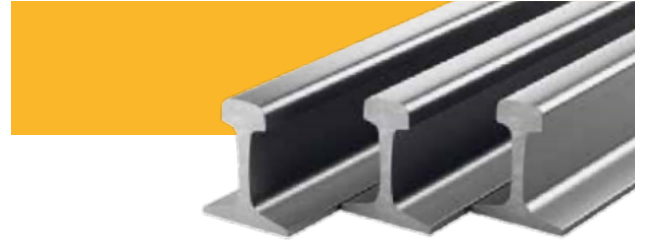




**WAYLAND  
TECHNOLOGIES  
GROUP**

 **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](http://www.waylandtec.com)



# No 1

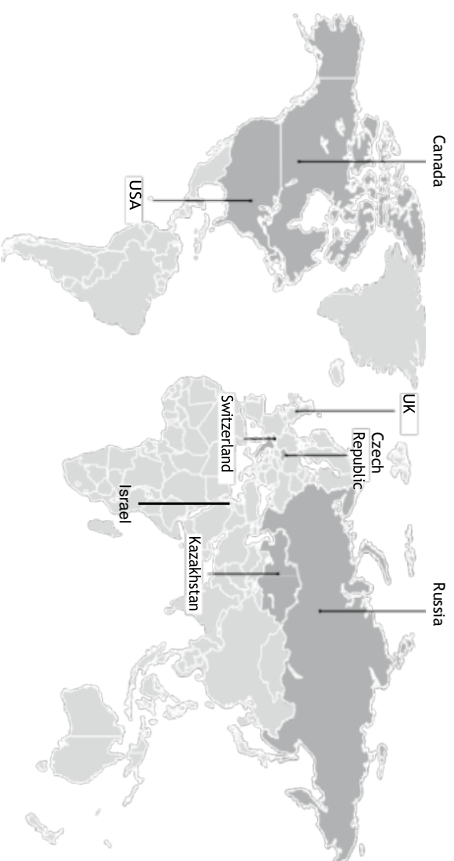
rail manufacturer in the Russian and North American markets

# 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

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

Revenue US\$ million	EBITDA US\$ million	EBITDA margin %	CAPEX <sup>1</sup> US\$ million
<b>9,754</b>	<b>2,212</b>	<b>22.7</b>	<b>657</b>



Steel

**13,630 Kt**



Iron ore products

**14,205 Kt**



Coking coal

**20,653 Kt**



Steel products<sup>2</sup>

**12,768 Kt**



Vanadium slag<sup>3</sup>

**19,533 mtV**

<sup>1</sup> Including payments on deferred terms recognised in financing activities;

<sup>2</sup> Net of re-rolled volumes;

<sup>3</sup> In tonnes of pure vanadium.

# Metalware

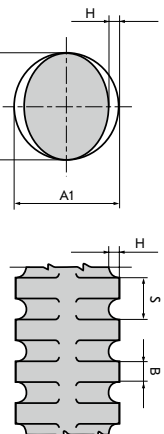
- Cold-worked rebar type V500S by EVRAZ ZSMK is a laureate of the "100 Best Products of Russia" competition.

We come up with  
the best solutions for  
our clients



## Wire

The products are manufactured at EVRAZ ZSMK.



Wire for reinforcement of the reinforced concrete structures

### Wire class VR-1 for reinforcement of the reinforced concrete structures

#### Material and shape specification

Diameter, tolerances, mm	Application	Chemistry and techspecs reference document	Steel grade	Supply conditions
Wire for reinforcement of the reinforced concrete structures class VR-1: Ø 2,5; 2,6; 2,7; 2,8; 3,0; 3,2; 3,3; 3,5; 3,6; 3,7; 3,8; 4,0; 4,2; 4,5; 4,6; 4,7; 4,8; 5,0; 5,5	Intended for reinforcement of the reinforced concrete structures	GOST 6722-90 TU 1213-290-0595/6-2015	Is manufactured of low carbon steel grades S11kp, 11ps, S12kp, S12ps, S13kp and S13ps as per GOST 380-2005	In coils 500 to 1,000 kg; loose

