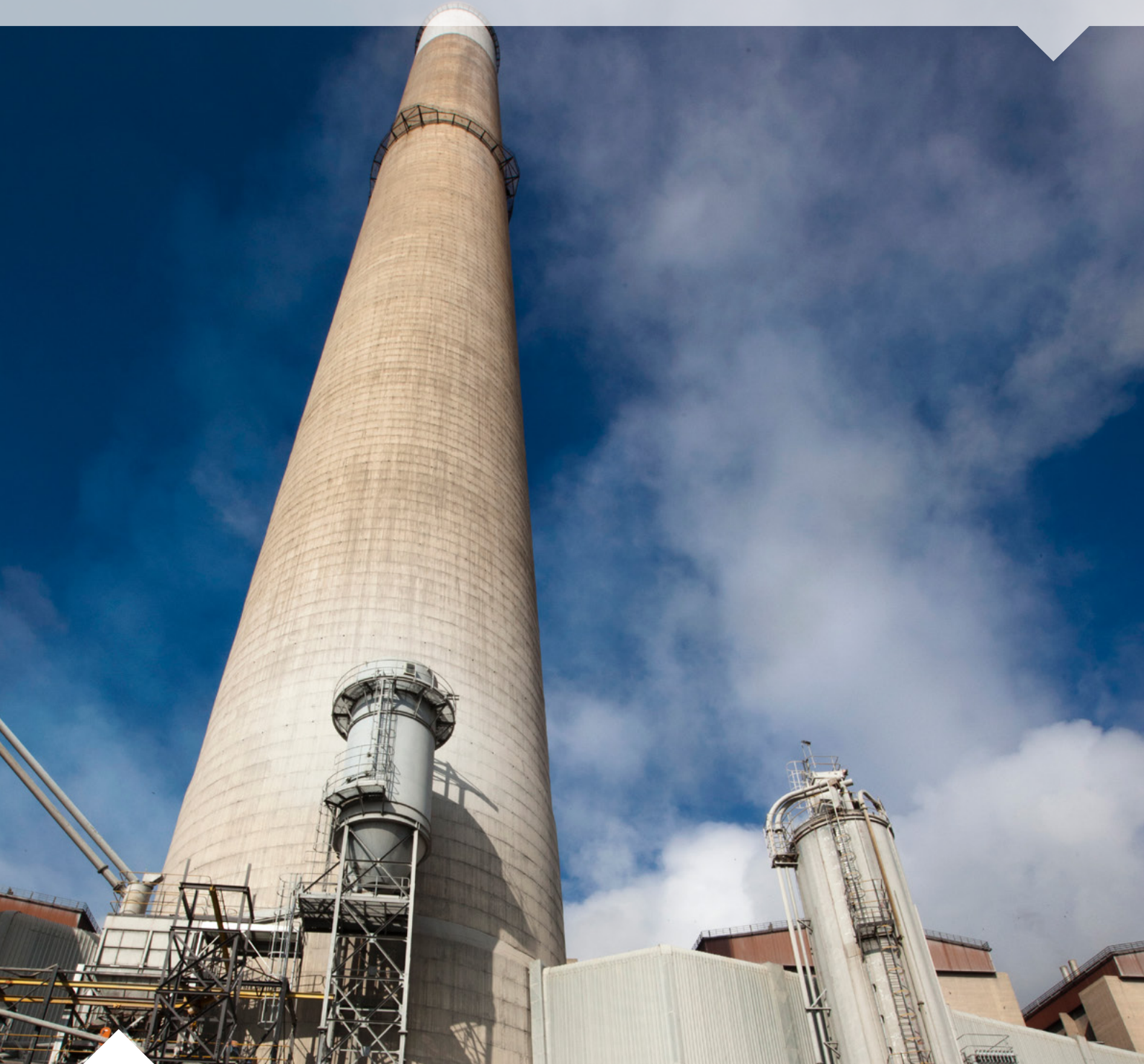


Fly Ash

Technical Bulletin 2

User's guide to handling Fly Ash products



AshResources
Fly ash products

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User's guide to handling Fly Ash products

Ash Resources supplies Fly Ash products in bulk and bags to suit particular customer requirements in various market segments:

- Rail: Block train - DuraPozz®
- Road: Dry Bulk Pressurised Tanker - SuperPozz®, DuraPozz® and PozzFill®
- Tipper truck or open bucket type trailer - PozzSand® (dampened, known as 'conditioned', and covered with tarpaulin to minimise dust)
- 1-ton FIBC bulk bags - SuperPozz®/ DuraPozz® and Plasfill® products
- 40 kilogram bags - DuraPozz®
- 25 kilogram bags - SuperPozz® and Plasfill® products

More in-depth technical information can be found on our product specific technical datasheets.



