



COMPATIBILITY

SUPERPOZZ P500 can be used with all types of Portland cement and is effective when used with other supplementary cementitious materials i.e. fly ash and GGBS.

Blends of SUPERPOZZ P500 and silica fume have been used successfully on key projects with the water reduction/workability properties of SUPERPOZZ P500 synergising well with silica fume's accelerated hydration properties. These blends have resulted in producing high performance concrete with exceptional strengths and extreme durability.

SUPERPOZZ P500 is also compatible with a wide range of admixtures often resulting (due to the product's water reduction properties) in more cost effective dosages.

Admixtures should always be used in strict accordance with the manufacturer's recommendations with trials being conducted to replicate site conditions and the materials to be used on site.

ADDITION RATES (RECOMMENDED DOSAGE)

Deciding on the most suitable addition rate depends on a number of factors including design strength, placing method and durability requirements. Typical addition rates of SUPERPOZZ P500 in concrete range between 5-15% by weight of the cementitious content of the mix. To achieve optimum benefits of SUPERPOZZ P500, proper curing in line with good concrete practice should always be followed.

PACKAGING

SUPERPOZZ P500 is available in 25 Kgs and 1 ton jumbo bags throughout India and for export. Upon special request, the product can also be made available in bulk.

HANDLING AND STORAGE

SUPERPOZZ P500 can be handled in terms of batching, mixing and delivery of the concrete in exactly the same way as cement using the same equipment. In dry powder form it is often recommended that an aeration system be installed to facilitate easy discharge of the SUPERPOZZ P500 from the silo (if the product is stored in bulk).

SUPERPOZZ P500 when stored correctly has an indefinite shelf life. It must be protected from moisture and contamination as in the case of cement. It is preferable to store the product in a dry, enclosed area, and in the case of bags, to ensure that they are kept off the floor on wooden pallets protected by plastic sheeting.

If SUPERPOZZ P500 is stored in 'jumbo' bags, ensure that bags and/or inner liners are sealed during storage.

HEALTH and SAFETY

SUPERPOZZ P500 is highly alkaline.

- Suitable attire and Personal Protective Equipment(PPE) should be worn to prevent dust inhalation and direct skin contact.

For full Health, Safety and Disposal information please refer to the Ashtech Material Safety Data Sheet (MSDS), a copy of which is available on request or can be downloaded on www.ashtechindia.net

CUSTOMER SERVICE

ASHTECH offers a unique sales support, technical service and supply infrastructure for the Indian market. The company is able to meet the demands of its customers promptly, efficiently and economically. Our team of professionals are at hand to provide a technical advisory service for on-site assistance and advice on mix designs, evaluation trials and handling.

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Disclaimer: Important Note

Information on this Technical Data Sheet (TDS) has been obtained from test results in accredited laboratories and is accurate at the time of printing. The information in this TDS is based on our current knowledge and is intended to provide general notes on our product and its use, however ASHTECH reserves the right, to amend details as part of its product development programme. ASHTECH cannot accept liability for the product's use or its suitability for a particular application because of the product being used by a third party without our supervision.



ASHTECH (INDIA) PVT. LTD.

TECHNICAL INFORMATION

SUPERPOZZ P500

Ultra-Fine Fly Ash (UFFA)

IS 3812 Part 1, EN 450-1 (Category S) and ASTM C618 class F Compliant

ASHTECH's product research team have developed an ultra-fine pozzolanic, class F fly ash that is used to produce high performance concretes. This innovative new grade and formulation SUPERPOZZ P500 builds on the company's proud track record and experience as one of India's foremost producers of classified fly ash. SUPERPOZZ P500 being rich in alumina-silicates is highly reactive thereby strengthening cementitious systems and providing enhanced durability. SUPERPOZZ P500 is fully compliant with IS 3812 Part 1, EN 450-1 as a Category S product and ASTM C618 class F

APPLICATIONS

SUPERPOZZ P500 can be used in almost any applications for concrete containing Portland cement. SUPERPOZZ P500 has an average particle size well below other specification compliant fly ashes which improves the qualities of both fresh and hardened concrete. Where key requirements include high strength, durability and heat of hydration the addition of SUPERPOZZ P500 significantly enhances concrete performance.

