

# news release

## **ArcelorMittal showcases latest innovations and solutions at Bauma 2019**

Munich, 10 April 2019 - Steel is essential to the modern world. Strong, flexible, adaptable as well as fully reusable and recyclable, it is the material of choice for sustainable construction solutions. During Bauma, the world's largest construction machinery trade fair in Munich, ArcelorMittal showcases its latest innovations and product solutions for the construction sector.

### **An extended range for ArcelorMittal Europe – Flat Products**

The flat products range has been extended with three new grades, Armstrong® Ultra 700MCL, 900MCL and 960MCL. This means more opportunities for the customers to develop innovative cranes which reach further and lift heavier load, concrete pumps which larger range, lighter and less fuel consuming trucks' chassis and trailers. The new grades benefit from guaranteed mechanical properties including toughness in both the rolling and the transverse directions, good surface characteristics, flatness, bendability, weldability and exceptional durability.

As Geert Van Heirseele, Armstrong® product manager, points out, "The new Armstrong® Ultra 700MCL is particularly suitable in fatigue exposed, multidirectional highly loaded applications as those of truck mounted cranes".

One of the most outstanding features of the Armstrong® range is its dimensional feasibility, with steel grades available in widths up to 2000 mm and even more, an additional opportunity to reduce costs in terms of stock optimization, productivity of the cutting line and reduction of the number of welds.

The Armstrong® cost reduction calculator is available online to make it easier for the customer to choose the best product for each application.

Geert Van Heirseele concludes: "Many companies think that the hardest high-strength steels are difficult to process. At Bauma, we will prove them that the latest Armstrong® Ultra generations are easy to cut, easy to bend and easy to weld. We are convinced they will open the door for new and innovative applications."

### *Solving abrasion and wear challenges with Relia® and Creusabro®*

Relia® is an innovative range of high hardness, low-alloyed martensitic steels, offering outstanding resistance to wear and abrasion. Relia® grades are available in 3 nominal hardness levels 400, 450 and

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500 HBW obtained through intense water quenching during manufacturing. Principal applications include construction and earthmoving, mining and mineral processing, demolition, waste and recycling, where equipment is required to withstand abrasive environments in a reliable, durable and efficient way. Despite their extreme hardness, the properties of Relia® plates are specifically designed for an improved workability including cutting, forming, drilling and welding to achieve any kind of applications and designs.

For the most critical parts and environments, ArcelorMittal's exclusive Creusabro® abrasion resistant steels have proved for many years to outperform standard wear plates in fabricability and service life. David Quidort, Product Development manager, explains: "Creusabro® steels are genuinely different than classical martensitic abrasion resistant plates. By using reverse engineering of OEM parts, Creusabro® helps end-users and repair workshops to achieve optimal service life and reduction of operation costs of their critical equipment's."

In essence, modern high strength steel grades translate into multiple in-service benefits compared to conventional structural steels. Armstrong Ultra®, Relia® and Creusabro® grades provide excellent quality and performance, allowing up to 40% weight reduction compared to structural steels, longer lasting components, increased payload and reduced operation costs. ArcelorMittal applies this logic within its own mining and steel operations but also in major international achievements within the construction sector and mining industry.

ArcelorMittal Europe - Flat Products and Industeel will be present at Bauma in hall 6, booth 534.

## **ArcelorMittal Europe – Long Products**

### Sheet Piling

Steel sheet piles from ArcelorMittal offer smart and efficient solutions - easy and fast to install, long-lasting and sustainable over the entire life cycle of the infrastructure. At Bauma 2019, ArcelorMittal Sheet Piling launches its new initiative ArcelorMittal Solutions - Think steel first!, unveiling the true potential of steel sheet piling solutions to the construction business. ArcelorMittal Sheet Piling, together with Wire Solutions and Threaded Bars divisions, present their solutions in Hall C5, booth 338.

### *Water transport solutions*

Building deep maritime infrastructure such as quay walls and breakwaters with ArcelorMittal unique steel sheet piling solutions, like the HZ®-M combined wall systems and the AS 500® circular cells, reduces drastically the life-time cost of the project. AMLoCor® steel grades are up to 5 times more corrosion-resistant than standard carbon steel, allowing for longer-lasting infrastructure. Made from 100% recycled and recyclable steel, covered by a specific Environmental Product Declaration, EcoSheetPiles® made in Luxembourg help reducing the environmental impact of the projects.

### *Hazard protection solutions*

Dykes and flood protection barriers made from steel sheet piles are one of the most efficient ways to protect against flooding and rising sea levels. Requiring little equipment, sheet piles can be easily installed with certified quality even in remote locations, with particularly short installation times thanks to AZ®-800, the widest sheet piles on the market.

### *Mobility infrastructure solutions*

Steel sheet piles are an excellent option for building bridge abutments, underpasses, underground car parks, foundations, retaining walls or noise barriers. Short installation times and efficient silent and vibration free installation techniques help delivering projects faster, saving costs and minimising the impact on the community. For example, building permanent bridge abutments with steel sheet piles significantly reduces the traffic disturbance and achieves up to 15% cost savings over the entire lifetime of the structure. The connection between concrete and steel can be designed with VLoad software. Building Information Models (BIM) digital objects are available for ArcelorMittal steel sheet piles. ArcelorMittal Solutions - Think Steel First!

