



# Shaping the future with **CO<sub>2</sub>-reduced steel**



# Saarstahl Ascoval

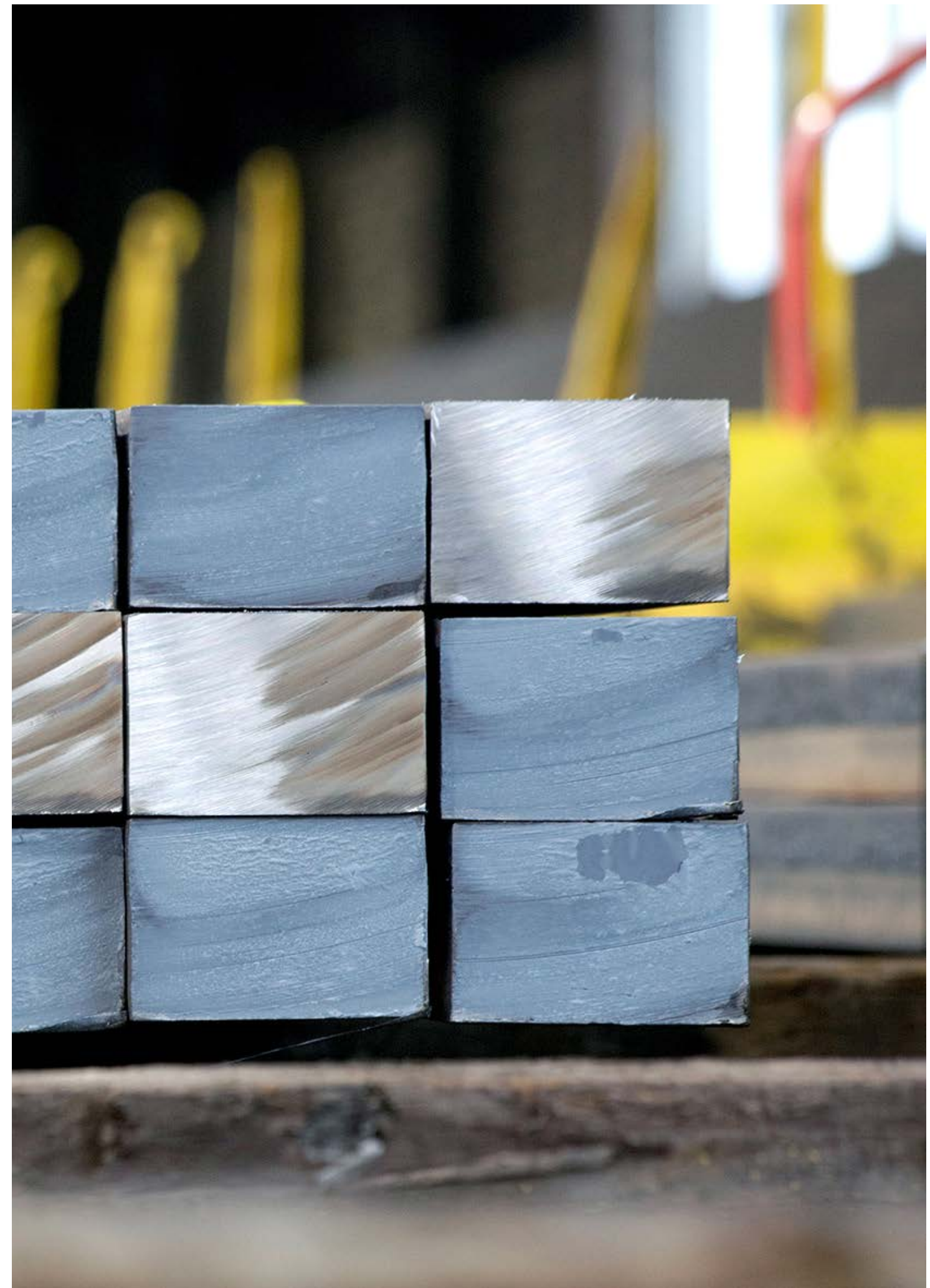
As a modern steel mill with state-of-the-art facilities, we offer our customers circular economy solutions and help drive the transformation of the steel industry by providing high-quality CO<sub>2</sub>-reduced products.

