



ArcelorMittal

ArcelorMittal Europe - Long Products
Rails & Special Sections



**Crane rails, Light
rails & Contact rails**
Brochure and technical manual

Our Company

ArcelorMittal with over 158,000 employees across 60 countries and industrial locations in 17 countries is the world's leading steel and mining company.

ArcelorMittal is one of the world's largest rail producers with a capacity of 1 million tons of annual rail production with true global presence; supplying rails for railways, metro, tramway, light tracks, crossings, crane rails and rail components.

As the world's leading steel company, we are committed to leading our industry's efforts to decarbonise, and to be part of the solution to the world reaching net-zero by 2050.

Quality Products and Service

The quality of our rails, recognized by customers and approvals from end users at a global scale, are reasons for which ArcelorMittal crane and light rails are the reference on the global market since years.

ArcelorMittal has implemented a quality assurance system that meets the requirements of international standards ISO 9001, 14001, 18001.

ArcelorMittal is member of IQNet international network of agencies for the quality systems' evaluation and certification.

ArcelorMittal is working closely to customers to develop with them new and/or specific rails and products according to their needs and keeping an important production flexibility.

Continuous improvement is a central element, participating to new rail profiles and developing new grades like R340, in order to provide top wear performance grade under heavy loads.

Customer satisfaction is our main objective and the prevailing condition for permanent success of our rail facilities and product reliability.

Ultrasonic Testing

Going deeper than Standards, ArcelorMittal developed its own Technical Specifications which is including automatic Ultrasonic Testing on large part of our Crane and Light rails, providing warranty of to our customers

of no internal defects. Operation included in quality controls and without extra prices. Please ask and refer to ArcelorMittal Technical Specifications for more details.

European profiles

Produced according to the European EN and DIN standards mainly with a wide range in tensile strength from 510 to 1150 N/mm².

Large range of steel grades produced by ArcelorMittal is answering to customers needs, and specific requirements can be source of customized technical specifications.

Standard rail lengths are furnished from 6 to 36 meters, and other lengths are available upon request.

American profiles

Manufactured in accordance with AREMA and ASTM specification for standard carbon applications.

Standard rail lengths are furnished also in 20, 40, and 60 feet. Other lengths are available upon request.

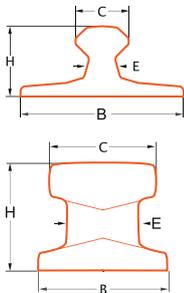
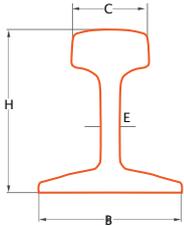
Finishing Operations

ArcelorMittal offers a wide variety of finishing operations on rails as drilling, angle cut, cut to lengths, coating, milling, bending, special packaging, and other on request; to provide to customers fully finished rails as they need to directly use and with one unique contact.

ArcelorMittal has the largest crane rail portfolio, with steel grade R340 guaranteeing a minimum tensile strength and hardness of 1150 N/mm² and 340 HB respectively.



Light Rails

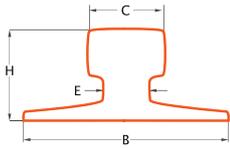


TYPE OF RAIL	DIMENSIONS (mm)				MASS /M kg/m
	H	B	C	E	
EUROPEAN PROFILES					
S18	93,00	82,00	43,00	10,00	18,30
S20	100,00	82,00	44,00	10,00	19,80
S24	115,00	90,00	53,00	10,00	24,40
S30	108,00	108,00	60,00	12,30	30,03
S31	125,00	106,00	56,00	12,00	31,57
S39	133,35	117,47	65,53	13,10	39,80
S41A	138,00	125,00	67,00	12,00	41,24
AFNOR26	110,00	100,00	50,00	10,00	26,27
AFNOR36	128,00	115,00	58,27	13,00	36,59
BS80A	133,35	117,47	63,50	13,10	39,76
AMERICAN PROFILES					
ASCE60	107,95	107,95	60,32	12,30	29,76
ASCE80	127,00	127,00	63,50	13,89	39,68
ASCE85	131,76	131,76	65,10	14,29	42,20
GUIDING RAILS					
RG28	65,00	150,00	49,00	24,00	28,30
CONTACT RAILS					
STR40	105,00	80,00	80,00	18,00	40,27
STR74	103,20	123,80	104,80	69,80	74,00

