

Cold heading quality



ArcelorMittal



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XCarb® recycled and renewable produced

One of the first decarbonisation initiatives from ArcelorMittal Europe – Long Products is XCarb® recycled and renewably produced.

What is XCarb® recycled and renewably produced?

XCarb® recycled and renewably produced has been designed for products made via the Electric Arc Furnace ('EAF') route - powered by renewable electricity - using scrap steel. Steel produced by ArcelorMittal Europe – Long Products under our XCarb® recycled and renewably produced label is audited and certified by an independent third-party.

What are the processes used to make XCarb® recycled and renewably produced?

To produce XCarb® recycled and renewably produced steel, ArcelorMittal Europe – Long Products uses 100-percent scrap. All of the electricity needed to transform the scrap into XCarb® recycled and renewably produced steels comes from renewable sources such as solar and wind power. The electricity is provided by suppliers who are connected to the same grid as our production sites and whose projects are recent.

The combination of recycled content and renewable electricity allows ArcelorMittal Europe – Long Products to offer steels with very low levels of CO₂ emissions per tonne of finished steel. ArcelorMittal Europe – Long Products estimates that XCarb® recycled and renewably produced steel will have a CO₂ footprint as low as a carbon footprint as low as 0.3 tonnes of CO₂ per tonne of steel product when the metallics are 100% scrap.

Purchasing our XCarb® recycled and renewably produced steel allows you to reduce the global CO₂ footprint of your projects, products, and finished goods. To calculate the total CO₂ impact of your products, our customers can use the figures reported in the EPD: they are independently certified by a third-party.

How do we guarantee that XCarb® recycled and renewably produced steels are made using green electricity?

Steels with the XCarb® recycled and renewably produced label are audited and certified by an independent third-party. Each quarter, the auditor confirms that the steel complies with the two conditions (up to 100-percent recycled steel and 100-percent green electricity) that enables them to receive the XCarb® recycled and renewably produced label.



Unparalleled quality

As a vertically integrated business, we have a unique ability to develop processing routes specific for your specific needs.

Vertical integration

Worldwide, customers can rely on our supply chain integration, expertise and technical knowledge. We are well placed to support our customers to identify the best possible solutions, ranging from the development of bespoke specialist cold heading wire, we offer solutions that meet our customers precise requirements.

ArcelorMittal is one of the largest steel producers in the world and recognised globally for the quality of its high performance, corrosion resistant wire products.

Our mining, steel production, wire rod handling, wire drawing and cold heading wire processing is all undertaken by ArcelorMittal.

Our vertically integrated business model gives us complete control over the quality of our raw materials and the highest levels of confidence in our production methods and processes, saving us time and resources.

This, combined with our world class technical expertise, provides our customers with unparalleled quality and value for money.

Research & development

Operating for all ArcelorMittal group units, ArcelorMittal Marnaval benefits from the Group's worldwide research and development resources. Worldwide we have 1500 full time researchers and 11 research centres. Research and development are the cornerstone of our commitment to innovation, ensuring the continuous renewal of our product and service offer to our worldwide customer base.

Why work with ArcelorMittal?



