

#### Applications

Fly Ash can be used as a supplementary cementitious material in concrete to improve a broad range of concrete performance characteristics.

#### Availability

Product available in 20kg bags.

#### Relevant Australian Standard

AS 3582.1 – Supplementary cementitious materials for use with General Purpose and blended cement : Fly Ash.

# PRODUCT DATA SHEET Fly Ash

Cement Australia Fly Ash is a high quality ash that fully complies with the requirements for Grade 1 Fly Ash in Australian Standard AS3582.1 – Supplementary cementitious materials for use with General Purpose and blended cement.

### **Properties**

The following table details the relevant specified requirements of AS3582.1 and the typical values achieved by Cement Australia Fly Ash.

Property	AS3582.1	Typical Fly Ash (Gladstone)
Fineness passing 45um sieve	Min 75%	88%
Loss on ignition	Max 4.0%	1.0%
Moisture content	Max 1.0%	0.1%
$SO_3$ content	Max 3.0%	0.2%

All testing is conducted in accordance with the relevant Australian Standards test methods, at a NATA accredited laboratory.

#### **Features & Benefits**

Fly Ash improves the following concrete characteristics:

- Later-age compressive strength
- Pumpability & workability
- Cohesiveness
- Permeability
- Resistance to chemical attack
- Resistance to chloride ingress
- Drying shrinkage

#### Compatibilities

Fly Ash is compatible with:

- Admixtures that comply with AS 1478 Chemical admixtures for concrete.
- Fly Ashes complying with AS 3582.1 Supplementary cementitious materials for use with General Purpose and blended cement: Fly Ash.
- Ground granulated blast furnace slags complying with AS3582.2 –
  Supplementary cementitious materials for use with General Purpose and blended cement: Slag – ground granulated iron blast furnace
- Amorphous Silica complying with AS3582.3 Supplementary cementitious materials for use with General Purpose and blended cement: Amorphous silica.
- Cements complying with AS3972 General purpose and blended cement.

For more information call **1300 CEMENT** (1300 236 368) or visit **www.cementaustralia.com.au** 

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#### Further Hints & Tips

Concrete produced with Fly Ash may require les water to achieve a specified level of workability when compared to concrete produced with Type GP cement only. Concrete produced with Fly Ash may also have extended setting times when compared to concrete produced with Type GP cement only.

The proportioning of constituent materials in a concrete mix is influenced by many factors. It is recommended that trials be conducted with the available raw materials to ascertain optimum cement contents for specific grades of concrete. For further guidance please refer to AS1379 – The specification and manufacture of concrete and AS3600 – Concrete Structures.

# Handling, Storage & Safety

- Fly Ash may contain crystalline silica and should be used and handled appropriately – refer to the Safety Data Sheet.
- Fly Ash should be stored in a dry environment off the ground.

### Curing, Handling, Storage & Safety

A minimum concrete curing period of seven days is recommended. Concrete should be maintained in a continually moist condition for the curing period wherever practicable. Water sprays, wet sand or moisture retaining techniques such as covering with plastic sheeting or using curing compounds are recommended. Curing should begin as soon as the concrete has been finished or in accordance with manufacturers' instructions where proprietary curing compounds are used. Curing will beneficially affect other concrete properties including:

- Reduction in the potential for plastic cracking
- Improvements in surface quality, durability and impermeability
- Improvement in abrasion resistance
- Reduction in the carbonation rate.

Strength development in General Purpose cement concrete is affected by a number of factors such as the physical and chemical properties of the cement, water to cement ratio, admixtures, curing and environmental conditions.

## Things You Might Need

- Fly Ash
- Cement
- Trowel
- Bucket
- Sand & Gravel
- Shovel
  - Bricks or blocks

- Hose
- Spirit Level
- Access to clean drinking water
- Plastic sheeting
- Wheelbarrow
- String Lines
- Formwork

**NOTE:** This Fly Ash Product Data Sheet (PDS) and the Safety Data Sheet (SDS) are also available at **www.cementaustralia.com.au** 

#### PRODUCT DISCLAIMER

Recommendations regarding the use of this product are to be taken as a guide only. If in doubt contact Cement Australia Pty Limited ("Cement Australia") or seek professional advice. To the extent permitted by law, Cement Australia excludes all implied warranties, conditions and guarantees imposed by legislation. Cement Australia excludes all liability for loss, damage or injury arising from use of the product (i) otherwise than in accordance with the recommendations or (ii) for purposes other than those for which it is ordinarily acquired. For all other loss, damage or injury arising from the use of this product, to the extent permitted by law Cement Australia's liability is limited, at its discretion, to refunding the cost of the product or resupplying the product or equivalent product.

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