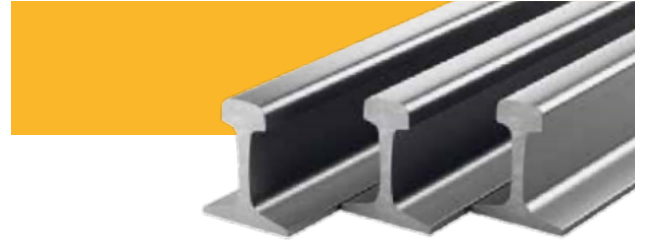




**WAYLAND
TECHNOLOGIES
GROUP**

 **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



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

No 1

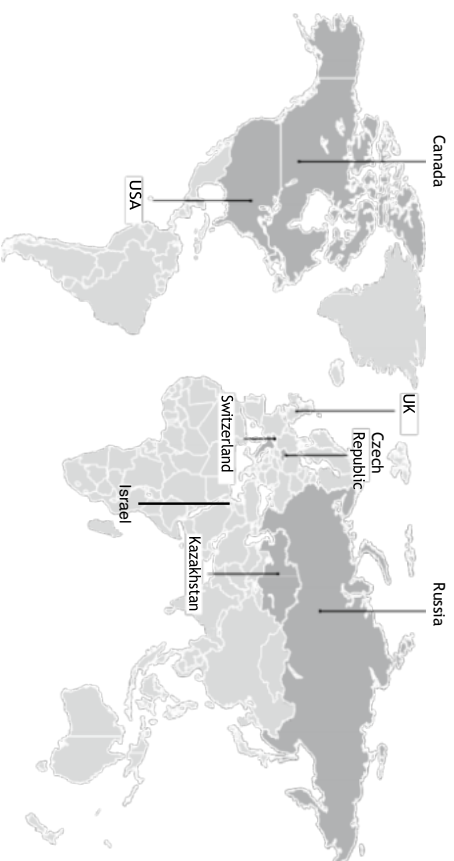
rail manufacturer in the Russian and North American markets

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.

Industrial products

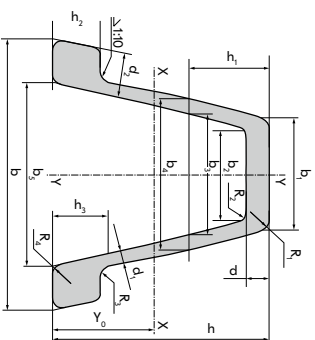
- EVRAZ is a powerful player at the industrial market. EVRAZ products are used in mining industry, machine building and metalware.
- EVRAZ companies have mastered new round and square bars.

— We work to improve quality and diversify product mix



Mine working supports (pit props)

The products are manufactured at the heavy section plant of EVRAZ NTMK and at the medium section mill 450 of EVRAZ ZSMK.



Section number	1 m weight, kg	Profile dimensions, mm							Manufacturer
		h	b ₁	b ₂	b	h ₂	d	d ₁	
S/P 17	121	94.0	60.0	91.5	131.5	23.0	8.5	5.7	EVRAZ ZSMK
S/P 22	219	110.0	60.0	99.5	145.5	23.5	11.0	6.2	EVRAZ ZSMK, EVRAZ NTMK
S/P 27	270	123.0	99.5	99.5	149.5	29.0	13.0	7.4	EVRAZ ZSMK, EVRAZ NTMK

Material and shape specification

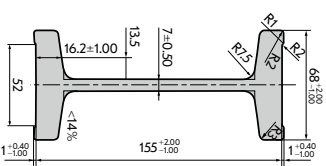
Section reference document	Steel grade	Chemistry reference document	Technical reference document	Supplied lengths, product length, m	Manufacturer
GOST 18662-83	S15sp	GOST 380-2005	GOST 535-2005 TU 0931-126-00186269-2017 GOST 535-2005 GOST 18622-83 (Class 2)	Fixed lengths: 90 to 120; multiples of fixed lengths; non-fixed lengths	EVRAZ NTMK
	S15sp/ps				

Supply conditions

The product is tied into the 10-t bundles.

