Press Release


Solutions for mixing and granulating sinter material in the steel industry

It’s all about the mix

The mixing and granulating of sinter material in the steel industry is a heavy duty application, which makes special demands on mixing technology: Large quantities of extremely abrasive materials are processed here daily. With its respective application-specific solutions, Lödige process technology demonstrates how quality mixtures, exceptional wear protection and low maintenance can be realised on a large scale.

Sinter material is required for producing pig iron in a blast furnace. The raw sinter mix consists of iron ore, limestone, coke, sinter return fines and binder. The various materials are fed in the correct ratios from the respective storage hoppers to the mixer where they are mixed and granulated before they are ignited in the ignition hood of the sintering belt. Then, the material is transported further by the sintering belt. There, the necessary burn through of the sinter bed occurs. The quality and granularity of the raw sinter mix achieved in the mixer is very important for this step in the process. It is this quality, in addition to parameters such as the water content of the mix and the bed height, which determine the gas permeability of the sinter bed. Correct homogeneity and grain size distribution of the raw sinter mix improve the permeability. This allows the sintering belt to travel at an increased speed, resulting in higher productivity.

Mixing and pelletising drums are a standard component of sintering plants. Due to the simple design—the material is moved by the slow rotation of the drum—these machines are low maintenance, which is an advantage when processing abrasive materials. However, the quality and granularity of the mix that can be achieved with this technology are limited. Intensive mixers and granulators are an economical alternative to conventional mixing and pelletising drums because they meet the requirements of the industry. For instance, a wide variety of raw materials can be used within their grain size distribution.

Thus, the Lödige Ploughshare® Mixer for sintering material is able to process ore dust, pellet feed and even the highly abrasive return fines, which are produced during...
crushing and screening of the finished iron sinter. Moreover, the use of intensive mixers enables considerable savings in the amount of binder and solid fuel consumed, which increases the efficiency of the plant. The mixer achieves an excellent homogeneity of the mixture as well as optimum granularity, which increases the capacity of the sintering plant.

Caption:
The intensive mixer shown here features a drum volume of 57,000 litres and is the largest in Lödige’s 80-year company history. It is 11 metres long, weighs 60 tonnes and can process more than 1,350 tonnes of raw sinter mix per hour. (Source: Lödige)
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