PASSIONATE
EXPERTS



SOLUTIONS
LED



QUALITY
STANDARDS



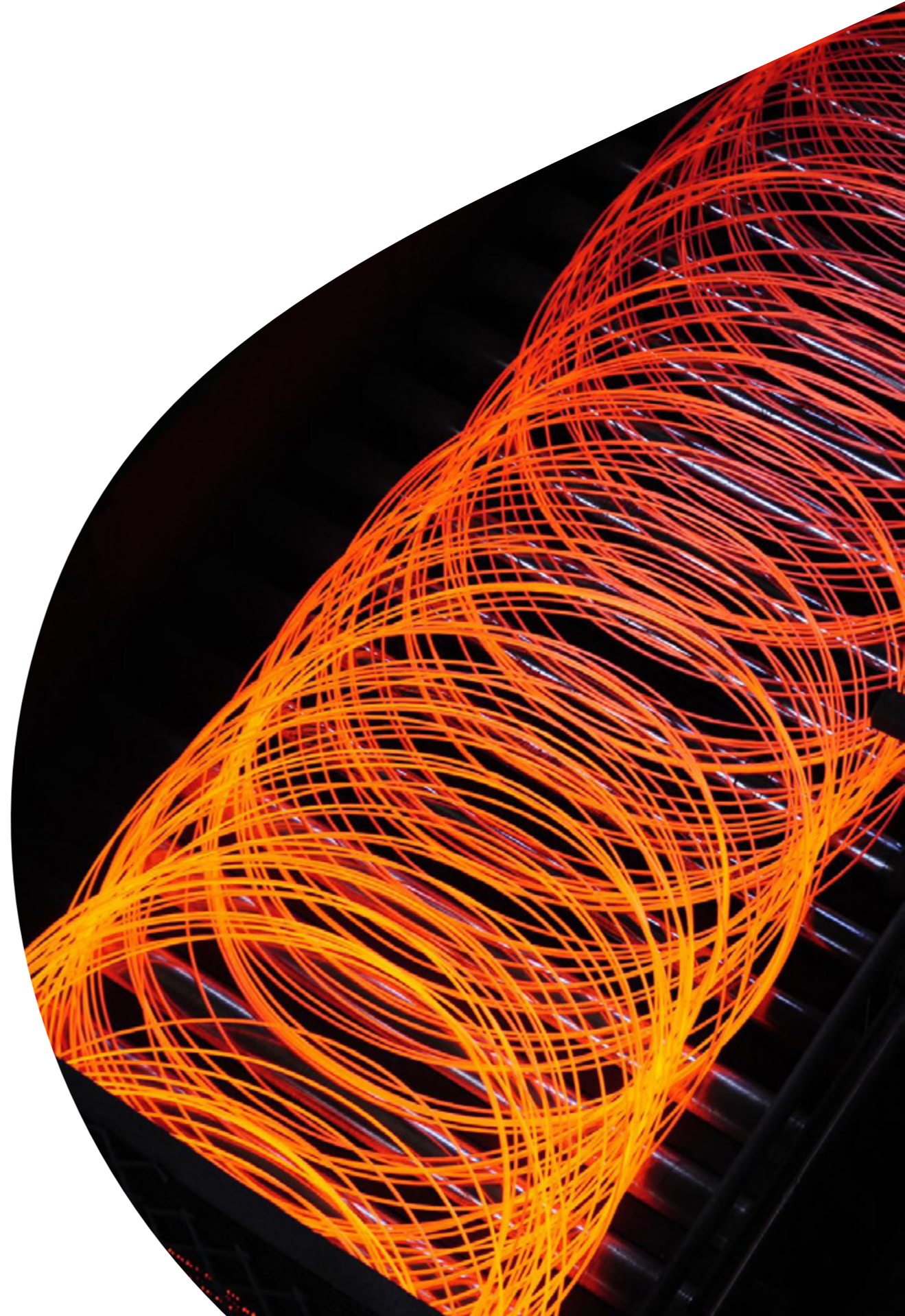
VERTICALLY
INTEGRATED
BUSINESS MODEL



RESEARCH &
DEVELOPMENT



WORLDWIDE
ACCESSIBILITY



ArcelorMittal Marnaval Made in France

Our manufacturing facility is located in Marnaval in eastern France. Our long and successful history has led us to our market leading position, specialising in manufacture of bespoke cold heading drawing wire.

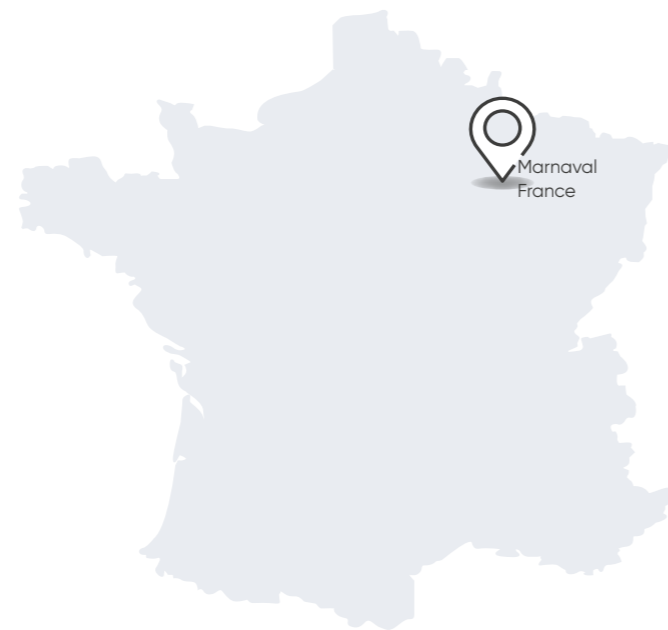
ArcelorMittal Marnaval production is part of the Long Carbon Europe division of the ArcelorMittal Group. ArcelorMittal is one of the largest steel producers in the world and the manufacturer of cold heading quality wire for diverse industrial sectors.

