



PRODUCTION CATALOGUE



www.vmzko.ru



CONTENT

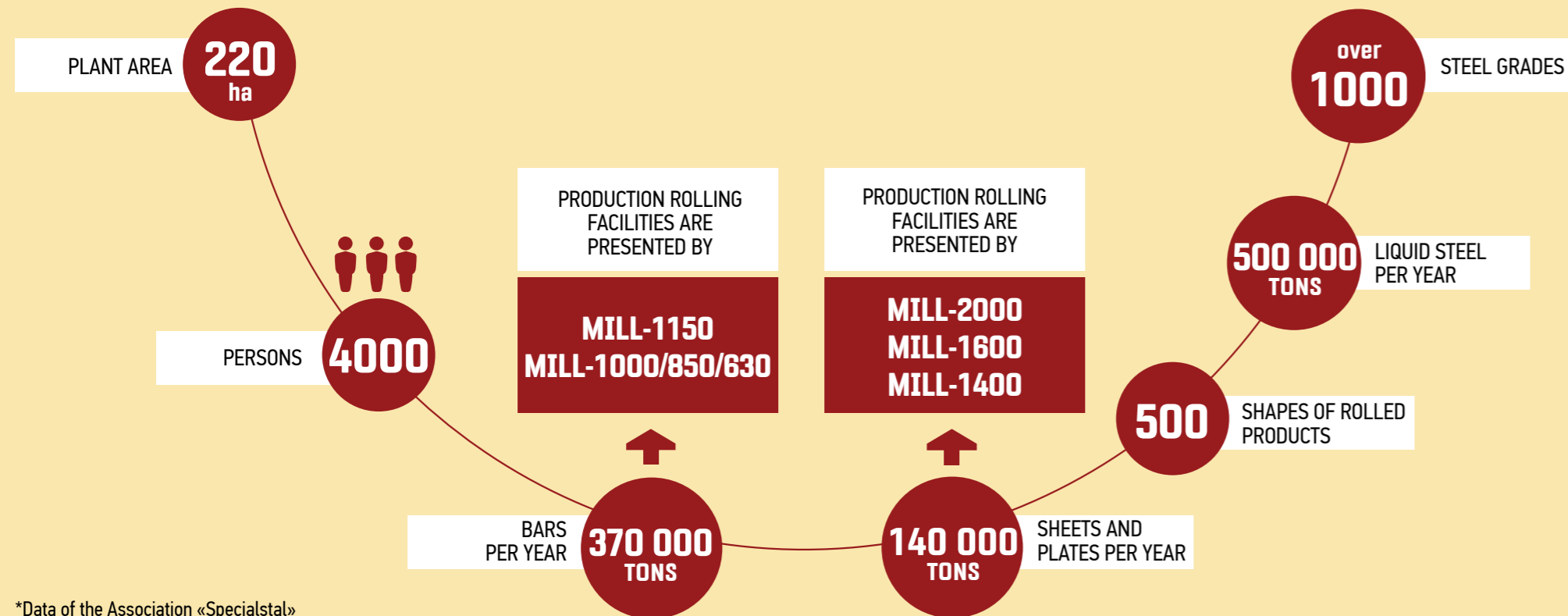
1. About the plant	1
2. Hot rolled round bars	3
3. Tubular billets	9
4. Hot rolled plates	11
5. Hot rolled sheets	15
6. Cold rolled sheets	17
7. Hot rolled square bars (blooms + square billets)	19
8. Forging hammer production	23
9. Packing and marking	24
10. Additional requirements	25
11. Flow sheet of manufacturing of metal products	26

«Krasny oktyabr Corporation» JSC is the largest manufacturer of stainless steel rolled products in Russia*

The metallurgical plant had been established in 1897 by the French joint-stock Ural-Volga Steel Company on the skirts of the town of Tsaritsyn, and in November 1898 the first open-hearth furnace has been put into operation. In the postwar period, the plant obtained its current structure and final specialization in production. The main production facilities were put into operation in the 50's – 70's.

The plant is occupied with constantly updating equipment, purchasing new machines and units as well as improving production technologies. The considerable attention is paid to social policy issues: comfortable working conditions are created, corporate events are held, and the territory adjacent to the plant is landscaped.

Sales Directorate of «Krasny oktyabr Corporation» JSC is carried out the sales of rolled products.



*Data of the Association «Specialstal»

ADVANTAGES OF THE PLANT:

- Convenient economic and geographical location of the region (M-6, M-21, P-228, P-221, A-153 federal roads; North-South transport corridor), transport accessibility (automobile, railway, river and sea transport)
- Proximity to the following ports: Volzhsky commercial port, Kalach river port
- Manufacture of steel grades by means of electroslag remelting
- Heavy billet mill (where it is possible to roll the rounds from 60 to 360 mm in diameter)
- Modern turning machines: PL-370, PL-210
- Production of small batches (from 5 tons)
- Check tests shop
- Testing areas
- Basic Technical University engage in training of personnel: Volgograd State Technical University

Applicable quality management system (QMS) is in accordance with ISO 9001:2015 international standard.
Certificate of conformity with the requirements of standards GOST R ISO 9001-2015 and GOST RV 0015-002-2020 issued by Certification Center "MONOLIT-Cert" and acceptable by Rosoboronzakaz, Rosstandart and «Rosatom» State corporation
Certificate of manufacturer of materials used in construction according to the standards 305/2011/EU (EN 10088-5:2009) and 305/2011/EU (EN 10025-5:2009).
Approval certificate of manufacturer of shipbuilding steel of normal and higher strength as well as corrosion-resistant steel products
Certificate of manufacturer of materials and pressure equipment in compliance with the rules AD 2000-Merkblatt W0 and Directive 2014/68/EU.
Environmental management system (EMS) is in accordance with ISO 14001:2015 international standard.



