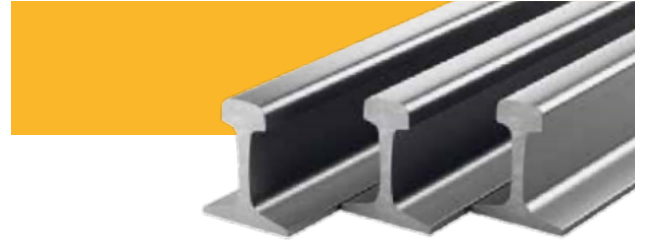




**WAYLAND
TECHNOLOGIES
GROUP**

 **EVRAZ**



Product catalog

Israel



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2020 version

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Color code

Rail type	
OR50	
OR65	New products are marked yellow

www.evraz.com

About EVRAZ

EVRAZ is a vertically-integrated steel and mining company with business operations in Russian Federation, the USA, Canada, the Czech Republic, Israel and Kazakhstan.

EVRAZ is among the top steel producers in the world. A significant portion of the Company's internal consumption of iron ore and coking coal is covered by its mining operations. The Group is listed on the London Stock Exchange and is a constituent of the FTSE 100 Index.

EVRAZ is a leading player at the rail market of the Russian Federation and North America and one of the main manufacturers of railroad wheels, a leading manufacturer of rolled steel for infrastructure projects.

Certificates

High quality of EVRAZ products is proven by numerous certificates.

The complete list of the product and process conformity certificates, certificates of the management systems compliance may be found on the Company representative web-site.

Our Representative in Israel is Wayland Technology & Marketing Ltd.

www.waylandtec.com



No 1

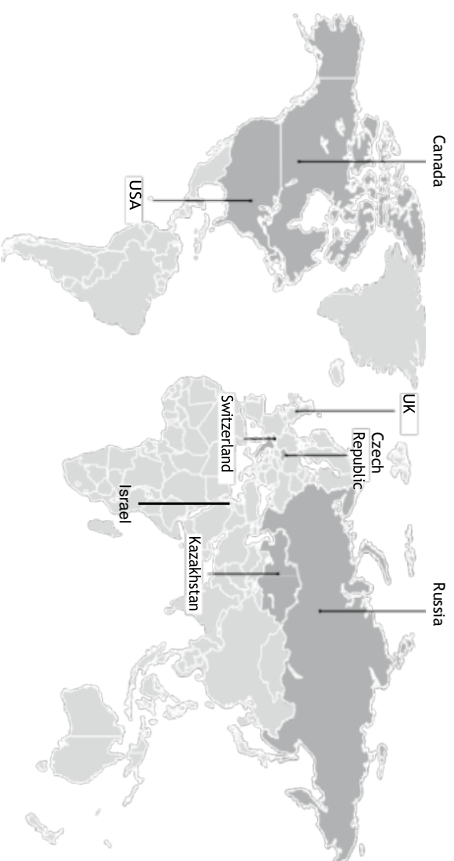
rail manufacturer in the Russian and North American markets

No 1

rolled steel and I-beam manufacturer in the Russian market

No 1

large diameter pipe manufacturer in the Russian and North American markets



Global steelmaking and mining company

- We are among the World's 30 top steel manufacturers
- Key assets in Russia and America
- A constituent of the FTSE-100 Index
- Sales to more than 70 countries worldwide

Minimum costs at all production stages

- Self-coverage in iron ore - 70%, in coal - 221%
- A leader among the coking coal makers in Russia and the World's top 5



Steel

13,630 Kt



Iron ore products

14,205 Kt



Coking coal

20,653 Kt



Steel products²

12,768 Kt



Vanadium slag³

19,533 mtV

¹ Including payments on deferred terms recognised in financing activities;

² Net of re-rolled volumes;

³ In tonnes of pure vanadium.