Recognised worldwide for the quality of its high performance products, ArcelorMittal manufactures and supplies some of the most advanced cold heading drawing wire solutions.

Designed and manufactured to suit the precise requirements of our worldwide customer base, ArcelorMittal Marnaval delivers consistent and lasting value.

ArcelorMittal Marnaval is the manufacturer of choice across the industries it serves:

- > Automotive
- > Mechanical engineering
- > Energy
- > Construction
- > Consumer goods



Increasing levels of
product development
and innovation



Unique process

The manufacture of precision fixings and fasteners for the automotive industry requires a Cold Heading wire that meets exacting standards. Our customers and their business success are everything to us.

High performance Cold Heading wire for automotive applications

The cold heading process for the manufacture of fixings and fasteners demands drawing wire that combines formability and ductility with enduring strength. Our drawing wire for cold heading applications offers exceptional levels of quality, consistency and reliability to customers who serve the automotive industries.

Used for the efficient manufacture of a wide variety of high quality fasteners, in simple and complex forms, our extensive range of cold heading drawing wire delivers enhanced:

- › Formability
- › **Ductility**
- › Strength

Inline phosphating for reliable processing

Produced at our specialist, state of the art plant in Marnaval, eastern France, PhosC3 uses inline phosphating. PhosC3 delivers a superior quality Cold Heading drawn wire making the manufacturing process more efficient and adding value to the end product.

Why is ArcelorMittal Marnaval your ideal Cold Heading wire partner?

- Long standing experience and technical expertise
- Continuous investment in research and development
- We partner with customers to develop Cold

Heading wire products that meet exacting standards.

- Our customers and their business success are everything to us.

PhosC³

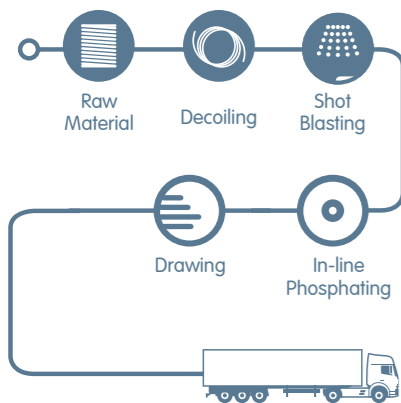
Continuous | Consistent | Complete | **Phosphating**



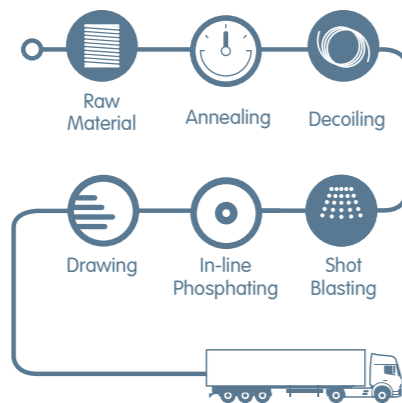
In line phosphating



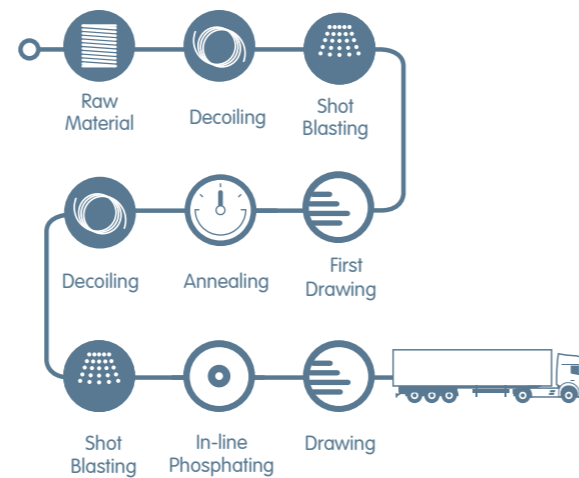
Process K: +U+C



Process GK: +U+AC+C



Process KGK: +U +C +AC +LC



From the world leader in steel to wire solutions

All our wires are produced according to EN 10263-1 to 4 or customer specification.