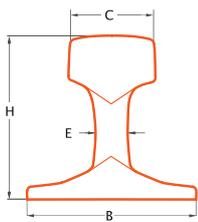
Crane Rails | Light Rails | Mechanical properties

GRADE	TS min (MPa)	YS min (MPa)	Elongation 5d min (%)	Hardness min HB (for info. only)
STANDARD GRADES:				
70kg (Rm min 690Mpa)	690	355	12	200
90kg (Rm min 880Mpa)	880	440	8	260
110Cr-V	1080	640	7	320
R340	1150	600	7	340
ON REQUEST:				
52-3-V	510	355	20	150
70kg-V	690	450	15	200
90kg-V	880	540	10	260

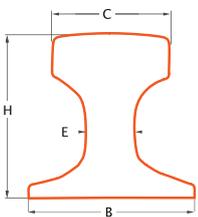
Crane Rails | Crane rails steel qualities



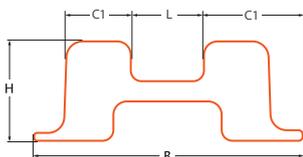
TYPE OF RAIL	STANDARD	DIMENSIONS (mm)				SECTION (cm ²)	MASS /M (kg/m)
		H	B	C	E		
DIN CRANE RAILS							
A45	DIN 536 P1:1991	55,00	125,00	45,00	24,00	28,20	22,10
A55	DIN 536 P1:1991	65,00	150,00	55,00	31,00	40,50	31,80
A65*	DIN 536 P1:1991	75,00	175,00	65,00	38,00	54,90	43,10
A75*	DIN 536 P1:1991	85,00	200,00	75,00	45,00	71,60	56,20
A75S*	DIN 536 P1:1991	85,00	200,00	75,00	75,00	81,10	63,60
A100*	DIN 536 P1:1991	95,00	200,00	100,00	60,00	94,70	74,30
A120*	DIN 536 P1:1991	105,00	220,00	120,00	72,00	127,40	100,00
A150*	DIN 536 P1:1991	150,00	220,00	150,00	80,00	191,40	150,30



AMERICAN CRANE RAILS							
CR104 (MRS51)*	American Standard	127,00	127,00	63,50	25,40	66,40	51,59
CR105 (MRS52)*	ArcelorMittal Specification	131,80	131,80	65,10	23,80	66,40	52,09
CR135 (MRS67)*	American Standard	146,05	131,76	87,30	31,80	85,80	66,97
CR171 (MRS85)*	American Standard	152,40	152,40	109,20	31,80	108,38	84,83
CR175 (MRS87B)*	American Standard	152,40	152,40	108,00	38,10	110,30	86,80



SPECIAL CRANE RAILS							
MRS73*	ArcelorMittal Specification	157,00	146,00	70,00	32,00	93,80	73,63
MRS86*	ArcelorMittal Specification	102,00	165,00	102,00	80,30	108,90	85,50
MRS87A*	ArcelorMittal Specification	152,40	152,40	101,60	34,90	111,30	86,80
MRS125*	ArcelorMittal Specification	180,00	180,00	120,00	40,00	160,20	125,00
MRS140*	ArcelorMittal Specification	150,00	220,00	120,00	80,00	178,00	139,80
MRS192*	ArcelorMittal Specification	157,20	229,00	140,00	128,30	244,50	192,00
MRS221*	ArcelorMittal Specification	160,00	220,00	220,00	154,00	282,10	221,40
AS86*	ArcelorMittal Specification	152,46	150,00	101,60	35,00	109,40	85,88
CR73*	ArcelorMittal Specification	135,00	140,00	100,00	32,00	93,40	73,30
CR100*	ArcelorMittal Specification	150,00	155,00	120,00	39,00	127,70	100,20
CRS140*	ArcelorMittal Specification	150,00	200,00	150,00	80,00	178,10	139,80
SP100*	ArcelorMittal Specification	150,00	150,00	100,00	38,00	113,40	89,05
SP120*	ArcelorMittal Specification	170,00	170,00	120,00	44,00	150,69	118,28



GIRDER CRANE RAILS							
GCRD108	ArcelorMittal Specification	100,00	263,00	61,00	75,00	-	107,90
GCRD183	ArcelorMittal Specification	120,00	280,00	75,00	50,00	-	183,06

* Ultrasonic Testing automatically done

Smarter steels for people and planet

For ArcelorMittal Europe - Long Products, Rails & Special sections this means to make a very significant contribution to reduce global emissions, innovative mindset for our technical capabilities and focus in our customers' needs, like our new Rail Service Center.