### *Environmental protection solutions*

When faced with pollution, containment is vital. Steel sheet piles are used on a temporary and permanent basis in landfill conversion, polluted soil remediation, riverbed cleaning operations or pollution containment. Impervious enclosures can be created quickly to safely retain contaminated material as part of a remediation plan, thanks to ArcelorMittal's wide range of sealing solutions including AKILA®, an environmental-friendly sealant suitable for contact with groundwater. Finally, ArcelorMittal Sheet Piling offers customized solutions, tailored to the needs of their customers. Outstanding support via technical teams, available around the world, underline the unique competitive edge of ArcelorMittal steel sheet piling solutions. ArcelorMittal Solutions - Think Steel First!

### Bars and Rods

#### *ArcelorMittal Threaded Bars*

The ArcelorMittal Threaded Bar (AMTB) anchoring system is high quality material which contributes to an excellent stability of sheet piles and offers economical and technical advantages. The AMTB system can be supplied in one piece up to 24 Meters length and can also avoid handling and connection problems thanks to the presence of the thread over the entire length of the bar (bars can be cut or lengthened with couplers at any position). Due to its reliability and ease of installation, the anchoring system is suitable for the most technical and complex applications. ArcelorMittal supplies a full range of products and can satisfy customer requirements by holding a permanent stock of material. The high strength bar system AMTB 670/800 was initially developed to be used for geotechnical applications like micro piles, soil nails and ground anchors. The idea was to use a high strength steel bar to decrease the necessary bar diameter and further reduce the drill hole diameter. A smaller drill hole increases the drilling speed and reduces costs. Due to its similar mechanical properties as compared to common reinforcement, it was started to use it as special reinforcement in high rise buildings. AMTB 670/800 mandates higher yield strength, ultimate strength and a higher bond strength compared to common reinforcement. Further advantages of the AMTB system is a continuously screwable thread bar, various accessories, robust and site-proven threads as well as cutting or extension with a coupler at any position. Moreover, the anchorage length can be reduced by end bearing anchorages. Special galvanized solutions are also available and finally these products offer short lead times with 3 weeks for ex-works.

### *ArcelorMittal Wire Solutions*

Recognised worldwide for its corrosion resistant products, ArcelorMittal Ropes manufactures some of the most technologically advanced steel ropes in the world.

At Bauma 2019, they present - among others - Klondike®, a breed of non-rotating ropes that is engineered for aggressive, deep shaft mining and has proven successful in the market. It is a hybrid rope that integrates fatigue proofing with compacted strand technology to deliver high performance safety and longevity. The outer strand structure is highly adaptable to friction sheaves provides a low and even tread pressure on linings.

Notorplast® is another fatigue resistant rope that is engineered to last, requiring low maintenance only. Polyethylene inserts in the outer strands absorb pressure and reduce internal dynamic stresses, making Notorplast® highly adaptable to friction sheaves.

The Lubin mine is a large mine in the west of Poland, representing one of the largest copper and silver resources in Poland. There are seven shafts ranging from 494 to 963m deep. ArcelorMittal Mining Ropes are used in two shaft towers, among them Notorplast®

Engineered to meet the increased demand for high altitude, non-rotating hoisting applications, ArcelorMittal Ropes has also developed Sky37, a high performance hoisting rope.

Sky37 is designed with a steel core closed in the opposite direction to its 18 outer strands. When Sky37 is under load, the strands of the core are inclined to rotate in one direction while the outer strands are inclined to rotate in the opposite direction. The opposing forces of Sky37's inner steel core and its 18 outer strands is one of the most balanced, non-rotating ropes on the market, delivering superior levels of stability and operational safety at high altitude.

Within the wide range of non-rotation products, Notor HP has been used successfully for the construction of the Millau viaduct. This is a cable-stayed bridge that spans the gorge valley of the Tarn near Millau in southern France. The viaduct is one of the tallest bridges in the world, with one mast's summit at 343 metres above the base of the structure. In a French-British partnership, it was designed by the English architect Sir Norman Foster and French structural engineer Michel Virlogeux, and its bridge deck is among the highest in the world, being 270 metres between the road deck and the ground below. More than 1000 metres of the rotation resistant hoist rope Notor HP were used for the construction of the Viaduct. Notor HP is used in various applications including tower cranes, mobile cranes, crawler cranes, offshore operating cranes or any high lift hoisting device requiring high rotation resistance.

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Pictures and case studies for publication are available for various product solutions and applications

### ***About ArcelorMittal***

*ArcelorMittal is the world's leading steel and mining company, with a presence in 60 countries and an industrial footprint in 18 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 people use in their 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 2018, ArcelorMittal had revenues of \$76 billion and crude steel production of 92.5 million metric tonnes, while own iron ore production reached 58.5 million metric 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).*

*<http://corporate.arcelormittal.com/>*