Grades used (according to EN 10263)

- ▶ Hot rolled wire rod
- ▶ Carbon steel
- ▶ Alloy steel (Cr, Ni, Mo, B...)
- ▶ Carbon content from 0.06 % to 0.60 %
- ▶ Examples of grades currently used: C10C, 20MB5, 38C4, 37CrB1

Product range

- ▶ Ø from 7 to 27 mm all grades and process specifications included
- ▶ Other diameters on request

Process

▶ Bright	K	+U+C
▶ Interannealed	KGK	+U+C+AC+LC
▶ Drawn annealed rod	GK	+U+AC+C
▶ Finally annealed	KG (non phosphated)	+U+C+AC

Surface

- ▶ Phosphated + lubricant drawn according to customer specification



Normal values

- ▶ Diameter tolerance h9
- ▶ Strength tolerances:
± 100 MPa in bright
± 60 MPa for other process

Our bespoke packaging solutions

Description

- ▶ All our products are individually identified with labels referring to type, diameter, cast number, batch number, coil number and coil weight
- ▶ Specific packaging can be offered, please contact us

Standard packaging

- ▶ Possible to strap 3 or 4 coils together

	Ø 7.00-12.00 mm	Ø 8.00-14.50 mm	Ø 12.00-27.00 mm
	Traverse wound coil	Coil	Coil
Weight (kg)	900-1300	600-1250	600-2300
Internal Ø (mm)	550	650	800
External Ø (mm)	800-900	1250	1300
Height (mm)	620	-	-

