

York offers solution for most critical applications



India has developed a reputation for finding out-of-the-box, cost-effective solutions to problems that occur in industry sectors of every kind. When Lloyds Steel Industries required a solution for the disposal of molten slag from furnaces at one of its steel plants, Commercial Engineers and Body Builders Co. (CEBBCO) came up with a trailer fit for the task.

Lloyds Steel Industries Ltd. is a US\$850 million steel producer with manufacturing plants in Mumbai, Murbad, Wardha and Ghugus. The Wardha plant produces steel sheets upto 25 mm thick and

plates up to 70 mm thick. The solution – an industry first was to use a dumper trailer to move the slag from the steel plant to the disposal yard. The trailer covers the 2 km distance between the slag loading point and the disposal yard in about 10 minutes with peak speed of about 15 km/hr. It takes about an hour for the molten slag to be loaded into the body, transported and to unload at the disposal yard.

The company contracted with CEBBCO to design, fabricate and deliver a 24 c.m. capacity tridem dumper trailer to carry out this onerous task (capacity would drop to

12 cum after layering inside with fire resistant bricks). The dumper trailer is coupled to a Tata 4018 (4 x 2) prime mover and supported on York bogies and axles.

The disposal process requires molten slag from the furnace - at a searing temperature of 700 to 800°C to be directly discharged to this vehicle from a height, and then disposed to an open yard by means of a tipping system. The vehicle is scheduled to make nine round trips per day from furnace to disposal yard, thus shifting a total of 108 cubic meters of volcanically hot slag each working day.

To handle this volatile and dangerous cargo, the vehicle is constructed with a high grade steel rigid chassis to carry the fabricated tipper body. The inner tipper body is insulated by fire bricks to withstand the tremendous heat and can carry about 12 cum of molten slag. Unsurprisingly, the vehicle also features solid tyres.

The dumper body measures 7.5m x 2.5m x 1.6m. It is fitted on an 8.4m chassis frame, has a loading height of 3.3m and a tipping angle of 40° to 49°.

It features a rigid fulcrum shaft with hinge brackets at the rear end to facilitate easy tipping. The rear door of the tipper is designed to open automatically by the tipping process, thus facilitating the gradual discharging of the slag. A hydraulic tipping system is fitted at the front of the vehicle, using Hyva-made FC 191 4-stage cylinders.

York's well-proven DNH7 bogie suspension and 5021 model axles were the obvious choice to handle the difficult operating conditions, which include a rough road surface between furnace and disposal yard. The bogie has 1350mm axle spacing and a ride height of 570 mm. This suspension pack is assembled at York India's plant located in Jamshedpur.

According to Mr. Shirpurkar, Operations Manager of Lloyds Steel Industries, York's bogies and axles play a vital role in the safe implementation of this slag disposal



process.

"It is clearly essential that the dumper trailer remains stable during each trip, despite the uneven road surface, in order to avoid any spillage of the slag. We specified York suspensions and axles because of their reputation for reliability. We are confident that they represent the best equipment for the job."

Lloyds Steel is satisfied with the performance of this trailer delivered in June 2010. They are yet to decide on the making few more trailers. CEBBCO and York are prepared to provide similar solutions to other steel companies.

CEBBCO is a JN Group company established in 1959 in Jabalpur, Central India, and manufactures vehicular bodies for many OEMs in India like Tata Motors, Ashok Leyland, AMW, MAN Force Trucks, etc. They are equipped with many modern machines including a four arm robotic welding machine to

meet the stringent quality requirements of OEMs. They are also major supplier to the Indian Army vehicle manufacturing unit located in Jabalpur and wagon and locomotive factories of Indian Railways. Currently they are manufacturing at 5 locations – 4 in Madhya Pradesh and one in Jharkhand, an eastern State of India.

York Transport Equipment Asia and the York Group of Companies manufacture trailer axles, assemble trailer suspension kits and distribute a full range of trailer components. York's origin in the Asia-Pacific can be traced back to 1985 when York Australia was set up in Melbourne to gain a foothold in the Australian market for truck and trailer components. York Singapore, known as York Transport Equipment (Asia) Pte Ltd., Singapore, was subsequently formed in 1989 as a base to expand into the fast growing Asia-Pacific region.

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