Storage and Handling

The relative density of Fly Ash is a key consideration when storing or handling the products. Fly Ash is lighter i.e. has a lower relative density than cement. Typically the relative density of Fly Ash is around 2.2 compared with cement at 3.15, an equivalent volume of Fly Ash therefore weighs less than cement. This difference in density has other practical considerations e.g:

- Fly Ash is supplied in 40kg bags, unlike the cement industry standard of 50kg bags

- Cement rail cars, which can accommodate 52 tons of cement, can only carry 45 tons of Fly Ash
- Practical experience on site has shown that typically 90 tons of Fly Ash are required to fill a 3 100m silo

Silo's Checklist

As a guide, the following checklist applies to silo storage of Fly Ash:

- Silos and their coupling devices should be clearly marked so that the Portland cement and Fly Ash silos are clearly differentiated. Ideally the 'male' or 'female' coupling should differ from Portland cement or GGBS silos
- Screw conveyors should not be angled more than 60° from the horizontal (Picture A) unless using a spiral conveyor, then this angle can be increased to 90°
- Air Slides should be angled at least 7° or more below the horizontal (Picture B)
- Aeration pads should be fully operational with a minimum operating pressure of 20kPa, covering at least 30-40% of the cone at the base of the silo. These pads are a vital component in keeping the Fly Ash as a manageable free-flowing commodity. Without Aeration Pads, bridging of the Fly Ash will occur in the cone section of the silo. (Picture C)
- Compressed air driers are used to eliminate the possibility of moisture in the system. (Picture D)
- Regular maintenance will ensure continual operation.
- Make sure you are aware of the capacity of your silo.

Paper Bags/Bulk Bag Checklist:

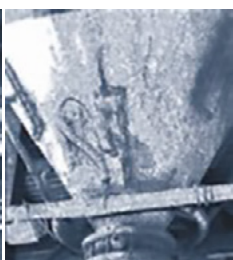
- The product is moisture sensitive and exposure of the product to the elements will be detrimental. (Denoted by an umbrella warning sign - see Page 4). Store on pallets in a cool dry environment, out of direct sunlight (Pictures E and F). Shelf life in these conditions is indefinite



A



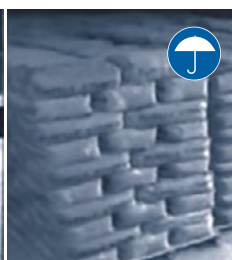
B



C



D



E



F



- Opened bags should be used immediately otherwise exposure to moisture will hamper the free-flowing characteristics and the material may become agglomerated (lumpy)
- The bags are stamped with a batch number, quote this number and the product name, if you have any queries and need to contact Ash Resources
- All 40kg and 25kg bags are constructed from a 2-ply paper outer shell with an inner liner (sandwich layer) of 14gsm HDPE plastic liner. This helps prevent moisture ingress



Road Transport: Dry bulk pressurised tanker checklist and information:

- 'Tri-Axle' loads are usually between 19 and 28 tons, dependent on the axle length
- 'Link' loads are usually between 34 and 38 tons, dependent on the axle length
- Ensure you order timeously, so that your batching operation is not held up
- When ordering check expected delivery time
- Ensure that the driver has a washout certificate showing that the tanker was checked for contaminants before it was filled with your product
- Ash Resources checks the weighbridges at its plants on a weekly basis

Road Transport: Tipper truck or open bucket type trailer checklist and information:

- Side or back tipper variants may be used. Ensure that a tarpaulin covers the material, as plant personnel will not allow the vehicle to leave our premises without the load first being covered

- All loads will be accompanied by both a delivery note and quality control (QC) certification
- Trucks are weighed on calibrated weighbridges to ensure compliance with traffic regulations on road axle loading

Safety



At Ash Resources, Safety is a top priority:

- 'Collect' customers or their nominated subcontracted transporter are required by Ash Resources to wear Personal Protective Equipment (PPE) at all times. PPE signs are displayed throughout the plant and customers are expected to comply with these requests
- Fall protection (lifeline) equipment has been installed to facilitate safe loading when working at any height above 1,5 metres from the ground. Using this lifeline is mandatory

Spillages:

In the event of a spillage, the following should be taken into consideration:

- Fly ash is non-hazardous and non-toxic
- Wash material away or vacuum with high efficiency filter
- Good housekeeping procedures should be adhered to
- More in-depth information regarding personal safety when handling Fly Ash is available in our Material Safety Datasheet (MSDS)



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