slurring it. Endura Microfines gives the following properties to the resultant concrete:

- ✓ Enhanced rheology (significant reduction/ prevention of bleeding and segregation)
- ✓ Minimized shrinkage; reduced micro-cracking
- ✓ Enhanced cohesiveness and final surface finish
- ✓ Increased early and final compressive strength.
- ✓ Increased density leads to improved water impermeability and significant reduction of chloride/sulphate ion penetration

QUALITY PROPERTIES

Form:	Free flowing powder
Colour:	Dark grey
SiO ₂ content (*);	91% ± 1
Dry bulk density:	750 kg/m ³ ± 20
Specific gravity:	2.3 ± 0.1
Specific surface area:	22.5 m ² /g ± 7.5
Moisture content:	< 0.35%
Loss on ignition:	3.0% ± 1.0
Maximum retention on 45µ (**) sieve:	5.8% ± 2
Fire rating EN13501-1:	Class A1

*acc. IS 1727-1967; RA 2013 & ASTM C 1240

**Sieve number 325 acc. ASTM E11

COMPATIBILITY

Endura Microfines is compatible with common water reducers, high- range super plasticizers (including PCE based admixtures), retarders, rheology modifiers, non-Chloride accelerators, air entertainers and slump-extending admixtures.

RECOMMENDED DOSAGE

1.) Powder

Endura Microfines is added as a powder with the aggregates and sand and before the addition of the cement. Allow mixing for at least 30 seconds prior to addition of cement, mixing water and concrete admixtures.

2.) Slurry

Endura Microfines may be made into slurry on site to facilitate dosing and improve dispersion in the concrete mix. Use only quality slurring equipment with adequate suspension additive. Storage tanks may require an integrated circulation system that prevents sedimentation. The Endura Microfines slurry is added with the final 25% of mixing water and allowed to mix in the batch plant mixer for at least 30 seconds. If in doubt contact Pyramid Chemicals Pvt. Ltd.

3) Estimating

Endura Microfines densified powder is typically added at a dosage between 3% and 15%. Other dosage rates may be used for specific project requirements.

CAUTION

Endura Microfines is only available for professional applicators.

All described product features are determined under controlled laboratory conditions according to the relevant international standards. Values determined under job site conditions may deviate from the stated values.

Please always use the latest version of this data sheet available.

SAFETY PRECAUTION

Please observe the actual valid material safety data sheet and follow the described safety measures for handling of the product.

CLEANING

Endura Microfines can be cleaned of surfaces using water or a damp cloth.

PACKAGING & DELIVERY

Endura Microfines is available in 25 kg (55.1 lb.) bags. Larger bulk packaging available on request.

STORAGE

Endura Microfines can be stored in unopened original packs for 24 months at 5-35°C (40-95°F) in a dry storage place protected against sunlight and moisture.

SHELF LIFE

12 months from the manufacturing in original unopened condition.

FURTHER INFORMATION

PRISM JOHNSON LIMITED

RMC (INDIA) Division

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