Press release

Steel Europe

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thyssenkrupp Hohenlimburg upgrades furnace system: Energy-efficient, H_2-ready, and future-proof

- Investment in a sustainable future: thyssenkrupp Hohenlimburg has invested a low double-digit million euro amount in the modernization of Walking Beam Furnace 3 (HBO 3) to meet emission limits, reduce energy consumption, and enable hydrogen operation.
- Technological highlights: The revamp included the replacement of 91 burners, an extension of the convection section, a new electrical control system, improved sealing, and an automated scale removal system.
- Safe and efficient operation: New redundant measurement and control systems, along with a restructuring of the furnace zones, ensure more efficient and precise operation.
- Clear commitment to transformation: This measure is part of the company's decarbonization strategy and strengthens the Hohenlimburg site as a pioneer in sustainable steel production.

Duisburg, June 30, 2025 – With an investment in the low double-digit million euro range, thyssenkrupp Hohenlimburg has completed the modernization of Walking Beam Furnace 3 (HBO 3). The comprehensive technical upgrade not only ensures compliance with future environmental and safety regulations but also marks a significant step toward climate-neutral steel production.

thyssenkrupp Steel Europe AG, Kaiser-Wilhelm-Straße 100, 47166 Duisburg, Deutschland, T: +49 203 52 -25168, press-steel@thyssenkrupp-steel.com, www.thyssenkrupp-steel.com

Technological upgrade for sustainable production

The furnace system was fundamentally modernized by LOI Thermprocess GmbH in four major construction phases between summer 2023 and January 2025. The objective was to meet stricter future emission limits, align the plant's safety systems with upcoming standards, significantly reduce energy consumption, and prepare the furnace for hydrogen-enriched fuel gas operation.

"With the upgrade of HBO 3, we are sending a clear signal for sustainable production and technological excellence. The new flameless burner technology is not only more efficient but also H_2-ready – a crucial step on our path to climate-neutral steelmaking," says Dr. Christoph Evers, Head of the Medium Strip Mill at thyssenkrupp Hohenlimburg.

Key technical features at a glance

- **Replacement and rearrangement of 91 burners** with high-efficiency, hydrogen-capable models to reduce NO_x emissions and increase performance
- **Removal of the burner tunnel** to optimize slab heating and temperature control for customer-specific batch sizes
- **Extension of the convection section with a tightly sealed charging door** to minimize heat loss and false air ingress – saving energy and boosting furnace performance
- **Installation of support shoes and new water pans to seal the lower furnace area,** reduce heat losses, and enable automated scale removal
- **Modernization of the electrical control system** and installation of a redundant measurement and control system to meet future safety standards
- **Optimization of thermal process control** through targeted restructuring of the convection and heating zones – for more precise temperature distribution and enhanced furnace performance

"The new furnace technology not only allows for more precise temperature control but also significantly reduces gas consumption. This benefits both the environment and our competitiveness," emphasizes Evers.

Significance for the site and the industry

With the successful implementation of the project, thyssenkrupp Hohenlimburg strengthens its position as a pioneer in energy-efficient flat steel production. The H_2-readiness of the facility is a key element of the company's decarbonization strategy.

"This investment is a clear commitment to the Hohenlimburg site and to the transformation of the steel industry. We are demonstrating that climate protection and industrial performance can go hand in hand," says André Matusczyk, CEO of thyssenkrupp Hohenlimburg.

Contact:

thyssenkrupp Steel Europe AG
Public-/Media Relations
Christine Launert
T: +49 203 52 - 47270
christine.launert@thyssenkrupp-steel.com
www.thyssenkrupp-steel.com