Saarstahl Ascoval in Saint-Saulve, France, is part of the Saarstahl Group. The plant produces high-quality CO<sub>2</sub>-reduced continuously cast billets and blooms (round, square and rectangular formats) from non-alloyed and alloyed steel with high cleanliness. The plant has a capacity of around 500,000 tons per year and has been producing steel products for almost 50 years.

Saarstahl Ascoval has an electric arc furnace (90 tons, 116 MVA), a ladle furnace (14 MVA), a twin-tank VOD system, and a four-strand continuous casting line. Roughly 150 million euros has been invested over the last ten years to ensure all equipment is in excellent condition. Among the most important investments was the revamping of the continuous caster in 2020. With its first-class facilities,

Saarstahl Ascoval aims to become the European reference point for production of continuously cast products manufactured on an EAF route. To achieve this objective, the company is pursuing four strategic axes: excellence in quality, health, safety and environment (QHSE) as well as customer service, process adaptation, approvals, and productivity.

Saarstahl Ascoval plays an important strategic role within the Saarstahl Group by strengthening the Group's competitiveness and supporting the structural transformation. The acquisition of the company has enabled Saarstahl to offer CO<sub>2</sub>-reduced steel products and to play a leading role in the circular economy.





**More than 1,3 million tons  
of CO<sub>2</sub> have been saved  
through CO<sub>2</sub>-reduced  
steel production since 2021\***





# CO<sub>2</sub>-reduced steel and the circular economy

"We are Pure Steel+": The slogan shared by Saarstahl Group companies is both a vision and a commitment. At Saarstahl Ascoval, we are motivated every day by our common goal: to produce the best steel quality, as sustainably as possible – for future generations and a climate-neutral tomorrow.

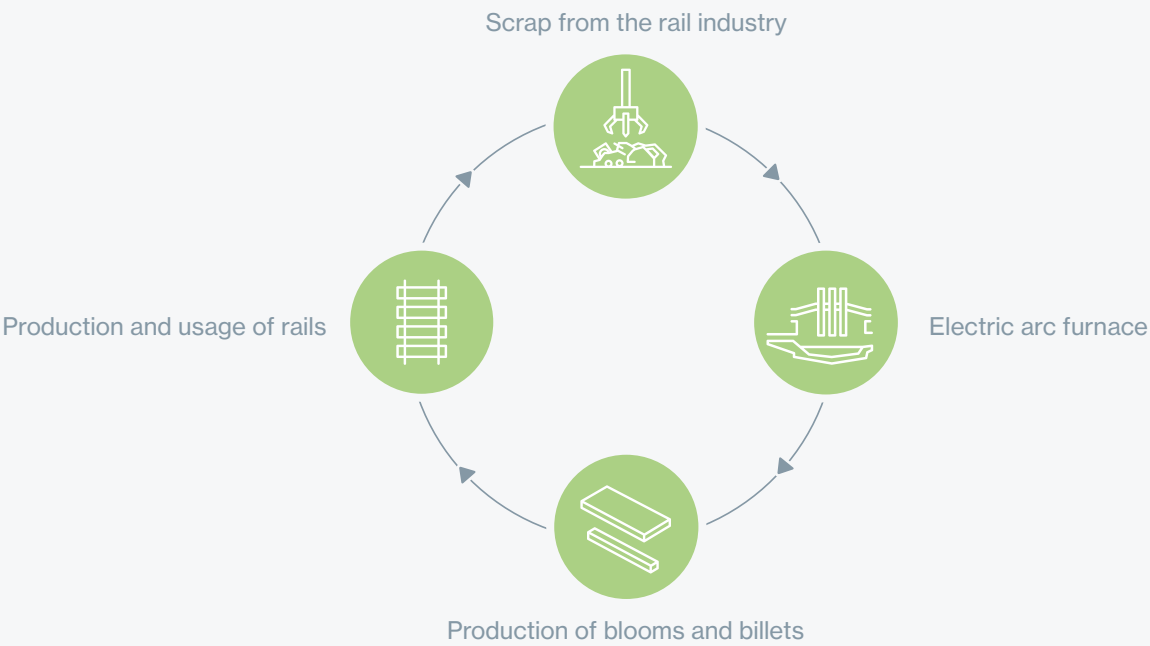
Saarstahl Ascoval is helping advance the circular economy by recycling scrap to produce reduced-carbon steel using its energy-efficient electric arc furnace. This production route reduces dependence on raw materials and cuts CO<sub>2</sub> emissions.