RANGE OF PRODUCTS	SHAPE		TECHNICAL REQUIREMENTS TO THE CHEMICAL COMPOSITION AND RANGE OF PRODUCTS
	DIAMETER, MM	LENGTH, MM	
Stainless steel	GOST 5632-2014		
	65...200, unturned rounds	2400...6000	Requirements to the geometry: GOST 2590 (B1), hot rolled bars, annealing
			Requirements to the surface quality: GOST 5949 (3ГП)
	65...200, unturned rounds	2400...6000	As agreed by the parties
70...340, turned rounds	3400...6000		
Corrosion- and heat-resistant special purpose steel	70...250, turned rounds	3400...6000	Requirements to the geometry: GOST 2590 (B1), hot rolled bars, quenching
			As agreed by the parties for the rounds over 200 mm in diameter
			Requirements to the surface quality: GOST 5949 (2ГП, 3ГП)
Structural ball-bearing steel	GOST 801-78		
	65...250, unturned rounds	2400...6000	Requirements to the geometry: GOST 2590 (B1), hot rolled bars, annealing
			Requirements to the surface quality: GOST 801 (0Г, 0Х)
	70...250, turned rounds	3400...6000	Requirements to the geometry: GOST 2590 (B1), hot rolled bars, annealing
Requirements to the surface quality: GOST 801 (0Г, 0Х)			
Structural alloy and nickel-containing steel	GOST 4543-2016		
	65...250, unturned rounds	2400...6000	Requirements to the geometry: GOST 2590 (B1), hot rolled bars, annealing
			Requirements to the surface quality: GOST 5949 (2ГП, 3ГП)
	70...340, turned rounds	3400...6000	Requirements to the geometry: GOST 2590 (B1), hot rolled bars, annealing. TU 14-1-2118-98 is applicable for the rounds of 250 mm and over in diameter
			Requirements to the surface quality: GOST 4543 (1ГП, 2ГП, 3ГП)
	GOST 20072-74		
	65...200, unturned rounds	2400...6000	Requirements to the geometry: GOST 2590 (B1), hot rolled bars, annealing
Requirements to the surface quality: GOST 20072 (subgroup a and 6)			
70...200, turned rounds	3400...6000	Requirements to the geometry: GOST 2590 (B1), hot rolled bars, annealing	
		Requirements to the surface quality: GOST 20072 (subgroup a and 6)	

STEEL GRADES	EQUIVALENT FOREIGN STANDARDS	
	European standards (DIN, EN)	US standards (ASTM/AISI)
08X13, 12X13, 20X13, 30X13, 40X13, 08X18H10T, 08X14MΦ, 08X14MΦ-Ш, 40X9C2, 40X10C2M, 14X17H2, 08X22H6T, 15X11MΦ-Ш, 07X16H6-Ш, 13X11H2B2MΦ-Ш, 15X13H2, 08X13H4M1Φ-1	1.4000/X6Cr13, 1.4006/X12Cr13, 1.4021/X20Cr13, 1.4028/X30Cr13, 1.4718/X45CrSi9-3, 1.4031/X39Cr13, 1.4034/X46Cr13, 1.4541/X6CrNiTi18-10, 1.4057/X17CrNi16-2, 1.4731/X40CrSiMo10-2, 1.4571/X6CrNiMoTi17-12-2, 1.4878/X8CrNiTi18-10, 1.4301/X5CrNi18-10, 1.4307/X2CrNi18-9, 1.4310/X10CrNi18-8	420, 410, 431, 321, 316, 316Ti, 304, 304L, 301
06X14H6Д2МБТ-Ш (ЭП 817-Ш), 07X12HMБΦ-Ш (ЭП 609-Ш), 15X12H2MBΦАБ-Ш (ЭП 517-Ш)		
08X18H10T, 08X17H13M2T, 08X17H6T, 10X17H13M2T, 10X17H13M3T, 12X18H10T, 08X22H6T, 08X18H10T-Y, 08X18H10T-Ш, 12X18H12T, 07X16H6-Ш		
ШХ15-В, ШХ15СГ-В, ШХ15-Ш, ШХ20СГ-В	1.2067/102Cr6, 1.3505/100Cr6, 1.3520/100CrMnSi6-4	52100, 2 (A485)
15Г, 20Г, 25Г, 30Г, 35Г, 40Г, 45Г, 50Г, 15ХА, 20Х, 30Х, 35Х, 40Х, 45Х, 50Х, 25ХГМ, 38ХГМ, 18ХГ, 18ХГТ, 25ХГТ, 30ХГТ, 33ХС, 38ХС, 40ХС, 15ХМ, 20ХМ, 30ХМ, 35ХМ, 38ХМ, 40ХМΦА, 12ХН3А, 20ХН3А, 30ХН3А, 15ХГН2ТА, 12Х2Н4А, 20Х2Н4А, 20ХГНМ, 40ХГНМ, 40ХН2МА, 38Х2МЮА, 10Г2, 20ХГР, 30Х3МΦ, 30ХМА, 40ХΦА, 20ХН, 40ХН, 45ХН, 50ХН, 20ХНР, 12ХН2, 20ХГСА, 25ХГСА, 30ХГСА, 35ХГСА, 30ХГС, 30ХГСН2А, 20ХГНР, 20ХГНТР, 19ХГН, 20ХН2М, 38ХН3МА, 18Х2Н4МА, 38ХН3МΦА, 30ХН2МА, 38Х2Н2МА, 40Х2Н2МА, 30ХН2МΦА, 25ХГНМТ	1.6510/39NiCrMo3, 1.7160/16MnCrB5, 1.7147/20MnCr5, 1.7243/18CrMo4, 1.6571/20NiCrMoS6-4, 1.6587/18CrNiMo7-6, 1.6580/30CrNiMo8, 1.1148/C16E, 1.1133/20Mn5, 1.1170/28Mn6, 1.1157/40Mn4, 1.0912/46Mn7, 1.7016/17Cr3, 1.7030/28Cr4, 1.7033/34Cr4, 1.7035/41Cr4, 1.7045/42Cr4, 1.7131/16MnCr5, 1.7337/16CrMo4-4, 1.7255/23CrMo5, 1.7258/24CrMo5, 1.7218/25CrMo4, 1.7216/30CrMo4, 1.7220/34CrMo4, 1.7223/41CrMo4, 1.1109/12Mn5, 1.6563/41NiCrMo7-3-2, 1.7707/30CrMoV9, 1.8519/31CrMoV9, 1.7225/42CrMo4, 1.6582/34CrNiMo6, 1.6565/40NiCrMo6, 1.8509/41CrAlMo7-10, 1.6523/20NiCrMo2-2, 1.5752/15NiCr13, 1.5711/40NiCr6, 1.6657/14NiCrMo13-4	1039, 1046, 1551, 1022, 1525, 1037, 5135, 1513, 4137, 8640, 5145, 1016, 1330, 5115, 5120, 5140, 5130, 4130, 4140, 4142, 4320, 4330, 4340, E3310, 8617, 8620, 8740, 1026, 5150, 6135, 3135
12X1MΦ, 25X1MΦ, 20X3MБΦ, 15X5M, 12MX		