Financial and operating highlights (as of 2020 Year-End)

Revenue US\$ million	EBITDA US\$ million	EBITDA margin %	CAPEX ¹ US\$ million
9,754	2,212	22.7	657

Semi-products

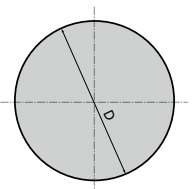
- EVRAZ is a leading Russian manufacturer of semi-products.

We keep to the industry trends and the market needs



Pipe blanks

The products are manufactured at EVRAZ NTMK.



Material and shape specification

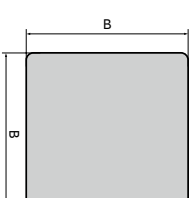
Diameter, mm	Techspecs reference document	Chemistry reference document	Supplied lengths, product length, m	Plant
90, 95, 100, 105, 110, 115, 120, 125, 130, 140, 150	GOST 34636-2020 Tech specs agreed upon with the customer	GOST 34636-2020 Tech specs agreed upon with the customer	Fixed lengths, multiples, non-fixed length 6 to 12	Heavy section plant
156	Tech specs agreed upon with the customer	Tech specs agreed upon with the customer	Fixed lengths, non-fixed length 6 to 12	H-beam plant
160', 170', 180'	GOST 34636-2020 Tech specs agreed upon with the customer	GOST 34636-2020 Tech specs agreed upon with the customer	Fixed lengths, multiples, non-fixed length 6 to 12	Rail and structural steel plant
190, 210, 220	Tech specs agreed upon with the customer	Tech specs agreed upon with the customer	Fixed lengths, non-fixed length 6 to 12	H-beam plant

Note:

1. Steel grades are to be agreed upon with the customer;
2. Rolling accuracy B2 as per GOST 34636-2020 (B2 as per GOST 2390-2006).

Square billets and blooms

Intended for rolling into long products.



Material and shape specification

Square side	Techspecs reference document	Chemistry reference document	Supplied lengths, product length, m	Manufacturer
60 (medium section plant), 100, 150 (BD), 120, 125, 130, 135, 140, 150 (all plants)	TU 14-1-5237-93 GOST 2597-2006 GOST 380-2005	GOST 380-2005 GOST 1050-2013 GOST 1050-2013	Exact length up to 120; the multiple of the exact length; random length	EVRAZ ZSMK
100, 110, 115, 120, 125, 130, 140, 150, 160, 180, 200	GOST 4543-2016 GOST 1050-2013 TU 14-1-5237-93 TU 14-1-4492-2019 GOST 535-2005 GOST 1050-2013 GOST 4543-2016 Tech specs agreed upon with the customer	GOST 380-2005 GOST 1050-2013 GOST 4543-2016 Tech specs agreed upon with the customer	Fixed lengths, multiples, non-fixed length 6 to 12	EVRAZ NTMK

Note:

1. Steel grades are to be agreed upon with the customer;

Mandrel bars

The products are manufactured at the heavy section plant of EVRAZ NTMK.

Material and shape specification

Diameter, mm	Steel grade	Reference document	Supplied lengths, product length, m
105, 110, 115	35HN2F	TU 0958-080-00186269-2012	Fixed lengths: 200
85, 90	35HN2F	TU 0958-190-00186269-2012	Fixed lengths (to be agreed upon in the P.O.)

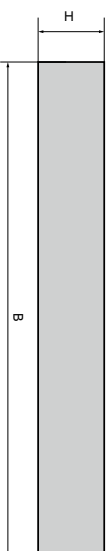
Rectangular billets

The products are manufactured at the H-beam plant of EVRAZ NTMK.