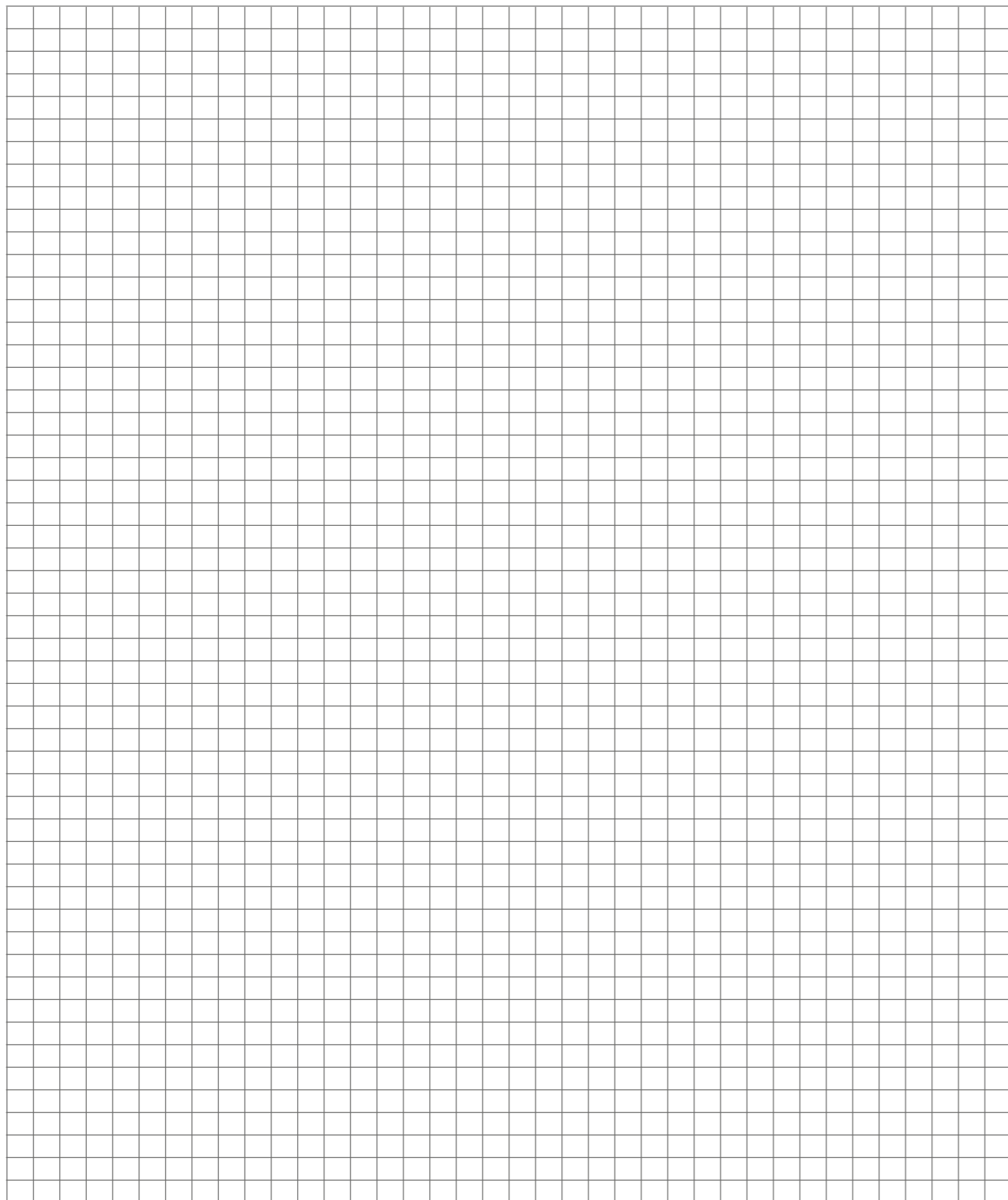


Applications

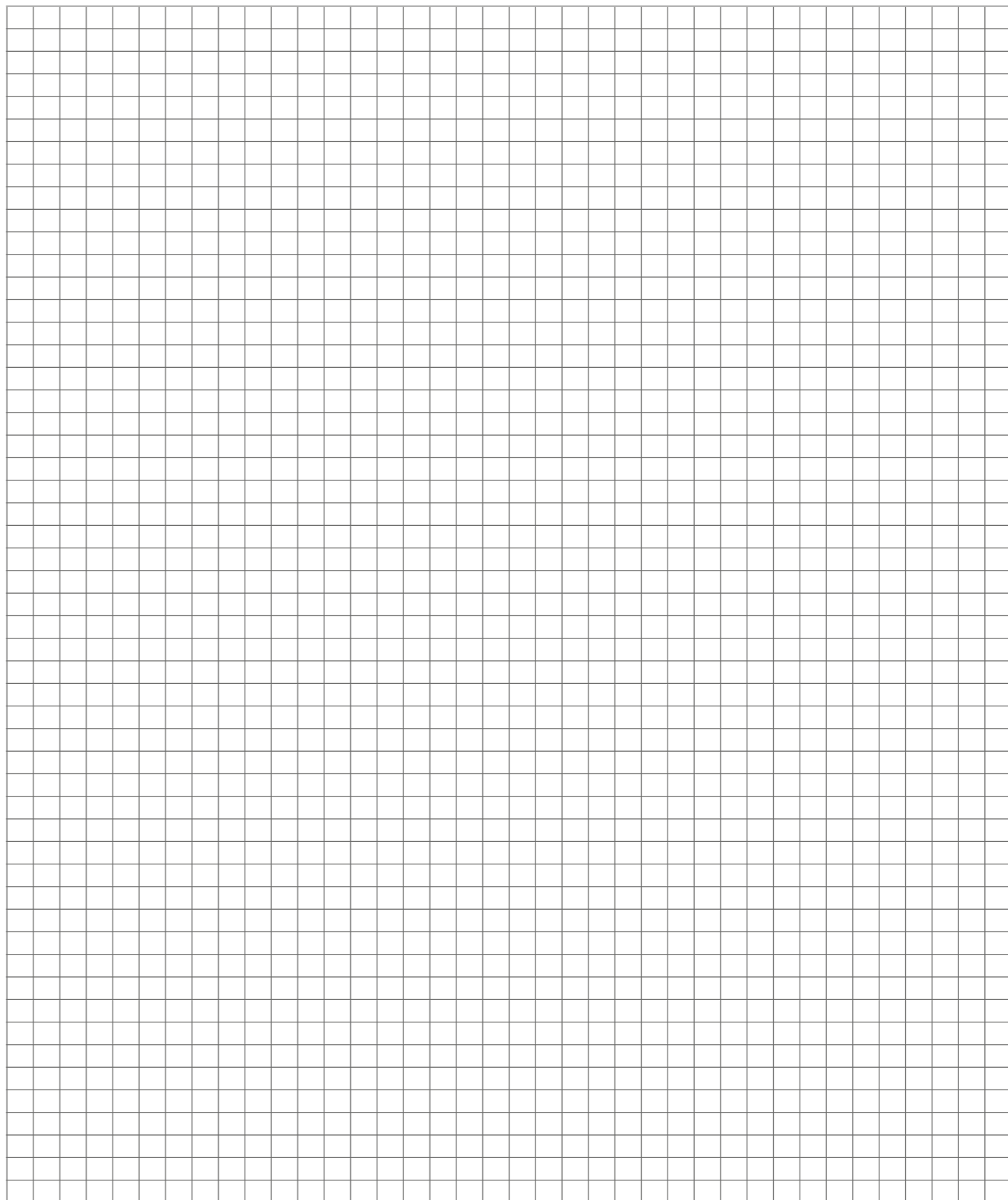
- ▶ Automotive
- ▶ Mechanical construction
- ▶ Cold heading wire for bolt class : 8.8, 10.9, 12.9



Notes



Notes



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