RANGE OF PRODUCTS	SHAPE		TECHNICAL REQUIREMENTS TO THE CHEMICAL COMPOSITION AND RANGE OF PRODUCTS
	DIAMETER, MM	LENGTH, MM	
Structural alloy and nickel-containing steel	GOST 14959-2016		
	65...250, unturned rounds	2400...6000	Requirements to the geometry: GOST 2590 (B1), hot rolled bars, annealing
			Requirements to the surface quality: GOST 14959 (2ГП, 3ГП)
	70...250, turned rounds	3400...6000	Requirements to the geometry: GOST 2590 (B1), hot rolled bars, annealing
			Requirements to the surface quality: GOST 14959 (2ГП, 3ГП)
	GOST 4543-2016		
	65...250, unturned rounds	2400...6000	Requirements to the geometry: GOST 2590 (B1), hot rolled bars, annealing
			Requirements to the surface quality: GOST 4543 (2ГП, 3ГП)
70...340, turned rounds	3400...6000	Requirements to the geometry: GOST 2590 (B1), hot rolled bars, annealing. TU 14-1-2118-98 is applicable for the rounds of 250 mm and over in diameter	
		Requirements to the surface quality: GOST 4543 (1ГП, 2ГП, 3ГП)	
Structural and commercial quality carbon steel	GOST 380-2005		
	65...270, unturned rounds	2400...6000	Requirements to the geometry: GOST 2590 (B1), hot rolled bars, annealing
			Requirements to the surface quality: GOST 535 (2ГП, 3ГП)
	70...340, turned rounds	3400...6000	Requirements to the geometry: GOST 2590 (B1), hot rolled bars and for the rounds over 270 mm in diameter as agreed by the parties, annealing
			Requirements to the surface quality: GOST 535 (1ГП, 2ГП, 3ГП)
	GOST 1050-2013		
	65...340, unturned rounds	2400...6000	Requirements to the geometry: GOST 2590 (B1), hot rolled bars, annealing. TU 14-1-2118-98 is applicable for the rounds of 250 mm and over in diameter
			Requirements to the surface quality: GOST 1050 (2ГП, 3ГП)
70...340, turned rounds	3400...6000	Requirements to the geometry: GOST 2590 (B1), hot rolled bars, annealing. TU 14-1-2118-98 is applicable for the rounds of 250 mm and over in diameter	
		Requirements to the surface quality: GOST 1050 (1ГП, 2ГП, 3ГП)	

STEEL GRADES	EQUIVALENT FOREIGN STANDARDS	
	European standards (DIN, EN)	US standards (ASTM/AISI)
60Г, 65Г, 70Г, 55С2, 55С2А, 60С2, 60С2А, 50ХФА, 50ХГФА, 60С2ХФА	1.1740/C60W, 1.8159/51CrV4, 1.5026/56Si7, 1.1231/C67S	1561, 1566, 1572, 9255, 9260, 6150
45ХН2МФА-Ш, 40ХН2МА-Ш, 38Х2МЮА-Ш, 30ХМА-Ш, 40ХФА-Ш, 40ХС-Ш, 20Х2Н4А-Ш, 38ХН3МА-Ш, 38ХН3МФА-Ш, 25ХГСА-Ш, 30ХГСА-Ш, 12ХН3А-Ш, 20ХН3А-Ш, 18Х2Н4ВА-Ш		
Ст3сп, Ст5сп	1.0037/St 37-2, 1.0050/St 50-2	A570 GR 36, A570 GR 50
10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60	1.1121/C10E, 1.1141/C15E, 1.1151/C22E, 1.1158/C25E, 1.1178/C30E, 1.1181/C35E, 1.1186/C40E, 1.1191/C45E, 1.1206/C50E, 1.1203/C55E, 1.1221/C60E	1010, 1015, 1020, 1025, 1030, 1035, 1040, 1045, 1050, 1055, 1060



