

Dust-controlled loading of coal with Cleveland Cascades

The loading of coal poses many challenges for the bulk materials handling industry. Coal is loaded in many different ways, such as into ships, trucks, stockpiles and many more, all with a requirement of minimizing dust emissions and product degradation. These challenges are well known to Cleveland Cascades Limited, the Teesside (UK)-based manufacturer of bulk materials loading chutes.

Since 1992 the company has been involved in the design and manufacture of loading chutes, with its unique 'Cascade' system being at the forefront of the industry. The loading of coal seems preferred through the Cascade system due to its emphasis being around preventing product degradation and dust emissions. Loading material through oppositely-inclined cones at low velocity yet high volume results in minimized dust emissions and removes the requirement of expensive dust-extraction systems.



Fig 1.

Coal is generally more valuable in larger lump sizes, as it has better burning qualities than smaller lumps or lumps that have

suffered damage due to free-falling and smashing to pieces/dust. This is where the Cascade system provides extremely effective results as the product is supported the whole length of the chute by oppositely inclined cones, ensuring a soft delivery from outlet to material pile every time.

With over 600 systems operating worldwide with applications in ship, silo, road, rail & tanker loading, the company's key to success is its proven ability to provide a well-engineered solution with professional and committed support.

Cleveland Cascades Ltd has worked with some major companies on coal loading projects, including the Israeli Electric Corporation, Tenova, PHB Weserhutte, FAM and Puerto de Mamonal.

Coal loading has always been a significant part of Cleveland Cascades, with the company providing its first coal-loading system in 1996; a shiploading chute for use in South Africa. Most recently, the company has been involved in coal shiploading in particular, for use with many companies in South America.



Fig 2.

Recent coal loading projects include a project for FAM in Colombia. This 18.5m-length application loads ships at up to 2,750tph (tonnes per hour). This project is unique to Cleveland Cascades as there was the requirement to include a trimming spout that will achieve five metres trajectory from the centre-line of the loading chute (see fig. 1). Another recent project for the company was another shiploading system, again for operation in Colombia. This is a smaller system loading at 1,000tph. The chute again includes a trimming spout, at a standard 1.5 metre trajectory (see fig. 2).

The company has also provided conventional freefall loading



systems (see fig. 3), stockpile loading systems (see fig. 4) and Vehicle loading systems to handle coal, all with the with the same attention to detail, thorough engineering process and high standards of quality, believing that every system produced is a direct reflection of the company and the best possible form of advertisement to potential new customers.

Cleveland Cascades Ltd hopes to remain at the forefront of innovative design within the bulk industry, taking our technology and experience and applying it where possible to solve dust and material degradation issues.

With this ethos of continual improvement and expansion, CCL hopes to further develop itself into and continue to be a well-established figure within the bulk industry.