#### Plain wire

#### Material and shape specification

Diameter, tolerances, mm	Application	Chemistry and techspecs reference document	Steel grade	Supply conditions
Low carbon steel wire for general application: 2,2; 2,90; Tolerances: Ø 0,8 - 1,0-0,05; Ø 1,1 + 1,2-0,06; Ø 1,3 + 2,0-0,10; Ø 2,2 + 3,2-0,12; Ø 3,5 + 6,0-0,16; Ø 6,3 to 9,0-0,20	Intended for manufacturing of nails, meshes, fences, bundling and other applications	GOST 3282-74	Manufactured from low carbon grades S11kp, S12kp, S12ps, S13kp and S13ps as per GOST 380-2005	Wire diameter up to 2,0 mm is produced in 60-kg coils and is packed in 10-coil bundles; wire dia. 2,5 to 9,0 mm in 500-to-1,000 kg rectangular bundles, wire dia. 2,5 to 6,0 mm in bundles of 150-450 kg and is tied together in unit loads of 3 coils weighing 500 to 1,000 kg
Cold-heating carbon steel wire: Ø 2,6 to 6,0 Tolerances: Ø 2,6 to 3,0-0,006; Ø 3,0 to 6,0-0,08	Intended for manufacturing of fasteners by cold heading and cold extrusion	GOST 5663-79	Manufactured of steel grade 10, 10kP, 15, 15kP, 20, 20kP as per GOST 1050-2015	As per GOST 5663-79 diameter 2,6 to 5,9 mm in coils up to 100 kg. Diameter 6,0 mm in 1,000-kg coils
Alloy steel welding wire: Ø 0,8; 1,0; 1,2; 1,4; 1,5; 1,6; 2,0; 2,5; 3,0; 4,0; 5,0; Tolerances: Ø 0,8-0,07; Ø 1,0 + 1,5-0,09; Ø 1,6 + 3,0-0,12; Ø 4,0 to 5,0-0,16	Intended for gasshielded welding	GOST 2246-70 TU 1222265-6575/6-2014	Manufactured from steel grades S1-08G2S GOST 2246-70	0,8 to 2,0 mm: in coils of up to 60 kg (21kg) packed in polymeric film 2,5 mm and over: in coils of up to 1,000 kg packed in polymeric film
Low carbon steel wire for electrode making: Ø 1,2 to 6,0 Tolerances: Ø 1,2 - 1,4-0,09; Ø 1,6-0,12; Ø 2,0-0,04; Ø 2,5 + 3,0-0,06; Ø 3,5 to 6,0-0,08	Intended for electrode making	TU 24.341130-299-5/6-2017	Manufactured of steel grades S1-08A as per GOST 2246-70	0,8 to 2,0 mm: in coils of up to 60 kg, 2,5 mm and over: in coils of up to 1,000 kg; packed in polymeric film.

## Cold-worked rolled rebars

The products are manufactured at EVRAZ ZSMK.

#### Material and shape specification

Dimensions (diameter), tolerances, mm	Application	Chemistry reference document	Steel grade	Supply conditions
Class V500S: Ø 5,0; 5,5; 6,0; 6,5; 7,0; 7,5; 8,0; 8,5; 9,0; 10,0	Are intended for reinforcement of concrete elements both as individual rods and as parts of the reinforcement meshes	GOST R 52544-2006 TU 14-1567-2012Z	The products are manufactured of steel grades S1309S as per GOST 380-2005	In coils of up to 2,500 Kg

## Nails

The products are manufactured at EVRAZ ZSMK.

#### Material and shape specification

Dimensions (diameter), tolerances, mm	Chemistry and techspecs reference document	Chemistry reference document, steel grade	Product length, mm	Supply conditions
Clear nails: 1,2 mm; Cone-headed nail: Ø 1,8; 2,0; 2,2; 2,5; 3,0; 3,2; 3,5; 4,0; 4,5; 6,0 Tolerances on the nail length: within d, where d is the nail shank diameter	GOST 4028-63 GOST 283-75	Manufactured of low carbon non-hardened wire group II: GOST 3282-74 and S10 GOST 3282-74 of steel grades S11kp, S12kp, S12ps, S13kp and S13ps as per GOST 380-2005	Ø 1,2-1,6; 2,0; 2,5; Ø 1,8-3,2; Ø 2,0-4,0; Ø 2,5-3,0; 6,0; Ø 3,5-6,0; Ø 4,0-10,0; 7,0; Ø 5,0-1,50;	Corrugated cartons of 5 and 25 kg. A package/unit load is made of cartons with nails stowed on a wooden pallet. The size of the unit load is 1,200×800×1000 mm, weight 1,2 t. The packages are wrapped in stretch film

## Mesh

The products are manufactured at EVRAZ ZSMK.

Steel mesh grid is intended for enclosures, heat insulations, walling in mines and pits, screening of materials.

#### Material and shape specification

Dimensions, tolerances, mm	Chemistry and techspecs reference document	Chemistry reference document, steel grade	Product length, mm	Supply conditions
Mesh size 20 × 20; — wire diameter Ø 2,0; — coil length 1500 (±300); — coil width 1500 (±45); — coil weight 30 kg	GOST 5336-80	Manufactured of low carbon non-hardened wire group II as per GOST 3282-74 of steel grades S11kp, S12kp, S12ps, S13kp as per GOST 380-2005	Mesh size 20 × 20 mm; 15 m; 35 × 35; 45 × 45; 60 × 60 mm; 10 m	In coils of up to 36,6 kg. The unit load is made of 25 coils (mesh size 20) or of 25 coils (mesh size 35; 45; 60)
Mesh size 35 × 35; — wire diameter Ø 2,5; — coil length 1000 (±300); — coil width 1500 (±45); — coil weight 36,6 kg				
Mesh size 45 × 45; — wire diameter Ø 2,5; — coil length 1000 (±300); — coil width 1500 (±45); — coil weight 28 kg				

Single steel mesh grid with square mesh is made of wire dia. 2,0 and 2,5 mm.

# 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 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 m<sup>3</sup>. Blast furnaces №1 and 3: 3,000 m<sup>3</sup>, blast furnace № 2: 2,000 m<sup>3</sup>. 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.