RANGE OF PRODUCTS	SHAPE	
	DIAMETER, MM	LENGTH, MM
Structural and commercial quality carbon steel	GOST 14959-2016	
	65...250, unturned rounds	2400...6000
	70...340, turned rounds	3400...6000
	GOST 19281-2014	
	65...270, unturned rounds	2400...6000
	70...340, turned rounds	3400...6000
Tool steel	GOST 1435-99	
	65...270, unturned rounds	2400...6000
	70...270, turned rounds	3400...6000
	GOST 5950-2000	
	65...200, unturned rounds	2400...6000
	70...200, turned rounds	3400...6000

TECHNICAL REQUIREMENTS TO THE CHEMICAL COMPOSITION AND RANGE OF PRODUCTS	STEEL GRADES	EQUIVALENT FOREIGN STANDARDS	
		European standards (DIN, EN)	US standards (ASTM/AISI)
GOST 14959-2016	65, 70, 75, 80, 85	1.1231/C67S, 1.1248/C75S, 1.1269/C85S	1065, 1070, 1075, 1080, 1084
Requirements to the geometry: GOST 2590 (B1), hot rolled bars, annealing			
Requirements to the surface quality: GOST 1050 (2ГП, 3ГП)			
Requirements to the geometry: GOST 2590 (B1), hot rolled bars, annealing. TU 14-1-2118-98 is applicable for the rounds of 250 mm and over in diameter			
Requirements to the surface quality: GOST 14959 (2 ГП, 3 ГП)	09Г2С, 10ХСНД, 15ХСНД, 12ГС, 17ГС		
GOST 19281-2014			
Requirements to the geometry: GOST 2590 (B1), hot rolled and hot rolled heat treated bars. TU 14-1-2118-98 is applicable for the rounds of 250 mm and over in diameter			
Requirements to the surface quality: GOST 535 (2 ГП, 3 ГП)			
Requirements to the geometry: GOST 2590 (B1), hot rolled bars, normalization. For the rounds over 270 mm in diameter as agreed by the parties	У7, У7А, У8, У8А, У9, У9А, У10, У10А, У12, У12А	1.1555/C120U, 1.1620/C70W2, 1.1520/C70U, 1.1625/C80W2, 1.1525/C80U, 1.1535/C90U, 1.1545/C105U, 1.1645/C105W2, 1.1563/C125U	W1, W108, W110, W112
Requirements to the surface quality: GOST 535 (1 ГП, 2 ГП, 3 ГП)			
GOST 1435-99			
Requirements to the geometry: GOST 2590 (B1), hot rolled bars, annealing			
Requirements to the surface quality: GOST 1435 (2 ГП, 3 ГП)	4Х5МФ1С, ХВГ, 4Х5МФС, 4ХМФС, 3Х3М3Ф, 5ХНМ, 6ХВ2С, 9ХФМ, 9ХФ	1.2419/105WCr6, 1.2343/ X38CrMoV5-1, 1.2714/55NiCrMoV7, 1.2365/X32CrMoV33, 1.2344/X40CrMoV5-1, 1.2713/55NiCrMoV6	H13, L6, D3, O2, O1, H11, L2
Requirements to the geometry: GOST 2590 (B1), hot rolled bars, annealing			
Requirements to the surface quality: GOST 5950 (3ГП, 4ГП)			
Requirements to the geometry: GOST 2590 (B1), hot rolled bars, annealing			
Requirements to the surface quality: GOST 5950 (2ГП, 3ГП, 4ГП)			



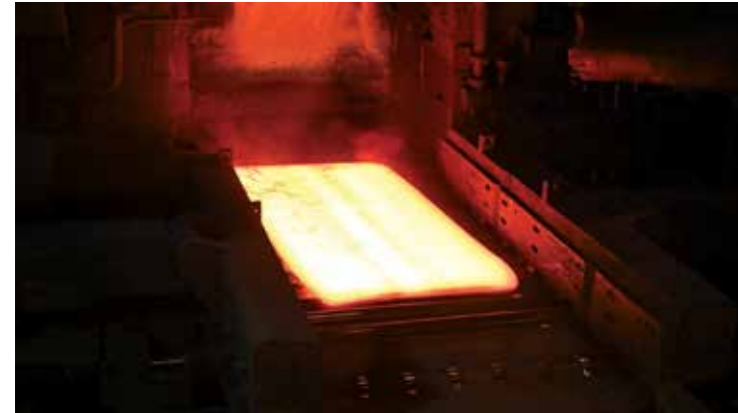
RANGE OF PRODUCTS	SHAPE		
	DIAMETER, MM	LENGTH, MM	
Stainless steel; corrosion- and heat-resistant special purpose steel and alloys	Up to 230	As agreed according to the specifications	
	80...190		
	80...190		
	75...230		
Structural ball-bearing steel	100...230	As agreed according to the specifications	
	70...350	As agreed according to the specifications	
Structural alloy and nickel-containing steel	Up to 270		
	80...270		As agreed according to the specifications
	90...130		As agreed according to the specifications
	80...270		
85, 105, 140...250	As agreed according to the specifications		
Structural and commercial quality carbon steel	70...350	2000...6000	
		3500...6000	
	80...270	As agreed according to the specifications	
	90...150		