Material and shape specification

Profile dimensions, mm		Reference document	1 m weight, kg	Manufacturer
height	width			
95	185	TS 00186269-212-2018	136.2	EVRAZ NTMK
102	205	TS 00186269-371-2019	162.4	
120	135	TS 00186269-985-2012	125.0	
115	230	TS 00186269-992-2019	205.5	

EVRAZ NTMK



Material and shape specification

Facility	Dimensions, mm			Tolerances, mm			length
	thickness, H	width, B	length	thickness, H	width, B	length	
CMA №1	D 430 (round)	—	2,800 to 6,100	± 3	± 3	± 30	± 30
		300	360	2,800 to 6,100	± 3	± 3	± 30
CMA №2	240	440	3,700 to 11,400	± 4	± 4	± 30	± 30
		310		+1/-5			
		525		± 2			
CMA №3	165/395 165/485 120/410	380	3,600 to 11,500	± 3	± 3	± 4	± 30
		530		± 3			
		620		± 3			
		655		± 3.5	± 5	± 5	

Note:

Grade mix: carbon, low alloy and alloy steel. Steel chemistry is to be agreed upon in the PO. Technical requirements agreed upon in the PO. The length specified is restricted by the caster performance.

EVRAZ ZSMK

Material and shape specification

Facility	Dimensions			Tolerances, mm			Technical requirements
	thickness, mm	width, mm	length, m	thickness	width	length	
CCM (rail plant)	300	360	3.0 to 9.25	± 9	± 11	± 40	STD 899-31-2011
				± 4.5	± 4.5	± 50	
CCM (Structural steel plant)	150	150	9.0 to 12.0	± 4.5	± 4.5	± 50	TU 14-1-3348-2009
				± 4.5	± 6.0	± 50	
				200	± 4.5	± 10	
	200, 250	1,050 to 1,750	6.0 to 12.0	± 5	± 10	± 100	TU 14-1-3347-2009

Note:

Steel chemistry – GOST 380-2005, GOST 19281-2014, GOST 6718-91, GOST 4543-2016, GOST 1050-2013, GOST 801-78, GOST 9950-2000, GOST 14899-79, GOST 9950-2000, GOST 14999-2016.

Technical requirements	300 × 360		130 × 130 150 × 150 150 × 200		200, 250 × 1050-1750	
	Rhomboidity, mm, not to exceed	14	10.0	10.0	10.0	
Cut-end squareness, mm, not to exceed	15	20.0	20.0	20.0		
Bow, not to exceed	0.2% of the length	0.0	5 mm / m	5 mm / m		
Bulging (concave) of faces, mm, not to exceed	5	4.5	10.0	10.0		

No heaving arrests, longitudinal and crosswise cracks, slag inclusions, silvers, ripples, scratches and dents of 2.0 mm and deeper, blisters, crystallization cracks and laps from torch cutting are to be tolerated on feedstock surface.

Slabs

Slabs for further re-rolling into flat products.

EVRAZ NTMK

Material and shape specification

Facility	Dimensions, mm			Tolerances, mm		
	thickness, H	width, B	length	thickness, H	width, B	length
CCM №4	200	1,050 to 1,280	5,900-12,000	± 5/-3	Till 1,500 (± 10% over 1,500 (± 1%))	Till 8,000 (± 50% over 8,000 (± 100))
		1,600 to 2,700				
	250	1,050 to 1,280 1,500 to 2,700 1,800 to 2,500				
	300	2,700				

Note:

Grade mix – carbon, low alloy and alloy steel. Steel chemistry is to be agreed upon in the PO. Technical requirements: slabs: as per TU 14-1-3347 or TS by agreement. The length specified is restricted by the caster performance. Caster №4 width-to-thickness restrictions: 1,150 to 1,280 mm; 5 mm; over 1,500 mm: 15 mm.

EVRAZ ZSMK

Material and shape specification

Facility	Dimensions			Tolerances, mm			Technical requirements
	thickness, mm	width, mm	length, m	thickness	width	length	
CCM (Structural steel plant)	200, 250	1,050 to 1,750	6.0 to 12.0	± 5	± 10	± 100	TU 14-1-3347-2009

Note:

Steel chemistry – GOST 380-2005, GOST 19281-2014, GOST 6718-91, GOST 4543-2016, GOST 1050-2013, GOST 801-78, GOST 9950-2000, GOST 14899-79, GOST 9950-2000, GOST 14999-2016.

