

Creating a Platform of Productivity for the **Gypsum Market**



Gypsum is a mineral used prevalently in the manufacture of gypsum wallboard, often referred to as plasterboard or drywall. Gypsum wallboard is used as a material in the construction industry and is being increasingly regarded as an environmentally friendly product due to its thermal insulation, sound insulation and pollutant protection characteristics. Global production of wallboard is forecast to continue to grow by 6 per cent year-on-year, for the next few years, with production rising to 8230Mm² by the end of 2007.

In an effort to sustain the growing global demand for wallboard many of the leading operators have extended and expanded their current production facilities, whilst developing new production plants.

One of the raw materials that is now being more commonly utilised in the production of gypsum wallboard is desulphogypsum (DSG). DSG is a synthetic form of gypsum derived from fossil-fuelled sources and is being used as a viable substitute to mined gypsum. Of the many new production facilities being built around the world, most will be utilising DSG as a raw material.

In recent years, Clyde Materials Handling has developed a series of pneumatic conveying solutions, which have the ability to transport mineral gypsum, DSG and other materials and additives used in the manufacture of both wallboard and plaster.

Transforming Processes

Clyde Materials Handling is an established customer-driven solutions provider, which utilises its knowledge, expertise and

technologies to transform the production processes of its customers who operate within the gypsum industry.

Clyde Materials Handling has helped their global gypsum customer base transform the way in which they operate their processes, which has enabled them to generate sustainable economic benefits and maintain their positions as leaders in their market.

Clyde has used its Research, Development and Testing facility to analyse and test various materials used in the production of wallboard and plaster. By utilising this approach, Clyde Materials Handling has been able to identify the most energy efficient and economically beneficial solution to successfully conveying materials in the gypsum market.

Clyde's pneumatic conveying solutions have been able to transport various materials in an unrestricted, controlled and continuous manner at low velocity, consuming low volumes of compressed air.

Close customer communication has resulted in the creation of unique and innovative solutions which have been able to handle DSG, which is a notoriously difficult material to convey pneumatically. Clyde developed a pioneering conveying technology called Autoflow, which is a specially adapted solution designed to handle abrasive and arduous materials in the gypsum industry, such as pre calcined DSG, calcined DSG, oversized stucco, glass reinforced gypsum (GRG) and heat resistant accelerators (HRA). Clyde's pneumatic conveying solutions have also handled materials such as mineral gypsum, stucco, vermiculite, perlite, edge trim and lime, which are used in the production of wallboard and plaster.

All of Clyde Materials Handling's conveying solutions are enhanced through the use of the Clyde Dome Valve, widely regarded as the best material handling valve in the world. The Clyde Dome Valve has the ability to cut through static or moving columns of material through the use of its innovative inflatable seal mechanism, ensuring that a consistent



pressure tight seal is created when the valve is in the closed position, but in the open position, it provides an unrestricted full bore opening for the best product flow possible.

Clyde has developed pneumatic conveying solutions that have the ability to:

- Convey mined gypsum and stucco used in the production of wallboard and plaster
- Convey vermiculite and perlite, materials used as a 'filler' in the manufacture of both wallboard and plaster
- Efficiently convey scrap material, such as edge trim, which is re-introduced into the wallboard manufacturing process
- Transport various raw materials to a mixing tower – the materials are dosed and blended in the tower to create gypsum products
- Reliably convey synthetic gypsum (DSG) used in the production of wallboard and plaster
- Convey glass reinforced gypsum used in the manufacture of specialist wallboard capable of combating dampness
- Transport electrostatic precipitator dust and filter dust from process exhaust systems back into process or, alternatively, send this material for disposal

These solutions absorb a minimal amount of power, cause low wear on system components and pipelines, therefore, reducing maintenance costs and increasing system availability, reliability and production.

No Limits. Infinite Possibilities

By placing the customer at the heart of their business, Clyde Materials Handling has developed a global, extensive and diverse set of references, who have become lifetime customers. They continually seek Clyde's guidance in areas of process improvement and material handling.

Clyde Materials Handling takes pride in the return on investment it has generated for its customers, which include:

- Significant increases in productivity
- Environmental sustainability
- High system availability, reliability and performance
- Low operating costs and maintenance
- Greater process control
- Cost savings through process efficiencies
- Flexibility to integrate with existing and emerging technologies

More specifically, Clyde Materials Handling has generated the following, typical returns for organisations who operate in the gypsum market:

- 100% system availability levels attained
- 99.8% system reliability levels achieved
- Significant reductions in power consumption and air usage

- Reduced operating costs
- Reduced maintenance expenditure

Clyde Materials Handling is driven by an energy and passion which enables them to make the impossible happen – there are no limits to their capabilities. Together, with their customers, the possibilities are infinite.



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