Collaboration with our sister company Saarstahl Rail offers a particularly successful example of a “perfect loop” – where we supply reduced-carbon steel based on the circular economy model: for every customer, 100% of the scrap from old rails and other steel components from railroad networks is recycled to produce CO<sub>2</sub>-reduced rails. This

process allows Saarstahl Ascoval to ensure a closed cycle that minimizes waste, conserves resources and supports ecological and economic sustainability in the steel and rail industry. Joint projects with major infrastructure partners and accompanying research and development work continuously improve the durability and sustainability of the rails.

In addition to Saarstahl Rail, Saarstahl Ascoval also supplies Saarstahl's rolling mills in Völklingen, Burbach and Neunkirchen with reduced-carbon steel, which means the Group is now able to offer more climate-friendly products.

## A perfect loop



# Product range

Saarstahl Ascoval supplies first-class quality for highly demanding finished products. Custom solutions and a collaborative working culture are what distinguish us. This is what Saarstahl Ascoval stands for.

Cast billets and blooms	
rounds Ø mm	180, 220, 250, 260, 270, 280, 310, 325
rectangular (mm x mm)	255 x 330, 300 x 365
square	155 x 155, 180 x 180
billet/bloom lenght (m)	4.5–12.4 (oxycutting)

**Steel grades:**  
Saarstahl Ascoval produces the following typical steel grades. Micro alloys (B, Ti, V, Nb, etc.) are possible, depending on customer needs.  
If you have any questions about our product range, please contact our sales staff or visit our website ([www.ascoval.fr](http://www.ascoval.fr)).

**Product Portfolio - Typical grades**  
Micro alloys possible depending on customer needs : B, Ti, V, Nb, ...

Element minimum (%), Except* maximum								
C	Mn	Si	S	P*	Ni	Cr	Mo	V
Rails								
Steel grades according to EN 13674-1 to 4 and EN 14811: R200, R220, R260, R320 Cr, R350HT, R400HT ...								
0,38% to 1,7%	Up to 1,35%	Up to 1,2%				Up to 1,25%	0,02%	
Industry: Automobile, mechanical engineering, construction								
Mechanical grades, Resulfurized grades, High yield grades: S335, C45; C55, 50CrMo4, 42CrMo4, 34CrNiMo6, 20Mn4-5-6, 18MnCr5 ...								
0,07% to 0,7%	0,3% to 1,6%	Up to 1,3%	Up to 0,2%	0,01%	Up to 4%	Up to 2,5%	Up to 0,85%	Up to 0,24%
Oil and gas applications and accessories: bars and tubes								
API5CT carbon steels and chromium steels: L80, P110, T95, 5%cr, 4130, 4140, Line pipes API5L X52 ...								
0,005% to 0,4%	0,3% to 1,4%	0,1% to 2%		0,01%	Up to 6%	0,2% to 5%	0,2% to 2,3%	
Electrical power plants/Boilers								
TÜV products, ASTM grades B, C, T11, T22, T24, S355, P5 ...								
0,05% to 0,12%	0,3% to 0,6%	0,1% to 2%		0,01%	0,1% to 1,1%	0,8% to 5%	0,05% to 1%	0,20%
Bearing steel								
100Cr6								
0,93%	0,3% to 0,7%	0,20%	0,20%		0,01	1,30%		
Spring steel								
38Si7								
0,35% to 0,42%	0,5% to 0,8%	1,5% to 1,8%	max 0,025%	0,025%				