TECHNICAL REQUIREMENTS TO THE CHEMICAL COMPOSITION AND RANGE OF PRODUCTS	STEEL GRADES	EQUIVALENT FOREIGN STANDARDS	
		European standards (DIN, EN)	US standards (ASTM/AISI)
TU 14-1-565, GOST 5632	20X13, 12X13, 08X13, 15X25T, 08X18H10, 08X18H10T, 12X18H10T, 10X17H13M2T, 15X13H2, 08X13H4M1Φ-1	1.4000/X6Cr13, 1.4006/X12Cr13, 1.4021/X20Cr13, 1.4541/X6CrNiTi18-10, 1.4571/X6CrNiMoTi17-12-2, 1.4057/X17CrNi16-2, 1.4301/X5CrNi18-10, 1.4306/X2CrNi19-11	304, 321, 410, 420, 304L, 316Ti,
TU 14-1-1529	12X18H12T, 08X14MΦ		
TU 14-1-3183	03X18H11-B		
TU 14-1-790	08X18H10T, 08X17H13M2T, 08X18H12T		
TU 14-1-3911, GOST 801	ШX15-B, ШX15CG-B, ШX15-Ш, ШX20CG	1.3505/100Cr6, 1.3520/100CrMnSi6-4, 1.2067/102Cr6	52100, 2 (A485)
GOST R 53932	36Г2С, 37Г2С		
TU 14-1-1529	15XM, 12X1MΦ, 15X1M1Φ	1.7706/G17CrMoV5-10, 1.7262/15CrMo5	K11562
TU 14-1-3000, GOST 4543	40X, 30XГСА	1.7035/41Cr4	5140
TU 14-1-564, GOST 4543	38X2MЮA, 38X2MЮA-Ш	1.8509/41CrAlMo7-10	K24065
TU 14-1-583, GOST 20072	15X5M, 15X5M-Ш		501
TU 14-1-3000, GOST 4543, GOST 11268	12XH3A, 30XГCH2A, 12X2HBΦA (ЭИ 712), 26X2HBMБP (KBK 26), 32X2HBMБP (KBK 32)	1.5752/15NiCr13	3415
TU 14-1-5.17, GOST 4543	40XH2MA-Ш	1.6511/34CrNiMo4	4340
TU 14-1-5300	38X3MΦA, 38X3MΦA-Ш		
TU 14-1-584	18XГ, 30XMA, 15XΦ, 14XГC	1.7131/16MnCr5, 1.7218/25CrMo4	5115, 4130
TU 14-1-4230	07X3ГHМЮA		
As agreed, GOST R 53932-2010, GOST 380, GOST 1050, GOST 14959, GOST 19281, GOST 4543	Ст3сп, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 70, 09Г2С, 10XCHД, 12Г2A	1.0037/St 37-2, 1.1121/C10E, 1.1141/C15E, 1.1151/C22E, 1.1158/C25E, 1.1178/C30E, 1.1181/C35E, 1.1186/C40E, 1.1191/C45E, 1.1206/C50E, 1.1203/C55E, 1.1221/C60E, 1.0045/S355JR, 1.1231/C67S	A570 GR 36, 1010, 1015, 1020, 1025, 1030, 1035, 1040, 1045, 1050, 1055, 1060, 1070
TU 14-1-584, TU 14-1-1529	20	1.1151/C22E	1020
TU 14-1-3000	20, 35, 45	1.1151/C22E, 1.1181/C35E, 1.1191/C45E	1020, 1035, 1045
TU 14-1-1076, GOST 1050	30	1.1178/C30E	1030
TU 14-1-4179	20ЮЧ		

RANGE OF PRODUCTS	SHAPE			TECHNICAL REQUIREMENTS TO THE CHEMICAL COMPOSITION AND RANGE OF PRODUCTS
	THICKNESS, MM	WIDTH, MM	LENGTH, MM	
Stainless steel	4...30	1000...1500	3000...6000	GOST 7350, GOST 5632
	30...40	1000...1300	2000...4000	
	40...50	600...1100	1500...3000	As agreed, GOST 5632
	50...100	600...1100	1500...3000	
Corrosion- and heat-resistant special purpose steel and alloys	5...20	1000...1500	3000...6000	TU 14-1-625, GOST 5632
	4...30	1000...1500	3000...6000	As agreed, GOST 5632
	30...40	1000...1300	2000...4000	
	4...30	1000...1500	3000...6000	GOST 7350, GOST 5632
	30...40	1000...1300	2000...4000	
	40...50	600...1100	1500...3000	
	50...100	600...1100	1500...3000	As agreed, GOST 5632
	5...60	600...1500	1500...6000	As agreed
Steel and alloys with the special properties	4...30	1000...1500	3000...6000	As agreed
	30...40	1000...1300	2000...4000	
	40...100	600...1100	1500...3000	

Thickness tolerance is +3,0/-1,0 for the plates of 40 mm and over in thickness

STEEL GRADES	EQUIVALENT FOREIGN STANDARDS	
	European standards (DIN, EN)	US standards (ASTM/AISI)
08X13, 12X17, 08X17T, 14X17H2, 20X13		
XH32T		
XH38BT		
XH78T	1.4000/X6Cr13, 1.4021/X20Cr13, 1.4016/X6Cr17, 1.4510/X3CrTi17, 1.4057/X17CrNi16-2, 1.4306/X2CrNi19-11, 1.4541/X6CrNiTi18-10, 1.4301/X5CrNi18-10, 1.4307/X2CrNi18-9, 1.4310/X10CrNi18-8, 1.4435/X2CrNiMo18-14-3, 1.4571/X6CrNiMoTi17-12-2, 1.4878/X8CrNiTi18-10	310, 316L, 410S, 410, 420, 321, 316Ti, 304, 304L, 430, 439, 329
XH60BT		
15X25T, 08X21H6M2T, 09X16H4Б, 03X18H11, 03X17H14M3, 04X18H10, 08X18H10, 08X18H10T, 12X21H5T, 20X23H13, 20X23H18, 10X17H13M2T, 10X14Г14H4T, 10X17H13M3T, 08X17H13M2T, 12X18H9, 12X18H9T, 12X18H10T, 12X18H12T, 17X18H9, 07X16H6, 08X22H6T, 06XH28MДT		
12X18H10T-Ш, 09X16H4Б-Ш, 12X21H5T-Ш, 11X11H2B2MΦ-Ш		
45Г17Ю3		



