



ArcelorMittal

ArcelorMittal Rails & Special Sections



Cathode bars

ArcelorMittal Special Profiles

(@Husnes Smelter, Hydro)

Cathode bars

ArcelorMittal is the world's leading steel and mining company, with over 158,000 employees in more than 60 countries, and annual steel capacity production of 82.7 million tonnes.

ArcelorMittal is the leader in all major global steel markets, including automotive, construction, household appliances, packaging and rails, with leading R&D and technology, as well as sizeable captive supplies of raw materials and outstanding distribution networks. With an industrial presence in Europe, Asia, Africa and America, ArcelorMittal covers the most important, from emerging to mature.

Our rolling mill is located in Rodange (Luxembourg), where we produce environmentally friendly products and services for the national and international markets.

ArcelorMittal has implemented and keeps updated a quality assurance system that fulfils the requirements of the international standard ISO 9001, Environmental Management System in accordance with the International Standard ISO 14001 and Occupational Health and Safety (OH&S) Management System according ISO 45001.

For many years, ArcelorMittal - Rails & Special Sections has played a prominent role in the aluminum business area by providing wide range of cathode collector bars to its customers throughout the world. Cathode collector bars are designed to perform the best way in aluminum pots to achieve the longest lifetime and, at the same time, to fulfil all technical requests.

This leaflet offers a quick overview of all profiles available at our Rodange site, in Luxembourg. Our team will provide you more detailed information on the current range of our cathode collector bars and support you in the development of unique solutions to meet your requirements.



CERTIFICATE

The ESCEM asbl Certification Body hereby certifies that the company

**Long Products Luxembourg
ArcelorMittal Belval & Differdange S.A.**
66 Rue de Luxembourg
L – 4221 Esch-sur-Alzette

including the locations according to annex has established and applies a quality, environmental and occupational health and safety management system for the scope

Design and manufacture of steel semi and finished products (beams, sheet piles, merchant bars, rails, special sections, completed elements, as well as completed structural elements).

An audit was performed, report No 112
Proof has been furnished that the requirements according to
ISO 9001:2015, ISO 14001:2015 and ISO 45001:2018
are fulfilled.

The certificates are valid from 28.10.2022 until 27.10.2025
Certificates Registration No
900 112, 1400 112 & 45001 112



Esch-sur-Alzette 25/10/2022
ESCEM asbl 1, Avenue des Ternes
P-1001 Luxembourg



ANNEX

Main Certificates Registration No: 900 112, 1400 112 & 4500 112
Validity from 28.10.2022 until 27.10.2025

Certificate No:	Company site:	Scope :
900 112/01 1400 112/01 4500 112/01	ArcelorMittal Belval & Differdange S.A. Site de Belval Boulevard Charles de Gaulle L – 4008 Esch-sur-Alzette	Design and manufacture of steel semi and finished products (beams, sheet piles and merchant bars)
900 112/02 1400 112/02 4500 112/02	ArcelorMittal Belval & Differdange S.A. Site de Differdange Rue de Emile Mark L – 4503 Differdange	Design and manufacture of steel semi and finished products (beams, sheet piles as well as completed structural elements)
900 112/03 1400 112/03 4500 112/03	ArcelorMittal Belval & Differdange S.A. Site de Rodange 2, rue de l'Industrie L – 4823 Rodange	Design and manufacture of steel semi and finished products (merchant bars, rails, special sections as well as completed elements)



Achieving carbon-neutral steelmaking

ArcelorMittal Europe has committed to reduce CO₂ emissions by 35% by 2030, with a further ambition to be carbon neutral by 2050, in line with the EU's Green Deal and the Paris Agreement.

As the leading global steel company, we are engaged in the most important challenge faced by the industry – that of producing all the steel the world needs in an environmentally sustainable way.

XCarb™ is designed to bring together all of ArcelorMittal's reduced, low and zero-carbon products and steelmaking activities, as well as wider initiatives and green innovation projects. As a result, we will be able to leverage a single effort focused on achieving demonstrable progress towards carbon neutral steel.