TYPICAL APPLICATIONS INCLUDE :

- High performance ready-mix and precast concrete and is particularly suited for low w/c ratio mixes
- Self compacting concrete (SCC)
- Pumped concrete
- Wet sprayed concrete(shotcrete)
- Marine environment concrete
- Pre-Bagged formulated products e.g. repair materials, grouts and flowable screeds
- Concrete tiles
- Heavy duty Industrial floors



Contact Details

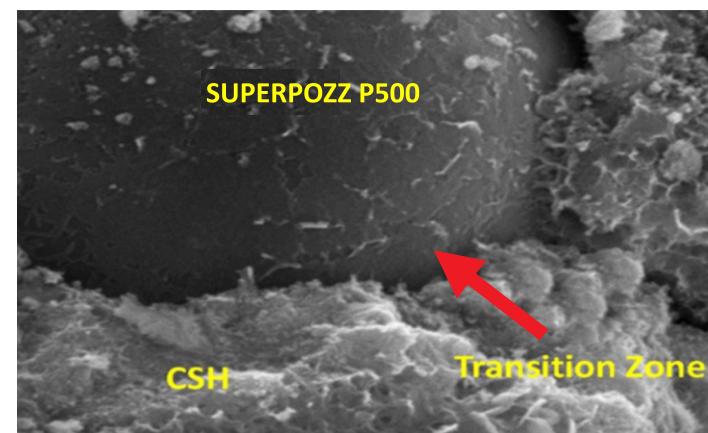
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DESCRIPTION

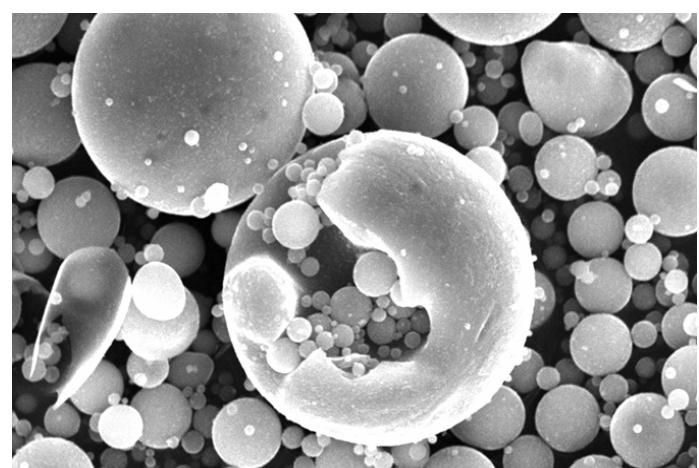
How does SUPERPOZZ P500 work?

When Portland cement hydrates it produces quantities of free lime (calcium hydroxide). When added to the concrete mix, SUPERPOZZ P500 chemically reacts with this free lime (pozzolanic reaction) to form extremely stable calcium silicate hydrate (CSH) which is the strongest and the most durable paste fraction in concrete. These hydrates fill the voids within the concrete with resultant improved strength and durability.



PARTICLE SIZE, SHAPE & DISTRIBUTION

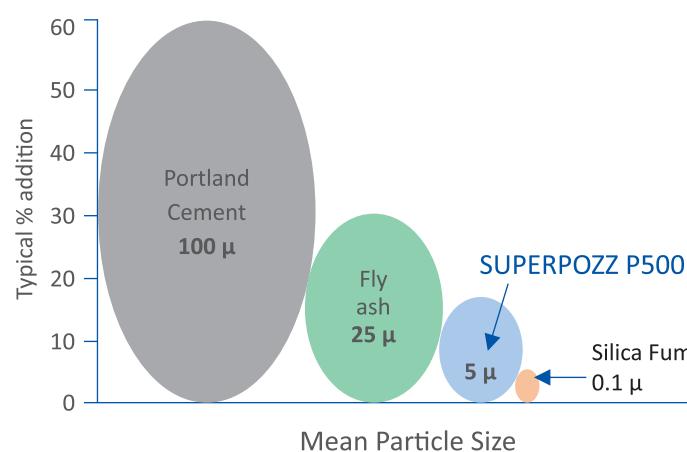
The particle size and distribution of SUPERPOZZ P500 is a key characteristic in ensuring the product's superior performance.