Technical requirements	200, 250 × 1050-1750	
	Rhomboidity, mm, not to exceed	10.0
Cut-end squareness, mm, not to exceed	20.0	
Bow, not to exceed	5 mm / m	
Bulging (concave) of faces, mm, not to exceed	10.0	

No heaving arrests, longitudinal and crosswise cracks, slag inclusions, silvers, ripples, scratches and dents of 2.0 mm and deeper, blisters, crystallization cracks and laps from torch cutting are to be tolerated on feedstock surface.

Cast iron

Produced at the blast furnaces of EVRAZ ZSMK, EVRAZ NTMK.

Steelmaking iron

Material and shape specification

Iron grade	Reference document	Pig weight, kg not to exceed	Element mass fraction, %										Manufacturer							
			SI	Mn (Group)				P not to exceed (classes)			S not to exceed (for the category)									
			1	2	3	4	A	B	V	1	2	3	4	5						
P1	GOST 805-95	9	0,5	0,9	—	0,5	0,5	1	1,5	—	—	0,1	0,2	0,3	0,01	0,02	0,03	0,04	0,05	EVRAZ ZSMK
P2	GOST 805-95	9	—	0,5	—	0,5	0,5	1	1,5	—	—	0,1	0,2	0,3	0,01	0,02	0,03	0,04	0,05	EVRAZ ZSMK

Note:

Additional pig iron specification	EVRAZ ZSMK
Number of waists in the pigs	None
Standard carbon weight fraction, %	Between 4,3 and 5,0
Fragments (lumps over 2 kg), %, not to exceed	2
Remaining surface slag	Not allowed
Lime coat resulting from the pig mold spraying	Tolerated

Dev cast iron

Material and shape specification

Iron grade	Reference document	Pig weight, kg	Element mass fraction, %										Manufacturer
			C	S	SI	V	Mn	Ti	Cr	P			
DV	TU 0811-038-00186269-2016	Not to exceed 60 kg	3,0 to 0,4	0,3	0,2	0,25	0,20	0,02	0,10	0,06	—	—	EVRAZ NTMK

Steelmaking V cast iron

Material and shape specification

Iron grade	Reference document	Pig weight, kg	Element mass fraction, %										Manufacturer
			V	SI	Mn	P	S	C	Cr	Ti			
V	GOST 805-95, TU 14-ZR-458-2010	Not to exceed 60	≠0,4	≠0,2	≠0,4	≠0,1	≠0,03	—	—	—	—	EVRAZ NTMK	
—	TS 00186269-297-2015	Not to exceed 50	0,40 to 0,65	0,05 to 0,30	0,2 to 0,4	≠0,18	≠0,18	4,0-5,0	≠0,18	≠0,05 to 0,40	—	EVRAZ NTMK	
—	TS 00186269-297-2015	Not to exceed 50	0,40 to 0,65	0,05 to 0,30	0,2 to 0,4	≠0,18	≠0,18	4,0-5,0	≠0,18	≠0,05 to 0,30	—	EVRAZ NTMK	

Note:

Additional pig iron specification	EVRAZ NTMK
Number of waists in the pigs	1 or 3
Fragments (lumps over 2 kg)	Not to exceed 2%/4%
Remaining surface slag	Not allowed
Miscellaneous	—

Annex. Production facilities

- EVRAZ ZSMK and EVRAZ NTMK go forward with the “Clean Air” national project.
- Upon the launch of blast furnace 6, the EVRAZ NTMK blast furnace complex has become the most advanced and environmentally friendly facility in Russia.



| New technologies for
a better future



EVRAZ NTMK



EVRAZ NTMK is located in the Middle Urals, in Nizhny Tagil, the second largest city in Sverdlovsk region in terms of population and industrial output.

The company operates as a full-scale integrated steelmaker.

The Russia's largest titanium-magnetite ore field along with the in-house blast furnace feedstock dressing factory is the plant's raw materials base.

The most advanced and environmentally friendly blast furnace complex in the Russian Federation includes two effective blast furnaces (BF No. 6 and 7) each capable of putting out 2.55 million tpa of hot metal. The complex is equipped with the effective pulverized coal injection technology to save on natural gas and coke.