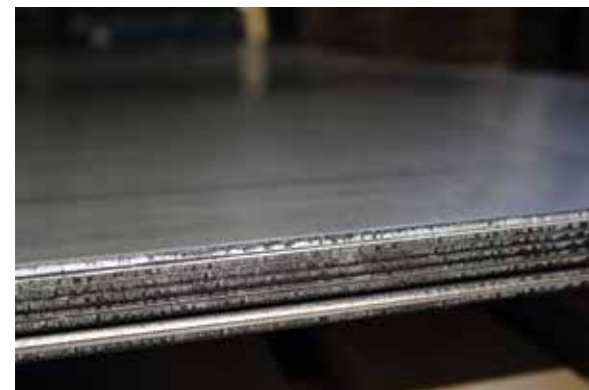
RANGE OF PRODUCTS	SHAPE		
	THICKNESS, MM	WIDTH, MM	LENGTH, MM
Structural alloy and nickel-containing steel	4...30	1000...1500	3000...6000
	30...40	1000...1300	2000...5000
	40...100	600...1250	2000...4500
Tool steel	4...30	1000...1500	3000...6000
	30...40	1000...1300	2000...5000
	4...30	1000...1500	3000...6000
	30...40	1000...1300	2000...5000
	40...100	600...1250	2000...4500
Structural and commercial quality carbon steel	4...30	1000...1500	3000...6000
	30...40	1000...1300	2000...5000
	40...100	600...1250	2000...4500
	4...30	1000...1500	3000...6000
	30...40	1000...1300	2000...5000
	40...100	600...1250	2000...4500
	6...7	1000...1500	3000...6000
	20...40	1000...1300	2000...5000

TECHNICAL REQUIREMENTS TO THE CHEMICAL COMPOSITION AND RANGE OF PRODUCTS	STEEL GRADES	EQUIVALENT FOREIGN STANDARDS	
		European standards (DIN, EN)	US standards (ASTM/AISI)
GOST 1577, GOST 4543	20X, 30X, 40X, 45X	1.7016/17Cr3, 1.7030/28Cr4, 1.7035/41Cr4, 1.7045/42Cr4	5120, 5130, 5140, 5145
GOST 1577, GOST 14959	65Г	1.1231/C67S	1566
GOST 11269, GOST 4543	30XГСА		
As agreed, TU 14-1-3370	07X3ГНМЮА		
TU 14-1-702	20X3МВФ (ЭИ 415)		
TU 14-1-1409, GOST 4543	12XH3A, 12X2H4A	1.5752/15NiCr13	3415
TU 14-1-518	12XH, 20XГНМ, 40XГНМ	1.6523/20NiCrMo2-2, 1.6510/39NiCrMo3	8620, 8640
As agreed, GOST 4543, TU 14-1-1236	45XH2МФА-Ш, 32X2HBMБP-Ш (КВК-32Ш)		
As agreed, GOST 4543	18XГ, 18XГТ, 25XГТ, 30XГТ	1.7131/16MnCr5	5115
GOST 7350, GOST 20072	15X5M		501
GOST 5520	12XM, 12X1MФ		
GOST 1577, GOST 4543	20X, 30X, 40X, 45X	1.7016/17Cr3, 1.7030/28Cr4, 1.7035/41Cr4, 1.7045/42Cr4	5120, 5130, 5140, 5145
GOST 11269, GOST 4543	30XГСА		
GOST 1577, GOST 4543	20X, 30X, 40X, 45X	1.7016/17Cr3, 1.7030/28Cr4, 1.7035/41Cr4, 1.7045/42Cr4	5120, 5130, 5140, 5145
As agreed, GOST 1435	У7, У7А, У8А, У10А	1.1620/C70W2, 1.1520/C70U, 1.1625/C80W2, 1.1645/C105W2	W1, W108, W110, W112
As agreed, GOST 5950	ХВГ, 6ХС, 9ХС, 6ХВ2С, 9ХФМ, 9ХФ		
GOST 1577, GOST 1050	10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60	1.1121/C10E, 1.1141/C15E, 1.1151/C22E, 1.1158/C25E, 1.1178/C30E, 1.1181/C35E, 1.1186/C40E, 1.1191/C45E, 1.1206/C50E, 1.1203/C55E, 1.1221/C60E	1010, 1015, 1020, 1025, 1030, 1035, 1040, 1045, 1050, 1055, 1060
GOST 14637, GOST 380	Cr3cn	1.0037/St 37-2	A570 GR 36
TU 14-1-2650	85-Ш		
GOST 5520	20K	1.1151/C22E	1020
As agreed, GOST 19281	09Г2С, 10ХСНД, 15ХСНД, 16ГС, 17ГС, 16Г2АФ		



RANGE OF PRODUCTS	SHAPE		
	THICKNESS, MM	WIDTH, MM	LENGTH, MM
Stainless steel	2...3,9	800...1000	1600...2000
Corrosion- and heat-resistant special purpose steel and alloys	2...3,9	800...1000	1600...2000
	2...3,9	800...1000	1600...2000
Structural alloy and nickel-containing steel	2...3,9	800...1000	1600...2000
Tool steel	2...3,9	800...1000	1600...2000
Structural and commercial quality carbon steel	2...3,9	800...1000	1600...2000