Monorail

The products are manufactured at the medium section mill 450 of EVRAZ ZSMK.



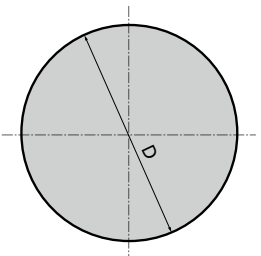
Material and shape specification					
Name	1 m weight, kg	Steel grade	Chemistry reference document	Chemistry reference document	Supplied lengths, product length, m
DP 155	24.0	09G2S	TU 0925-274-057576/-2009	GOST 19281-2014	Exact length – 61 or 91

Grinding balls

The products are manufactured to requirements of GOST 7524-2015.

In terms of hardness the balls are grouped as below:

1. normal surface hardness;
2. high surface hardness;
3. ultra high surface hardness;
4. ultra high surface hardness with limited hardness at 0.5 depth of a ball radius;
5. ultra high surface hardness with limited body hardness.



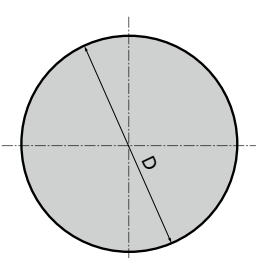
Ball mix

Nominal diameter, mm	Calculated weight of a ball, kg	Ball hardness groups					Manufacturer
		1	2	3	4	5	
		at surface					
		minimum ball hardness, HRC/HB, at least					
		at the depth of 0.5 of a ball radius					
		at surface					
		body					
30	0.128						EVRAZ ZSMK
40	0.294	45/415	49/461	55/534	55/534	45/415	
50	0.58						
60	0.98	43/401	48/453	53/514	53/514	43/401	
70	1.6						
80	2.35						EVRAZ NTMK
90	3.41	39/341	42/375	52/495	52/495	40/352	
100	4.62						
60	0.98	43/401	48/583	53/514	53/514	43/401	
80	2.35						
90	3.41	39/341	42/375	52/495	52/495	40/352	
100	4.62						EVRAZ NTMK
120	8.03	35/302	38/331	50/477	50/477	35/302	

Note:

Upon the customer request the balls can be tested for impact resistance. The requirement is to be specified with the PO. Balls are delivered either in bulk or in big bags of it.

Hot-rolled round steel bars



Section mix

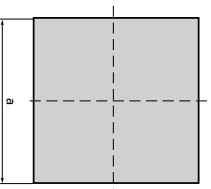
Diameter, mm	Chemistry reference document ¹	Technique reference document	Supplied lengths, product length, m	Plant/mill	Manufacturer
18 to 40	GOST 380-2005 GOST 1050-2013	GOST 2590-2006 GOST 535-2005	Cut 6 to 12 to m rods	Mill 300	EVRAZ Caspian Steel
70, 75, 80, 85, 90, 95, 100, 105, 110, 115, 120, 125, 130, 140, 150	GOST 380-2005 GOST 1050-2013 GOST 19281-2014 GOST 4543-2016	GOST 2590-2006 GOST 535-2005 GOST 1050-2013 GOST 19281-2014 GOST 4543-2016 TU 144-1586-2006	Fixed lengths, fixed length multiples, non-fixed length 6 to 12	Heavy section plant Rail and structural steel mill	
160 ² , 170 ² , 180 ²					

Note:

1. Other steel grades can be used subject to agreement with the customer.
2. Rolling accuracy B2 as per GOST 2590-2006.

Hot-rolled square steel bars

The products are manufactured at the medium-section mill 250-1 of EVRAZ ZSMK.



Material and shape specification

Nominal square side, a , mm	Tolerances, mm, at rolling accuracy B1	Cross sectional area, cm^2	1 m weight, kg	Section reference document	Technspecs reference document
10		1	0,785		
12	+0,3 / -0,5	1,44	113	GOST 2591-2006	GOST 535-2005 GOST 380-2005 GOST 62281-2014
14		1,96	1,539		
16		2,56	2,01		

Hot-rolled rectangular steel bars/strips

The products are manufactured at the medium section mill 450 of EVRAZ ZSMK.

