

inBulk

TECHNOLOGIES

CASE STUDY

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|---------------------|-------------------------------------|
| Material | Cement |
| Application | General Construction |
| Bulk Density | 1.3T/m ³ |
| Location | Monterray, Mexico |
| Date | April 2004 |
| Unit | 20' H-Type ISO-veyor (Carbon Steel) |

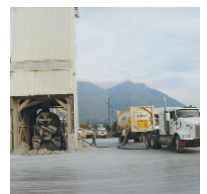
During 2004 *inBulk Technologies* were engaged by International Cement Group – Cemex, who were eager to trial the ISO-Veyor for use in cement applications.

The ISO-Veyor unit was the standard 20' H Type in Carbon Steel with a working volume of 25m³. The H Type is also available in 30' or 40' dimensions giving improved payloads for less dense products. The ISO-Veyor began its journey by being loaded onto the hull of a ship in the UK for the long sea journey to Mexico. On arrival at Altamira Port near Tampico the ISO-Veyor was then transferred to rail wagon by a reach stacker for the onward rail transportation to Monterray.

On arrival to the cement plant, the ISO-Veyor was loaded onto a flatbed skeletal road trailer and positioned under the loading silos. Standard dustless loading system for trucks were used to top fill the unit through 1 of 3 x 450mm hatches on the top of the ISO-Veyor. The ISO-Veyor has a payload of 27 tonnes of cement.

Further to filling, the ISO-Veyor was cleaned before making a short road journey to the batching plant for discharge into a 70 tonne silo.

The unit was refilled and driven to another batching plant in the Monterray area and discharged entire contents in 35 minutes via a straight 40-meter vertical pipeline.



After discharge less than 25 kilos of residue remained.

At the third location Cemex's driver "Victor" operated the discharge. Smooth discharge occurred within a similar discharge time of 37 minutes.

Cemex agreed that the ISO-Veyor performed very well and commented that the payloads, discharge times and residue all pointed toward a very successful trial.

The Cement trial with Cemex, 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.



Shaw Lane Industrial Estate
Doncaster
South Yorkshire DN2 4SE

T +44 (0)1302 321313
F +44 (0)1302 55 4470

1 Redwood Crescent
East Kilbride
Glasgow G75 5PA

T +44 (0)1355 575000
F +44 (0)1355 579600

enquiries@inbulktechnologies.com

www.inbulktechnologies.com

