



EAFF SHAFT

MORE THAN 25 YEARS OF EXPERIENCE IN SCRAP PREHEATING

Shaft furnace technology was pioneered by our company in the late 1980s in response to the market challenge for minimum conversion costs, maximized output, and environmental compliance.

Through the utilization of the furnace off-gas during the heat cycle, scrap can be preheated to approximately 600 °C, on average, prior to final melting in the furnace vessel. This means considerable energy and cost savings with a substantial reduction in tap-to-tap times. Furnaces are available as either single-shaft or double-shaft types. The most efficient design is the so-called fingershaft furnace, which employs a unique scrap retaining system with fingers to preheat 100% of the charge. Thanks to EAF Shaft and EAF Fingershaft, any existing EAF with a heat size of over 60 tons can be upgraded to a high-performance shaft furnace with only minor modifications to the existing equipment.

FEATURES

- Up to 100% scrap preheating
- Ideal conditions for maximum energy recovery and application of postcombustion
- Flexible charging of DRI, HBI, hot metal, and pig iron
- Highest output, even with weak power grids
- Efficient off-gas treatment that satisfies all regulations
- Shaft moves laterally for easy maintenance



80-t fingershaft furnace in Zhangjiagang, China

SELECTED REFERENCES

- Severstal AG, Russia
- Diler Iron & Steel Co., Turkey
- Stahl Gerlafingen – Beltrame Group, Switzerland
- Fushun Special Steel, China
- Nervacero S.A. – Celsa Group, Spain
- NatSteel – Tata Group, Singapore
- Zhangjiagang Steel – Shagang Group, China

MAIN BENEFITS

- Low EAF conversion costs
- Tap-to-tap time of only about 35 minutes
- Up to 100 kWh/t electrical energy savings
- Approximately 40% reduction in flicker factor
- Up to 30% lower electrode consumption
- Up to 1% increase in metallic yield
- Up to 25% less dust emissions
- Up to 40% increase in productivity
- Short ROI

**Primetals Technologies
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