

Fri 03.02.12 15:15

Crew celebrates milestone: Europe's biggest blast furnace produces 70 millionth ton of steel

The 540-strong crew of Schwelgern blast furnace plant is getting ready to celebrate a further milestone in what is still the first campaign of blast furnace Schwelgern 2 of ThyssenKrupp Steel Europe in Duisburg: The furnace, which went into operation in autumn 1993, will produce its seventy millionth ton of hot metal this weekend- it is Europe's largest blast furnace and one of the biggest of its kind in the world.



"Our blast furnace 2 is very cost-effective and environmentally friendly and has been producing very high-quality hot metal for the two BOF melt shops Bruckhausen and Beeckerwerth for 19 years," explains Wolfgang Wiese, head of the Schwelgern blast furnace plant. "With the iron produced so far you could build almost 3,000 copies of Cologne's famous Hohenzollernbrücke Bridge - this steel monument is more than 400

meters long and nearly 30 meters wide."

12,000 tons of hot metal per day

The 90 meter tall blast furnace Schwelgern 2 produces around 12,000 tons of hot metal a day. Almost 19,000 tons of processed iron ore and up to 4,000 tons of coke are charged into the top of the furnace. The solid mass is melted by the injection of hot air at a temperature of 1,200 degrees and coal dust. This creates temperatures of up to 2,000 degrees. The hot metal flows into the bottom section of the furnace, where it is removed from two of the four tap holes. From there it is transported in refractory vessels by rail to one of the two BOF melt shops and further processed into high-quality crude steel, which is subsequently used to make car parts or domestic appliances such as washing machines and dishwashers.

Sophisticated design

ThyssenKrupp Steel Europe operates four blast furnaces at its nine square kilometer site in Duisburg. They produce around 11.5 million tons of hot metal a year. Blast furnace Schwelgern 2 was put into operation in 1993 after ThyssenKrupp had gained a wealth of experience in building blast furnace 1, the world's first large blast furnace. "Blast furnace 2 has an extremely sophisticated design in terms of its refractory lining and furnace cooling system, and it's still state-of-the-art today," says Wiese.

"The first reline is scheduled for summer next year, and the preparations are already in full swing."

The key technical data of the furnace:

- Capacity: 5513 m³
- Hearth diameter: 14.9 m
- 42 tuyeres
- 4 tap holes
- Production: around 12,000 tons of hot metal/day; around 3,300 tons of ground granulated blast furnace slag/day as a basis for cement manufacture; around 12,000,000 m³ top gas/day for use in the mill's energy network.