TECHNICAL REQUIREMENTS TO THE CHEMICAL COMPOSITION AND RANGE OF PRODUCTS	STEEL GRADES	EQUIVALENT FOREIGN STANDARDS	
		European standards (DIN, EN)	US standards (ASTM/AISI)
GOST 5582, GOST 5632	08X13, 12X17, 08X17T, 20X13, 30X13, 40X13, 14X17H2		
As agreed, GOST 5632	XH32T, XH38BT, XH78T, XH60BT		
GOST 5582, GOST 5632	15X25T, 08X21H6M2T, 09X16H4E, 03X18H11, 03X17H14M3, 08X18H10, 08X18H10T, 12X21H5T, 20X23H13, 20X23H18, 10X17H13M2T, 10X14Г14H4T, 10X17H13M3T, 12X18H9, 12X18H10T, 17X18H9, 07X16H6, 08X22H6T, 06XH28MДT		1.4000/X6Cr13, 1.4021/X20Cr13, 1.4028/X30Cr13, 1.4016/X6Cr17, 1.4510/X3CrTi17, 1.4057/X17CrNi16-2, 1.4306/X2CrNi19-11, 1.4541/X6CrNiTi18-10, 1.4301/X5CrNi18-10, 1.4307/X2CrNi18-9, 1.4310/X10CrNi18-8, 1.4031/X39Cr13, 1.4510/X3CrTi17, 1.4435/X2CrNiMo18-14-3, 1.4571/X6CrNiMoTi17-12-2
TU 14-1-4118, GOST 4543	20X, 30X, 35X, 40X	1.7016/17Cr3, 1.7030/28Cr4, 1.7033/34Cr4, 1.7035/41Cr4	5120, 5130, 5135, 5140
TU 14-1-4118, GOST 14959	65Г	1.1231/C67S	1566
GOST 11268	25XГСА, 30XГСА		
As agreed by the parties, GOST 4543	12XH, 20XГНМ, 40XГНМ	1.6523/20NiCrMo2-2, 1.6510/39NiCrMo3	8620, 8640
As agreed by the parties, TU 14-1-702	12XH3A, 12X2H4A	1.5752/15NiCr13	3415
As agreed by the parties, TU 14-1-3370	20X3МВФ (3И 415)		
As agreed by the parties, GOST 5520	07X3ГНМЮА		
As agreed by the parties, GOST 5520	12XM		
As agreed by the parties, TU 14-1-687, TU 14-1-1409, GOST 11268	12X1MФ, 12X2HBФA, 50XГФA, 60C2A, 60C2, 65C2BA	1.5027/60Si7, 1.8159/51CrV4	6150, 9260
TU 14-1-776, GOST 1435	У7, У7А, У8А, У10А	1.1620/C70W2, 1.1520/C70U, 1.1625/C80W2, 1.1645/C105W2	W1, W108, W110
As agreed by the parties, GOST 5950	ХВГ, 6XC, 5XHM	1.2419/105WCr6, 1.2713/55NiCrMoV6	
As agreed by the parties, TU 14-1-795	9XФM, 9XФ		
GOST 16523 (group IV), GOST 380	Cr3cn	1.0037/St 37-2	A570 GR 36
GOST 16523 (group IV), GOST 1050	10, 15, 20, 25, 30, 35, 40, 45, 50	1.1121/C10E, 1.1141/C15E, 1.1151/C22E, 1.1158/C25E, 1.1178/C30E, 1.1181/C35E, 1.1186/C40E, 1.1191/C45E, 1.1206/C50E,	1010, 1015, 1020, 1025, 1030, 1035, 1040, 1045, 1050
As agreed by the parties, GOST 5520	20K	1.1151/C22E	1020
As agreed by the parties, GOST 19281	09Г2С, 10XCHД, 15XCHД, 16ГС, 17ГС, 16Г2AФ	1.0045/S355JR, 1.0570/St52-3	



RANGE OF PRODUCTS	SHAPE		
	THICKNESS, MM	WIDTH, MM	LENGTH, MM
Corrosion- and heat-resistant special purpose steel and alloys	0,8-3,5	700-1000	1000-2000
Structural alloy steel	0,8-3,5	700-1000	1000-2000

TECHNICAL REQUIREMENTS TO THE CHEMICAL COMPOSITION AND RANGE OF PRODUCTS	STEEL GRADES	EQUIVALENT FOREIGN STANDARDS	
		European standards (DIN, EN)	US standards (ASTM/AISI)
GOST 19904	08X18H10, 08X18H10T, 12X18H9, 12X18H9T, 10X17H13M2T(ЭИ448) 12X18H10T, 12X18H12T, 07X16H6(ЭП288), ХН78Т(ЭИ435), ХН35ВТ(ЭИ612), ХН38ВТ(ЭИ703), ХН60ВТ(ЭИ868), ХН45МВТЮБР-ИД (ЭП 718-ИД), ХН50ВМТЮБ-ВИ (ЭП648-ВИ), ХН62ВМЮТ-ВД (ЭП708-ВД)	1.4541/X6CrNiTi18-10, 1.4301/X5CrNi18-10, 1.4307/X2CrNi18-9, 1.4310/X10CrNi18-8	410S, 410, 420, 321, 316Ti, 304, 304L, 430, 439, 329
GOST 19904	12X2HВФА (ЭИ 712), 32X2HВМБР-Ш (КВК-32Ш)		

