

News release

ArcelorMittal unveils world-first in metallic coating for steel

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Liège, Belgium

ArcelorMittal has unveiled a breakthrough technology for metallic coating to its customers, the new Jet Vapor Deposition (JVD) line in Liège, Belgium.

At an inauguration event on 2 February, hundreds of ArcelorMittal's customers visited the new line, in Kessales, Liège, which started production in January 2017 and which is the only one of its kind in the world.

With the new line now operational, a new generation of metallic coated steels is born, offering enhanced product performance and a more environmentally sustainable production process.

The new line will produce coated steels for the automotive sector, as well as industries including domestic appliances, heating and ventilation, and interior building applications.

The new technology

JVD is a breakthrough process, both in terms of production process and product development. The JVD technology works by coating a moving strip of steel in a vacuum chamber, vaporizing zinc onto the steel at high speed. There are multiple advantages to this new type of technology, including:

- Exceptionally even coating of the steel sheet
- Excellent adhesion of the coating, no matter what the steel grade, and avoiding ultra-high strength steel from becoming more brittle under the influence of hydrogen
- Working in a vacuum enables lower evaporation temperatures, and also creates a 'pure' environment which removes the risk of the zinc and steel oxidising

- A lower environmental footprint. A life-cycle assessment evaluating the environmental impact of this process as a whole - the coating, the use phase of the products, the waste products and their management – showed a higher yield and lower energy consumption than other coating techniques. JVD technology has the lowest ‘global warming potential’ – a measure used in life-cycle assessment - of any industrial steel coating process
- Highly flexible process thanks to its ability to produce different coating thicknesses (one side vs another) and to coat a variety of substrates regardless of their chemical composition.

The arrival of JVD technology adds to ArcelorMittal’s unique range of metallic coatings: Zinc, Aluzinc®, Galfan, Magnelis® and Zagnelis®, Alusi®, Alupur®, Galvannealed, electrogalvanised and now Jetgal® and Jetskin™ - the brand names for JVD.

Multiple applications

Jetgal® is the brand name for the JVD zinc coating applied to steels for the automotive industry. Jetgal® has been specifically developed for Advanced High Strength Steels (AHSS) for cold forming such as Dual Phase, Trip, MartINsite® and Fortiform®. It is also future-proofed to ensure it can be applied to any future AHSS ArcelorMittal may develop. Steels coated with Jetgal® offer a very homogenous coating (up to 10 µm thick). The uniformity of the coating improves corrosion protection significantly and provides an excellent aspect after stamping and painting. The automotive industry also values the absence of brittleness risk for ultra high strength steel under the influence of hydrogen.

For other markets such as indoor building applications and appliances, the brand Jetskin™ is an outstanding alternative to electro-galvanised, including in low thicknesses (0.4 to 0.6). Appliances, doors and drum manufacturers as well as producers of interior building applications (cupboards, desks, shelves, air conditioners, ceilings and electrical cabinets) are already testing Jetskin™. They value its surface quality as it allows a cost-effective painting process, its high formability and enhanced weldability, as well as the outstanding flexibility of the line in terms of service (shortened lead time).

The technology used in the new coating line was developed by R&D teams at ArcelorMittal and the CRM Group research centre, with the support of Belgian investment fund Sogepa.

ArcelorMittal continuously invests in R&D to develop the steels and processes of the future and to offer to its customers solutions that will respond to the challenges they face. Our metallic coating processes such as electrolytic galvanizing and hot dip galvanizing have made steel more durable.

By designing and commissioning the first JVD technology ever, ArcelorMittal is demonstrating once again its position as the world’s leading steel and mining company, and its commitment to ever more sustainable products and processes.

About ArcelorMittal in Belgium

ArcelorMittal in Gent and Liège has a workforce of 5,800 employees. Its total number of direct and indirect jobs is estimated at 13,000. In 2016, the company shipped 6.6 million tons of finished steel products to its customers, destined for the automotive sector and many other industries such as the white goods sector, construction, and packaging.

About ArcelorMittal

ArcelorMittal is the world's leading steel and mining company, with a presence in more than 60 countries and an industrial footprint in 19 countries. Guided by a philosophy to produce safe, sustainable steel, we are the leading supplier of quality steel in the major global steel markets including automotive, construction, household appliances and packaging, with world-class research and development and outstanding distribution networks.

Through our core values of sustainability, quality and leadership, we operate responsibly with respect to the health, safety and wellbeing of our employees, contractors and the communities in which we operate.

For us, steel is the fabric of life, as it is at the heart of the modern world from railways to cars and washing machines. We are actively researching and producing steel-based technologies and solutions that make many of the products and components we use in our everyday lives more energy-efficient.

We are one of the world's five largest producers of iron ore and metallurgical coal and our mining business is an essential part of our growth strategy. With a geographically diversified portfolio of iron ore and coal assets, we are strategically positioned to serve our network of steel plants and the external global market. While our steel operations are important customers, our supply to the external market is increasing as we grow.

In 2015, ArcelorMittal had revenues of US\$63.6 billion and crude steel production of 92.5 million tonnes, while own iron ore production reached 62.8 million tonnes..

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).

For more information about ArcelorMittal please visit: www.arcelormittal.com