

inBulk

TECHNOLOGIES

CASE STUDY

Material	Sodium Carbonate (Soda Ash)
Application	Glass Industry
Bulk Density	800kg/m ³
Location	Northwich, UK
Date	January 2004
Unit	20' G Type unit in Carbon Steel for Granular Materials

inBulk Technologies received a request to trial its new G Type ISO-Veyor for use with Soda Ash by logistics company W H Malcolm in association with Brunner Monde, the product manufacturer. Soda Ash has many applications and is an extensively used primary ingredient for the glass, chemicals and detergent industries.

Soda Ash is a free flowing granular material with a bulk density of 0.8t/m³. To do the job, InBulk had developed their G Type ISO-Veyor, especially configured for use in conjunction with free flowing granular materials. The 20' G Type has a working volume of 21m³ or 31.5m³ for the 30' unit. Material for construction can be Carbon Steel, Aluminium or Stainless Steel.

On commencement of the trial, the ISO-Veyor was top filled with 20.6 tonnes of material. Filling of the ISO-Veyor took place at Brunner Monde's truck loading facility at their Northwich plant. Dustless loading spouts were used to fill the ISO-Veyor by way of a gravity fed system through the 3 loading hatches.

The optimal air supply for use with an ISO-Veyor is 2 barg and a working volume of between 500 – 700m³/hr. For the purposes of the trial the decision was made to lower the pressure of the compressor to approx. 0.8 barg. to ascertain if the ISO-Veyor could still discharge its contents. This was to simulate a worst case delivery scenario at a customer's site.

Even with 1/2 suggested air pressure, the ISO-Veyor discharged its entire load in 1hr 30mins, which is comparable to the performance of tipping tank operating at full pressure and still quicker than standard road tankers. Residue remaining was a critical factor for the companies involved. There was also only



a small amount of residue (<30Kg) , with the ISO-Veyor effectively 'blown clean'. Under standard operating conditions (2 barg) the discharge rate would have been one tonne per minute and a 30ft ISO-Veyor would be used to optimise payload.

Following this successful trial, InBulk Technologies are in discussions with several end-users, suppliers and logistics providers for potential projects in the Glass, Detergents and chemicals industries.

The Soda Ash Trial at Northwich, illustrates several key benefits to the industry:

- Fully intermodal – Capable of any combination of road, rail or ship
- Easy to Fill – Can be filled in same way as road or rail tankers
- Easy to Handle – Standard ISO frame allows for standard container lifting equipment
- Easy Horizontal Discharge – Simple connection to 2 barg compressor provides discharge rate of 1 tonne per minute
- Provides flexible weatherproof storage and reduces dependency on silos
- Creates platform for driver controlled deliveries

Overall ISO-Veyors minimise product handling, eliminates contamination, maintains product quality and also protects environment from accidental material spillages. Taking these factors together, ISO-Veyors can significantly reduce the requirements for intermediate handling, reducing the requirements for silo construction and dramatically enhances the overall efficiency of the supply chain.



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