Material and shape specification

Section reference document	Profile dimensions, mm		Cross sectional area, cm^2	1 m weight, kg	Technspecs reference document
	elevation	width			
GOST 103-2006	8 to 25	120 to 200	GOST 103-2006	GOST 103-2006	GOST 535-2005 GOST 1928-2014 GOST 4543-2016 GOST 5521-93

Note:

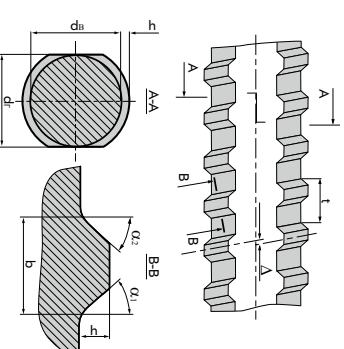
New dimensions are available: 20×80 mm, 25×200 mm.

Thermomechanically hardened rebars for reinforced concrete structures

Screw-type sections

The product is manufactured at the structural steel plant of EVRAZ ZSMK.

The products of classes GP10, GP15, GP20 and AV600 is intended for use in mining industry including fabrication of screw-type anchoring.



Material and shape specification

Diameter, mm	Class	Chemistry reference document ¹	Technspecs reference document	Supplied lengths, product length, m
16, 20, 22, 25	AV400S, AV-500	TU 144-5254-2017	TU 144-5254-2017	Rods, fixed lengths: 6 to 12, non-fixed lengths
16Y1, 16V	GP10	TU 0932-272-057576/6-2008	TU 0932-272-057576/6-2008	
20Y1, 20V	GP15			
22Y1, 25Y1	GP20			
22	AV600	TU 0932-283-057576/6-2012	TU 0932-283-057576/6-2012	

Note:

1. Steel grades are to be agreed upon with the customer. Manufactured at the mill 250-2.

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 (grouters) 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 flues, machine building rings;
- ball mills SPSn-40-80, SPSn-80-120, SPSn-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:

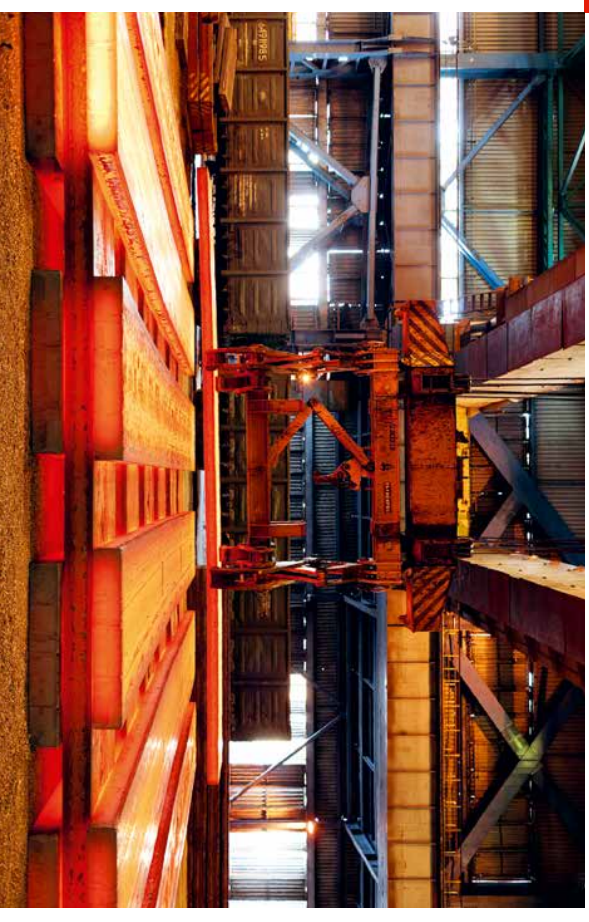
- a breakdown mill (1,250 (square bars, slabs);
- a continuous bar mill (square bars);
- a wire mill 250-t (wire rod, rebars, round bars);
- two light section mills:
 - 250-t (rebars, round bars, angles),
 - 250-2 (rebars, round bars);
- a medium section mill 450 (special interchangeable section type 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.