SUPERPOZZ P500 under electron microscope

TYPICAL CHARACTERISTICS

SUPERPOZZ P500	Characteristics
Appearance	Pale grey ultra fine powder
Relative Density	2.12 - 2.30
pH in water	11 - 12
Theoretical Surface Area (sq.cm/kg)	13 000
Loss on Ignition (LOI), %	< 1.0
Carbon Content, %	< 0.4
Moisture Content, %	< 0.5
Mean Particle Size, μ	3.9 - 5.0
Sum of Oxides (Si + Al + Fe)	95% (approximately)



BENEFITS

Concrete and cement bound mixes containing SUPERPOZZ P500 offer the following performance benefits, both in the fresh & hardened state;

- High performance concrete is achieved with a low w/c ratio
- The lower water demand of SUPERPOZZ P500 concrete helps reduce shrinkage
- Continuous pozzolanic reaction ensures extremely efficient hydration with improved strength development with time.
- This dense paste matrix ensures decreased water absorption and permeability leading to superior durability.
- Easily pumped concrete
- Improved aesthetics and surface finish of concrete.
- Competitive cost.

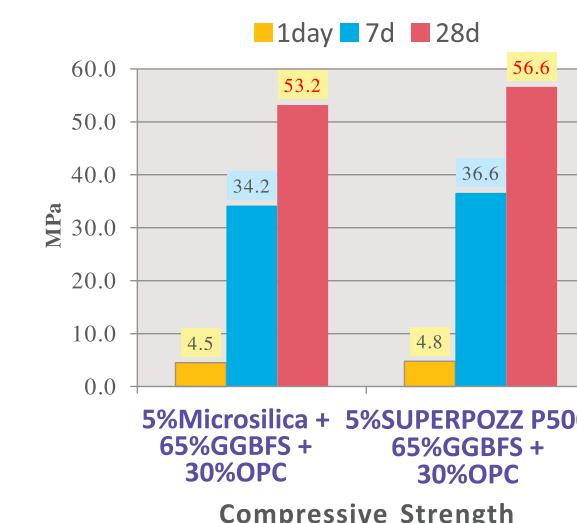
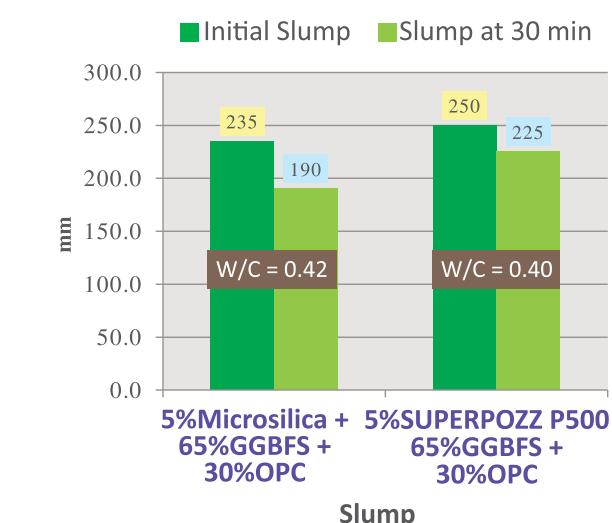
WATER REDUCTION

The following results were achieved in concrete using an equal binder content(cement and SUPERPOZZ P500), equal Superplasticiser and equal workability.

	CONTROL	SUPERPOZZ P500		CONTROL	SUPERPOZZ P500
OPC 53 Grade	400 kg/m ³	360 kg/m ³	Initial slump	125 mm	125 mm
SUPERPOZZ P500		40 kg/m ³	24 Hours	15.5 MPa	20.5 MPa
Water Content	163 litres	141 litres	7-Days	52.0	58.5
Water reduction	0	22 litres	28-Days	70.5	82.0
W/b ratio	0.41	0.35	90-Days	74.0 MPa	91.0 MPa

WORKABILITY and STRENGTH DEVELOPMENT

In high performance concrete, replacing silica fume with SUPERPOZZ P500 allows water reduction (with improved workability) resulting in better strength development. This can be seen from the values obtained in a scope of laboratory work conducted for a major project.



SUPERPOZZ P500 FOR DURABLE CONCRETE

Durability of concrete is defined as the ability of the material to retain strength, dimensional stability, impermeability and appearance, under normal service conditions, for an acceptable period.

The incorporation of SUPERPOZZ P500 in concrete minimises the water demand, reduces the bleed channels and through pozzolanic activity increases the cementitious compounds, all of which increases the concrete density.

These factors yield concrete of low permeability with low internal voids, which dramatically improves the resistance against chloride ingress, sulphate attack and corrosion of the steel reinforcement.

In conjunction with leading accredited laboratories, ASHTECH have conducted a wide range of durability and shrinkage tests. Copies of these reports are available on request.