## Areas of application for CO<sub>2</sub>-reduced billets and blooms

With its high-quality semi-finished steel products, Saarlühl Ascoval is at the beginning of a wide range of value chains.

While Saarlühl Ascoval supplies much of its CO<sub>2</sub>-reduced billets and blooms to processing companies within the Saarlühl Group itself, the company's loyal customer base also includes companies from outside the Group. Typical applications for billets and blooms from Saarlühl Ascoval are described below.

### Rails:

Saarlühl Rail is the first manufacturer of reduced-carbon rails in Europe to develop a circular economy with its various customers, in cooperation with Saarlühl Ascoval. With an average annual production of approximately 400,000 tons, Saarlühl Rail offers a comprehensive catalogue, available for more than 25 steel grades and lengths up to 108 meters. To ensure the consistent high quality of its products, Saarlühl Rail adheres to strict manufacturing standards from steel production through to rolling and final inspection. Saarlühl Rail has supplied many projects, including the high-speed railway line LGV Est, the light metro shuttle service Orlyval (Orly Ouest), and the metro line at Place de la Bastille in Paris.

### Various long products:

Saarlühl Ascoval supplies Saarlühl with a wide range of grades in forging steels, spring steels, free cutting steels, and drawing qualities. Applications include rail clamps in the railway sector, tire cord in the automotive sector, steels for environmentally friendly construction, and a number of forging applications.

### Seamless pipes:

With almost 50 years of experience in high-quality steel production, Saarlühl Ascoval has been supplying blooms used to produce high volumes of round blooms, which are in turn used to make seamless tubes, OCTG, precision tubes, and mechanical tubes.



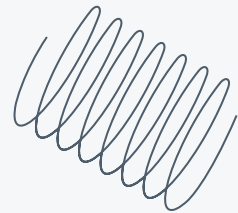
This QR code leads directly to the product catalog download area on the Saarlühl website.  
<https://en.saarlühl.com/products/publications/>



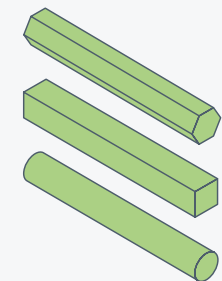
# Product Carbon Footprint (PCF)

Using blooms and billets from Saarstahl Ascoval's production makes it possible to cut CO<sub>2</sub> emissions by around 70%.\*

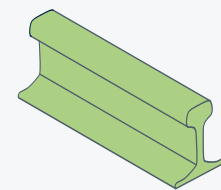
Combining input material from Saarstahl Ascoval with further processing at Saarstahl in the rolling mills in Völklingen, Burbach and Neunkirchen enables the following carbon footprints to be achieved:



