ArcelorMittal announces the launch of a new steel offer for the construction of hydrogen pipelines to support the roll-out of hydrogen gas infrastructure. The company's R&D efforts are focused on providing higher-value products that align with customer needs. Furthermore, customers can benefit from reduced Scope 3 carbon emissions thanks to XCarb® steel certificates.

- HyMatch® is ArcelorMittal's new steel offer for the construction of hydrogen pipelines
- Research and development work focusses on developing steel grades to withstand high-pressure transportation of pure hydrogen, as part of the energy transition

Luxembourg, 1 August 2024

The European Union has ambitious production targets for renewable hydrogen, with a target of producing 10 million tonnes by 2030. Transporting hydrogen presents unique challenges that ArcelorMittal is addressing, by developing new steel grades to support pipe manufacturers. It is in this context that HyMatch® was created, with all grades in the product family featuring fine and homogeneous microstructure and good cleanliness, resulting in low risk of hydrogen embrittlement.

Dedicated research activities

Through ArcelorMittal Global R&D, research programmes for the use of steel in the hydrogen infrastructure are underway in a number of ArcelorMittal production sites, including in France (Fos-sur-Mer), Germany (Bremen) and R&D laboratories including in Belgium (Gent). Production in Fos and Bremen offers proximity to pipe manufacturers based in the Mediterranean countries and North Sea region respectively.

Furthermore, ArcelorMittal is improving the performance of its hydrogen-focused steel offer through continuous investments in internal research and development efforts, and active participation in international joint industrial projects (DNV H2Pipes JIP, ARCOR MRC13, EWI New H2 pipes JIP) and European funded projects (SafeH2pipe, HyWay, PilgrHYm). The overall aim is to ensure our customers meet or exceed the last technical requirements for efficient and safe hydrogen infrastructure operations.

HyMatch® and XCarb® steel certificates

HyMatch® steels for hydrogen transmission pipelines can be purchased alongside XCarb® steel certificates: our industry-first certificates which allow customers to report an equivalent reduction in their Scope 3 emissions. The certificates represent the additional CO_2 emissions

reductions that ArcelorMittal has achieved from third-party audited CO_2 abatement projects in its steel production plants.

ArcelorMittal HyMatch® steel for transport of hydrogen by pipelines

Natural gas pipelines – including existing and new infrastructure - are expected to be used in the future for the transportation of hydrogen from the production facilities to the main consumption sites. ArcelorMittal HyMatch® steel fulfil the requirements of industry standards such as ASME B31.12 option B, and are being tested according to the latest industry guidelines.

“We are proud to announce the launch of HyMatch®, which presents our customers with the family of steel grades available for use in the construction of hydrogen-ready pipelines. While we have been producing line pipe steel for many decades, the new challenge the energy transition brings to pipelines is to safely transport H_2 and CO_2. We are therefore using our R&D and engineering expertise to develop the steel grades needed in these new applications, and are excited to be working with a number of different partners to trial our newest steel grades for the planned hydrogen pipelines”, said Laurent Plasman, CMO Industry, ArcelorMittal Europe – Flat Products.

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About ArcelorMittal

ArcelorMittal is one of the world’s leading integrated steel and mining companies with a presence in 60 countries and primary steelmaking operations in 15 countries. It is the largest steel producer in Europe, among the largest in the Americas, and has a growing presence in Asia through its joint venture AM/NS India. ArcelorMittal sells its products to a diverse range of customers including the automotive, engineering, construction and machinery industries, and in 2023 generated revenues of $68.3 billion, produced 58.1 million metric tonnes of crude steel and, 42.0 million tonnes of iron ore. Our purpose is to produce smarter steels for people and planet. Steels made using innovative processes which use less energy, emit significantly less carbon and reduce costs. Steels that are cleaner, stronger and reusable. Steels for the renewable energy infrastructure that will support societies as they transform through this century. With steel at our core, our inventive people and an entrepreneurial culture at heart, we will support the world in making that change. ArcelorMittal is listed on the stock exchanges of New York (MT), Amsterdam (MT), Paris (MT), Luxembourg (MT) and on the Spanish stock exchanges of Barcelona, Bilbao, Madrid and Valencia (MTS).

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