Liquid steel is produced at the Basic Oxygen Plant which can make 4,480 K tpa. Steel is produced from vanadium hot metal by a two-phase method where sellable V slag is produced at the first step.

Rolling operations include seven hot rolling mills which manufacture a wide mix of finished products:

- a rail and structural steel mill with a heat treatment plant: railway rails, crane rails, conductor rails for underground railways channels, track shoes (grousers) sections, railcar sections (Z-beam, railcar post, special channels), pipe blanks, round bars, square bars, axle blanks;
- a heavy section mill: channels, angles, railcar post, mine working supports (pit props), R33 rails, R65 fish plate blank, counter-rail angle type SPB50, pipe blanks, round bars, square bars.

- a universal beam mill: general purpose I-beams, H-beams, UC beams, sheet piles, square and rectangular bars, pipe blanks;
- a wheel rolling mill: locomotive and railcar wheels, locomotive wheel centers, wheel blanks;
- a fire mill: railcar wheel fires, machine building rings;
- ball mills SPSH-40-80, SPSH-80-120, SPSH-60-120: grinding balls, diameters 40 to 120 mm.



EVRAZ ZSMK



EVRAZ ZSMK is located in Novokuznetsk and is the largest steelmaker in Siberia.

Since July 1, 2011 ZSMK and NKMK have merged into EVRAZ – Consolidated West Siberian Metallurgical Plant. EVRAZ ZSMK includes the construction steel facility and the rail facility which represent the integrated steelmaking company. In 2018, Evrazruda, which consolidated several mining and dressing companies of the Kemerovo region, has become the mining unit of EVRAZ ZSMK. The company operates as a full-scale integrated steelmaker.

Hot metal is manufactured in three blast furnaces of the total usable volume of 8,000 m³. Blast furnaces №1 and 3: 3,000 m³, blast furnace № 2: 2,000 m³. Each blast furnace is equipped with four stoves.

Steelmaking operations of the construction steel facility comprise two oxygen melt plants, five converters (three 160-t converters and two 350-t converters), bar and slab strand casters and an ingot teeming plant.

The rolling plant of the construction steel plant comprises:

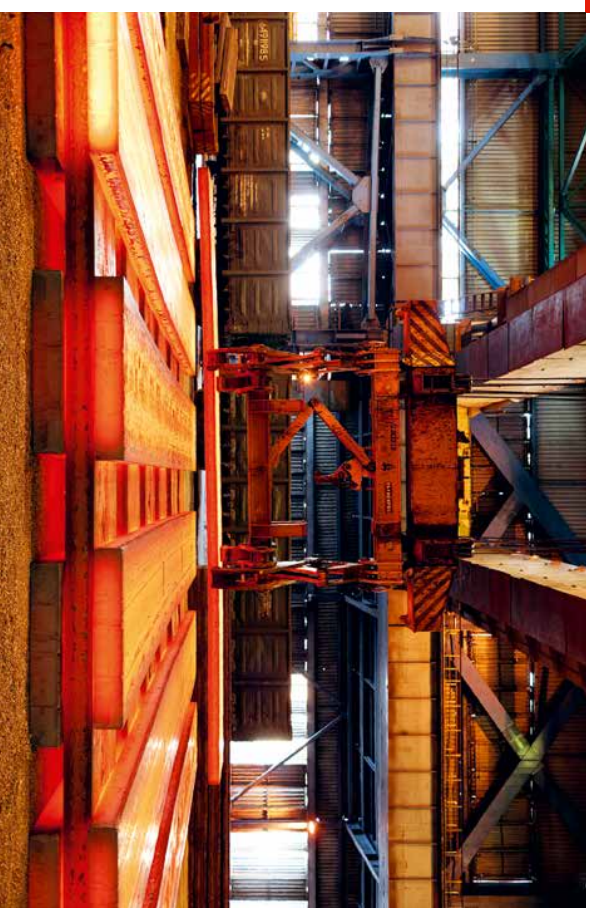
- a breakdown mill (1,250 (square bars, slabs);
- a continuous bar mill (square bars);
- a wire mill 250-t (wire rod, rebars, round bars);
- two light section mills:
 - 250-t (rebars, round bars, angles),
 - 250-2 (rebars, round bars);
- a medium section mill 450 (special interchangeable section type SVP I-beam, channel, monorail beam, angle, round bar, square bar 60 x 60, rebar);
- a steel rolling mill (SPRP): wire, nails and mesh.