ArcelorMittal New Rail Service Centre

With this new in-house downstream facility, the service center enables ArcelorMittal Rails & Special Sections to offer full solutions performance and reliability advantages for customers.

The rail service center is designed to carry out, on a surface of 6000 m², a broad range of finishing operations on crane, grooved, light and transport rails. In this first phase, the service center offers the following finishing services: drilling, bending and cutting.

ArcelorMittal strategy, of being a full-service provider and one-stop solution for our customers, brings many benefits as: one single contact, package option, possibility to group standard rails with complex finished rails, 'transformed rails' versus as rolled rails.

ArcelorMittal Global R&D

In ArcelorMittal we are permanently committed to improving rail steel quality, production and new developments. The development of new materials starts with a design of new material, continues with the fabrication and testing of the prototypes and ends with real test track. To carry out such process, ArcelorMittal Global R&D designs and builds different equipment, such as for advanced laboratory testing and in-use properties control (twin-disk and real size Rolling Contact Fatigue Bench).

In addition, there is a pilot welding plant with: aluminothermic welding equipment, preheating devices and specific repair welding equipment, among others. The rail welding research line has extensive experience in

finite element simulation of rail joining processes, which allows us to advance on specific procedures adapted to the new rail grades.

Once the rail is installed on track, a monitoring of the most relevant parameters is carried out. This monitoring of the performance may include hardness, wear, rolling contact fatigue or corrosion evolution.

Achieving carbon neutral steel

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: producing all the steel the world needs in an environmentally sustainable way.

XCarb™ is the new brand name for ArcelorMittal's ongoing global program of steelmaking innovation targeted at carbon-neutral steel by 2050. The initiatives that are part of XCarb™ aim to reduce the carbon footprint of ArcelorMittal and of our customers.

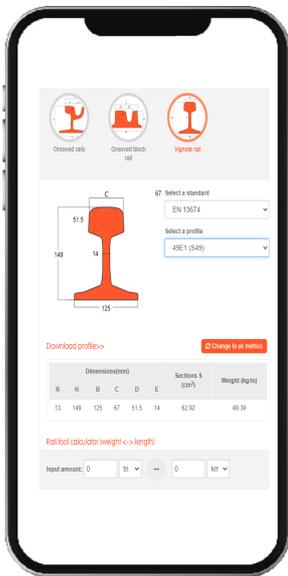
Our first XCarb™ products are now ready for market: XCarb™ green steel certificates and XCarb™ recycled and renewably produced for steel products made via the electric arc furnace route using scrap steel and 100% renewable energy.

Rail Tool app

Rail Tool App allows rail key players to:

- Get interactive information regarding standards and profiles for different rail product typology.
- Calculate rail length or tonnage for different types of railway projects (rail calculator available online and offline).
- Download the dimensional profile drawing.
- Search by category or profile name, enter one or more profile dimensions, such as height or rail foot and get the best results and difference with the search.
- Possibility of compare several profiles and their results. In addition, the tool is more intuitive and allows to visualize the dimensions over the desired profile.

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rails.arcelormittal.com/rail-tool



Additional information can be found on:

<http://rails.arcelormittal.com>

September 2022



ArcelorMittal

SALES OF CRANE RAILS & LIGHT

ArcelorMittal Commercial Sections

Sales | Rails | 66, Rue de Luxembourg
L 4221 Esch-sur-Alzette | G.D of
Luxembourg
T +352 5313 2465
rails.specialsections@arcelormittal.com

ArcelorMittal Commercial Long Poland

Sales | Rails | Al. Piłsudskiego 92
41-308 Dabrowa Górnicza | Poland
T +48 32 776 8216
rails.specialsections@arcelormittal.com