Alongside the new XCarb™ brand, we have launched three initiatives: the XCarb™ innovation fund, XCarb™ green steel certificates and XCarb™ recycled and renewably produced for products made via the Electric Arc Furnace route using scrap. ArcelorMittal's XCarb™ innovation fund will invest in companies developing breakthrough technologies that will accelerate the steel industry's transition to carbon neutral steelmaking. Our industry-first XCarb™ green steel certificates allow customers to report an equivalent reduction in their Scope 3 emissions, in accordance with the Greenhouse Gas Protocol, and XCarb™ recycled and renewably produced steel is made from high levels of recycled steel using 100% renewable electricity in an Electric Arc Furnace.



Supply conditions

We supply according to the customer's specifications:

- Hot sawn lengths up to 12 m.
- Cold sawn lengths from 1.5 m to 12 m.
- Manufactured bars, including machining, drilling, welding, sandblasting and coating works.

ArcelorMittal offers Cathode Collector Bars with special finishing, with copper insert - round, square or plated. The machining is done entirely according to customer's drawings in ArcelorMittal machining shop or in our partner's machining shops.

Please contact us if you have special requirements.

Dimensional tolerances

Standard tolerances as follows

Width & Thickness: + / -2 mm.

Length: Hot sawn +100 / -0 mm.

Cold sawn: +10 / -0 mm.

Straightness: 1 mm/ 1 m.

Corner **RADIUS**: most bars have corner radius within 9-20 mm.

Twist: 1 mm/m

Steel grades

Chemical Composition

GRADE	%C	%Mn	%Si	%P	%S	%N ₂
Low resistivity	≤0.060	≤0.400	≤0.070	≤0,030	≤0.040	≤0.012
Ultra Low resistivity	≤0.050	≤0.400	≤0.070	≤0,030	≤0.030	≤0.012

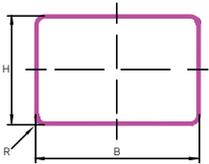
Mechanical properties

GRADE	Rn min. (MPa)	Re min. (MPa)
Low Resistivity	300	140
Ultra Low resistivity	270	130

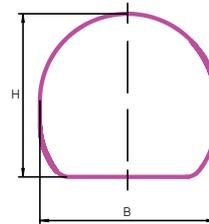
RESISTIVITY	
Low Resistivity	≤ 13 μΩ×cm ² at 0°C.
Ultra Low resistivity	≤ 11.5 μΩ×cm ² at 0°C.

Dimensions

ArcelorMittal offers an extensive range of rectangular, square and egg-shaped cathode bars (collector bars) for the primary aluminium smelters worldwide.



DIMENSIONS (mm)			WEIGHT (kg/m)	DIMENSIONS (mm)			WEIGHT (kg/m)
BxH	R	BxH		R			
100x100			76,32	160x90			112,10
122x107			101,60	160x100			124,7
122x115			109,30	160x110			135,40
122x122			116,40	160x140			175,70
125X120			117,00	160x160	R10		200,30
130x93			94,20	160X160	R15		199,50
130X110			111,58	165X70			89,70
130X115			116,70	168X150			195,60
130X130			130,40	170X60			79,80
135x135			130,40	170X130			172,50
140x75			70,70	170x140			185,90
140x100			82,00	170X150			199,20
140x115			109,50	170X170			225,70
140x120			131,50	180X65			91,30
140x125			125,44	180X70			98,20
140x140			136,40	180X80			112,50
140x147			153,10	180X100			140,40
145x135			160,70	180X120			168,80
150x90			153,00	180X140			196,90
150x100			105,50	190X80			118,30
150x110			117,40	190X140			208,60
150x115			129,10	190X150			221,50
150x120			134,30	200X90	R9		140,70
150x122			140,90	200X90	R11,5		140,40
150x130			143,20	200X155			242,60
150x140			152,80	202X150			237,18
150x150	R10		164,60	210X130			213,60
150x150	R20		175,93	210x160			263,00
150x160			175,90	220X90			155,00
155x155			186,90	220X155			267,00
160x80			99,90	230x115			207



DIMENSIONS (mm)		WEIGHT (kg/m)
BxH	R	
160x145		155,70
160x150		161,90

Product development

We work in close cooperation with the smelters around the world to improve the performance of the collector bars in the process.

Please contact us to discuss any project.

Additional information can be found on:
rails.arcelormittal.com



ArcelorMittal

ArcelorMittal Commercial Sections

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