EVRAZ ZSMK Rail Mill is the leading manufacturer in terms of rail range in Russia and worldwide. The rail and beam mill produces railway, tram line and underground railway rails, rails for turnouts. Furthermore, ball mills 1 and 2 located on the same premises produce grinding balls of various diameter.

In April 2013 EVRAZ has completed a large-scale revamping project of the rail and beam plant. In fact, a brand new production facility was launched equipped with cutting-edge machinery: a universal rolling mill by SMS MEER, a SES rail head-hardening plant, a KOCH cooling bed, a BRONKS roller straightening plant, a non-destructive test line with several rail test phases, drilling and cutting machines by AIFL, hydraulic presses by GEISMAR.

After revamping EVRAZ ZSMK has become one of the world's most modern rail manufacturers. The integrated steelmaker was the first in Russia and the CIS to master manufacturing of rails up to 100 meters long using the innovative head-hardening process.

The design capacity of the steelmaking operations of the rail facility is 950 K tpa of liquid steel. Liquid steel is produced in an electric steelmaking furnace of the rated capacity of 100 tons; secondary metallurgy: ladle metallurgy furnaces and a VD degasser.



EVRAZ Caspian Steel



EVRAZ Caspian Steel is a manufacturer of light sections. Located in Kostanay, the Republic of Kazakhstan, the investment project was implemented by "Evraz Caspian Steel" LLC, where 65% of the shares belong to EVRAZ, 35% – to JSC "Caspian Group".

The plant was commissioned in December 2013. Its construction took two and a half years. The investments totaled 131 million US dollars.

The design capacity of the rolling mill: 450 K tpa of rebars; steel billets are sourced from EVRAZ ZSMK. The products of the plant are marketed in Kazakhstan and exported to Ukraine, Tajikistan, Kyrgyzstan, etc.).

The plant is based on modern engineering where advanced technologies are used. Siemens SPA, Italy, was the general supplier of equipment for the company. During the project implementation the environmental issues were a special focus. Indeed, there is a zero environmental impact on water bodies.

Product mix of EVRAZ Caspian Steel:

- hot-rolled round steel;
- hot-rolled deformed rebar sections for reinforcement of
- reinforced concrete structures;
- ebars for reinforced concrete structures.

Rebars are manufactured in compliance with the national standards. Product quality is ensured by the latest technological equipment and quality inspection in the testing laboratory of the plant. All products are certified to comply with regulatory documents in the Kostanay branch of JSC "National Center for Expertise and Certification". The company has passed the certification procedure for quality management system ST RK ISO 9001-2009 (ISO 9001: 2008).

The 6S system is in place, which offers the principles of lean production, streamlined procedures, production standards as well as safe work practices.

In 2014 the company was awarded the "Golden Hephaestus" in the category "Project of the Year" of the industry contest of the Republic of Kazakhstan.

In 2016, EVRAZ Caspian Steel was awarded the special "Isker" established by the National Chamber of Entrepreneurs of Kazakhstan. It was awarded to 10 companies of the country; the plant was awarded for the production of steel products.

In 2017, EVRAZ Caspian Steel has won the regional exhibition and contest "The Best Product of Kazakhstan" and took 2nd place in the Kostanay region.

The participants of the republican "The Best Product of Kazakhstan" exhibition and contest became the laureates of the award. In the fall of 2016, EVRAZ Caspian Steel has won the regional stage for a second year in a row.

