

Milled Slag is a ground granulated blast furnace slag powder that is produced by Sunstate Cement to AS3582.2. Blast-furnace slag, a by-product of iron and steel manufacture, is obtained by quenching molten iron slag from a blast furnace in water or steam. This produces a glassy, sand like granular product, which consists mainly of calcium and aluminium silicate.

USES

Milled Slag is generally used in conjunction with other cement products, which assists to produce higher quality product with better economical results. Applications for milled Slag are;

- Pre-mixed Concrete industry
- Road stabilisation
- and can be used in asphalt

Characteristics

Milled Slag when used in conjunction with GP cement can have the following properties, depending on its proportion to GP cement;

- Slower early age strength development, with potential to develop higher long-term compressive strength.
- Slightly extended setting times.
- Improved workability.
- Can significantly reduce the temperature rise.
- Enhances resistance to chemical attack.
- And improved chloride resistance.

Table 1. Typical test results of Milled Slag

Property	AS3582.2 (Requirements)	Typical Milled Slag
Fineness (% passing 45µm)		95%
Insoluble residue		0.2%
Loss on ignition		0.9%
SO ₃		2.6%
Chemical Properties		
Sulfide sulphur (S)	Maximum 1.5%	0.8%
Magnesia (MgO)	Maximum 15%	5.9%
Alumina (Al ₂ O ₃)	Maximum 18%	13.2%
Total Iron (FeO)		0.6%
Manganese (MnO)		0.2%
Chloride	Maximum 0.1%	0.006%
Total Alkali		0.5%
Available Alkali		0.1%
Relative Density		2.84g/cm ³
Relative Water		102.0%
Relative Strength		90.2%

Compatibility

Milled Slag produced by Sunstate Cement is compatible with the following:

- Supplementary cementitious materials that comply with AS3582.
- Other cements complying with AS3972 – General purpose and blended cements.
- Admixtures that are used and comply with AS1478 – Chemical Admixtures for Concrete.

Packaging and Transport

Milled Slag is available to be purchased from Sunstate Cement in bulk that is able to be delivered by road transport pneumatic tankers that can be arranged by Sunstate Cement for your convenience.

Other packaging types for Milled Slag, but can be assessed on individual case by case scenarios.

Storage / Shelf Life

Milled Slag storage or shelf life is highly dependent on how it is stored. If the product is stored in a cool dry place that is sealed from moisture ingress, than this would be optimum and the storage life of the product could be up to 6 months. If milled Slag comes in contact with water/moisture, than this product would become unsuitable for use, usually the presents of hard lumps can indicate the product has been in the presents of water or moisture and should not be used.

Precautions

Suitable handling and work instructions should be developed for use of this product, which takes into account safety information that is available on the Safety Data Sheet for milled Slag. The Safety Data Sheet is available from Sunstate Cement's website at www.sunstatecement.com.au or by contacting Sunstate Cement Ltd. on Tel 07 3895 9890.

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