Redwop
INNOVATING FOR A BETTER WORLD

ULTRASH

Ultra-fine fly ash

Description:
ULTRASH originates from sub-bituminous and lignite coals. Its composition consists mainly of calcium, alumina, and silica with a lower loss on ignition. It generally contains more than 20% of lime and alkali, sulfate content are higher. It is also resistant to expansion from chemical attack.

Uses:
- As prime material in many cement-based products
- In Portland cement concrete pavement or PCC pavement
- To reduce the percentage of cement by 15% to 20%
- To lower the cost and to improve the performance of PCC
- To produce all grade of concrete for residential, commercial and industrial structures
- Ready mix precast application
- Water retaining structure
- Self-compacting concrete
- Marine environment
- Mass concrete
- Road stabilization
- Pumped concrete

Advantages/Characteristics:
- Increased early and late compressive strengths
- Increased resistance to alkali silica reaction (ASR) when >15% is added
- Less heat generation during hydration
- Increased pore refinement
- Decreased permeability
- Decreased water demand
- Increased workability
- Environmentally friendly
- Cold weather resistance
- Reduces CO_2 emissions

Product Standard compliance:
ASTM C618

Company Standard Compliance:

Technical Information:

Properties	Results
Appearance	Grey coloured powder
Bulk Density	540 to 860 Kg/m3
Silicon oxide	32.9 %
Aluminum oxide	19.4 %
Iron oxide	5.4 %
Calcium oxide	28.9 %
Magnesium oxide	4.8 %
Potassium oxide	0.3 %
Moisture content	0.8 %

Loss in ignition	0.6 %
Finesse @ 325µ sieve	15.9 %
Specific gravity	2.58
Stability	Yes
Fire and exposure hazard	None

Method of application:
Typically, 15 percent to 30 percent of the Portland cement is replaced with ULTRASH, with even higher percentages used for mass concrete placements. The recommended rate of substitution of fly ash in Portland cement is 1:1 to 1.5:1.

Limitations:

- ULTRASH has a high calcium content, it should not be used in sulfate exposure application.
- If using any organic admixtures such as air entrainment, the amount added must be modified since the carbon in the fly ash adsorbs organic compounds.
- The fine aggregate fraction of the concrete will need to be modified because fly ash has a lower bulk specific gravity than Portland cement and therefore occupies more volume for the same mass.

Curing:
Normal good curing practice should be followed.

Packaging:
ULTRASH is supplied in 25 kg bags.

Storage:
It should be kept unopened in bags. When it is kept opened wet fly ash to avoid any type of wind erosion.

Health and Safety:
Employees handling fly ash should observe proper personal hygiene, wash hands, and remove coverlets before eating, smoking, applying cosmetics or using toilet facilities. Local exhaust systems should be used whenever possible. Other practices such as wetting should be utilized to control dust. Compressed air should not be used.

Indian Green Building Council — It is the practice of increasing efficiency with which buildings use resources- energy, water and materials-while reducing building impacts on human health and the environment.

CERTIFIED COMPANY ISO 45001:2018 — ISO 45001 is the world's international standard for occupational health and safety, issued to protect employees and visitors from work-related accidents and diseases.

CERTIFIED COMPANY ISO 9001:2015 — ISO 9001:2015 is a globally recognized standard for quality management systems (QMS). It helps organizations of all sizes and sectors to: Improve performance, Meet customer expectations,Demonstrate commitment to quality, and Identify and improve processes that lack consistency.

CERTIFIED COMPANY ISO 14001:2015 — ISO 14001 is the internationally recognized standard for environmental management systems (EMS). It provides a framework for organizations to design and implement an EMS, and continually improve their environmental performance

GEV-EMICODE Ec1 PLUS Very low emission — This symbol is used to identify Redwop products which give off a low level of volatile organic compounds(VOC) as certified by GEV (Gemeinschaft Emissionskontrollierte Verlegewerkstoffe, Klebstoffe und Bauprodukte e.V.), an international organisation for controlling the level of emissions from products used for floors.

GREEN INNOVATION — Our Commitment To The Environment Redwop products assist Project Designers and Contractors create innovative LEED (The Leadership in Energy and Environmental Design) certified projects, in compliance with the U.S. Green Building Council.

CERTIFIED COMPANY ISO/IEC 17025:2017 — ISO/IEC 17025 enables laboratories to demonstrate that they operate competently and generate valid results, thereby promoting confidence in their work both nationally and around the world.

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