**Wire rod:**  
~ 0.61 kg CO<sub>2</sub>eq/kg  
steel product



**Bar steel:**  
~ 0.63 kg CO<sub>2</sub>eq/kg  
steel product

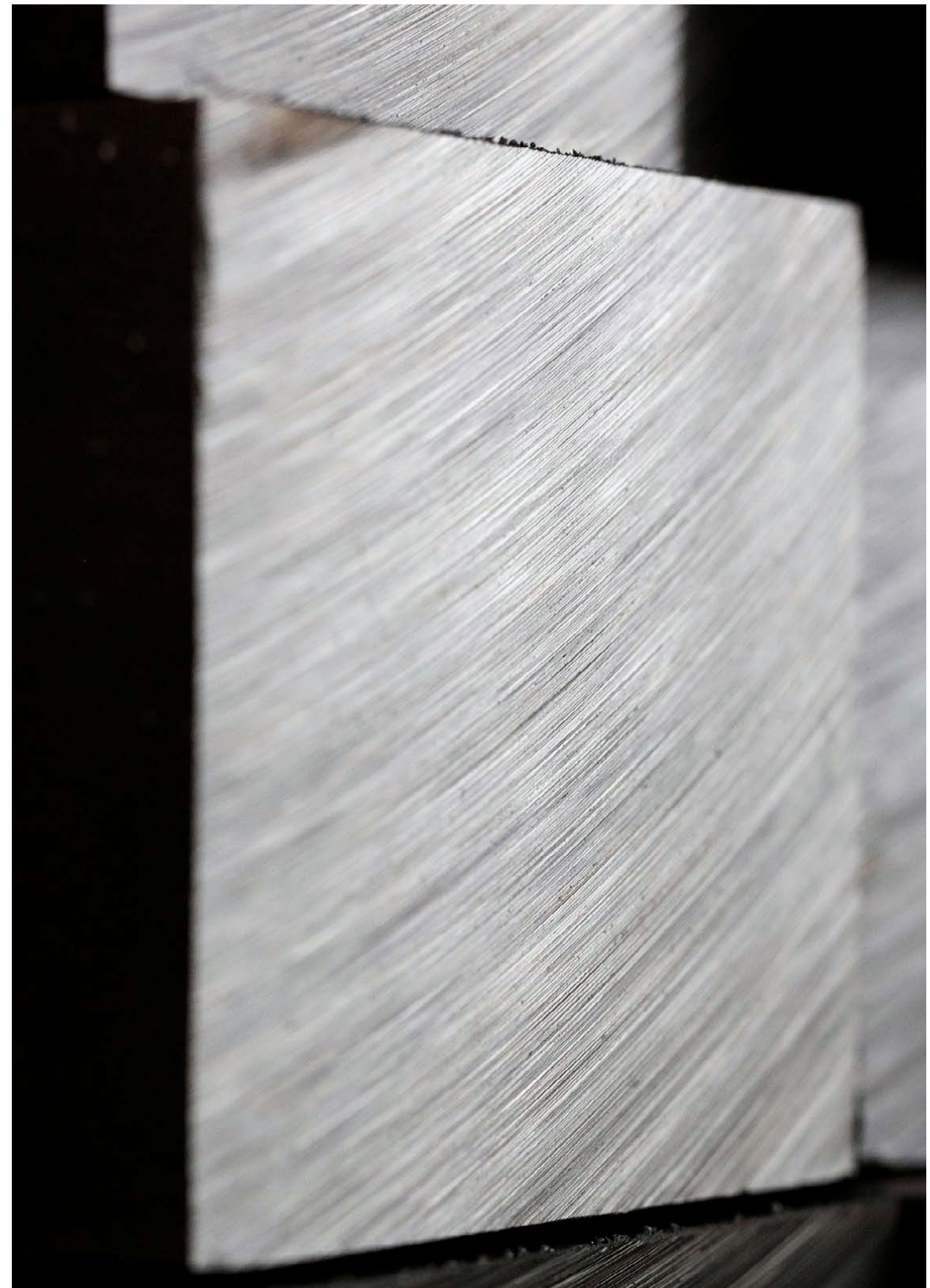


**Rail:**  
0.64 kg CO<sub>2</sub>eq/kg rail

Combining input material from Saarstahl Ascoval with further processing in the rolling mill at Saarstahl Rail enables the following carbon footprint to be achieved:

We would be pleased to supply you with further details about our products and the possible applications for steel products from Saarstahl Ascoval. Simply contact your sales partner at Saarstahl Ascoval directly: [sales@saarstahl-ascoval.fr](mailto:sales@saarstahl-ascoval.fr)

\*Compared to average CO<sub>2</sub> emissions resulting from the European blast furnace route (2022)



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