HOT ROLLED SQUARE BARS (BLOOMS + SQUARE BILLETS)



RANGE OF PRODUCTS	SHAPE		TECHNICAL REQUIREMENTS TO THE CHEMICAL COMPOSITION AND RANGE OF PRODUCTS
	DIMENSIONS, MM	LENGTH, MM	
Stainless steel	200...360x200...360	2000...6000	TU 14-1-4492-19 (1ГП, 2ГП), GOST 5632-2014
Corrosion- and heat-resistant special purpose steel	200...360x200...360	2000...6000	As agreed by the parties
	200...360x200...360	2000...6000	TU 14-1-4492-19 (1ГП, 2ГП), GOST 5632-2014
Structural ball-bearing steel	200...360x200...360	2000...6000	TU 14-1-4492-19 (1ГП, 2ГП), GOST 801-78
Structural alloy and nickel-containing steel	200...360 x 200...360	2000...6000	TU 14-1-4492-19 (1ГП, 2ГП), GOST 4543-2016
Square billets	100, 120, 125, 130, 140, 160	2000 ... 4000	TU 14-1-4492-19 (1ГП, 2ГП), the chemical composition is as agreed by the parties

STEEL GRADES	EQUIVALENT FOREIGN STANDARDS	
	European standards (DIN, EN)	US standards (ASTM/AISI)
08X13, 12X13, 20X13, 30X13, 40X13, 08X14MΦ, 08X14MΦ-Ш, 40X9C2, 40X10C2M, 14X17H2, 15X11MΦ-Ш, 13X11H2B2MΦ-Ш (ЭИ 961-Ш)	1.4000/X6Cr13, 1.4006/X12Cr13, 1.4021/X20Cr13, 1.4028/X30Cr13, 1.4718/X45CrSi9-3, 1.4031/X39Cr13, 1.4034/X46Cr13, 1.4541/X6CrNiTi18-10, 1.4057/X17CrNi16-2, 1.4731/X40CrSiMo10-2, 1.4571/X6CrNiMoTi17-12-2, 1.4878/X8CrNiTi18-10, 1.4301/X5CrNi18-10, 1.4307/X2CrNi18-9, 1.4310/X10CrNi18-8	420, 410, 431, 321, 316Ti, 304, 304L, 301, 316
06X14H6Д2МБТ-Ш (ЭП 817-Ш), 07X12HMБФ-Ш (ЭП 609-Ш), 15X12H2MBΦАБ-Ш (ЭП 517-Ш)		
08X18H10T, 08X17H13M2T, 08X17H6T, 10X17H13M2T, 10X17H13M3T, 12X18H10T, 08X22H6T, 07X16H6-Ш		
ШХ15-В, ШХ15СГ-В	1.2067/102Cr6, 1.3505/100Cr6, 1.3520/100CrMnSi6-4	52100, 2 (A485)
15Г, 20Г, 25Г, 30Г, 35Г, 40Г, 45Г, 50Г, 15ХА, 20Х, 30Х, 35Х, 40Х, 45Х, 50Х, 25ХГМ, 38ХГМ, 18ХГ, 18ХГТ, 25ХГТ, 30ХГТ, 33ХС, 38ХС, 40ХС, 15ХМ, 20ХМ, 30ХМ, 35ХМ, 38ХМ, 40ХМΦА, 12ХН3А, 20ХН3А, 30ХН3А, 15ХГН2ТА, 12Х2Н4А, 20Х2Н4А, 20ХГНМ, 40ХГНМ, 40ХН2МА, 38Х2МΦА, 10Г2, 20ХГР, 30Х3МΦ, 30ХМА, 40ХΦА, 20ХН, 40ХН, 45ХН, 50ХН, 20ХНР, 12ХН2, 20ХГСА, 25ХГСА, 30ХГСА, 35ХГСА, 30ХГС, 30ХГСН2А, 20ХГНР, 20ХГНТР, 19ХГН, 20ХН2М, 38ХН3МА, 18Х2Н4МА, 38ХН3МΦА, 30ХН2МА, 38Х2Н2МА, 40Х2Н2МА, 30ХН2МΦА, 25ХГНМТ	1.6510/39NiCrMo3, 1.7160/16MnCrB5, 1.7147/20MnCr5, 1.7243/18CrMo4, 1.6571/20NiCrMoS6-4, 1.6587/18CrNiMo7-6, 1.6580/30CrNiMo8, 1.1148/C16E, 1.1133/20Mn5, 1.1170/28Mn6, 1.1157/40Mn4, 1.0912/46Mn7, 1.7016/17Cr3, 1.7030/28Cr4, 1.7033/34Cr4, 1.7035/41Cr4, 1.7045/42Cr4, 1.7131/16MnCr5, 1.7337/16CrMo4-4, 1.7255/23CrMo5, 1.7258/24CrMo5, 1.7218/25CrMo4, 1.7216/30CrMo4, 1.7220/34CrMo4, 1.7223/41CrMo4, 1.1109/12Mn5, 1.6563/41NiCrMo7-3-2, 1.7707/30CrMoV9, 1.8519/31CrMoV9, 1.7225/42CrMo4, 1.6582/34CrNiMo6, 1.6565/40NiCrMo6, 1.8509/41CrAlMo7-10, 1.6523/20NiCrMo2-2, 1.5752/15NiCr13, 1.5711/40NiCr6, 1.6657/14NiCrMo13-4	1039, 1046, 1551, 1022, 1525, 1037, 1513, 4137, 5135, 5145, 8640, 1016, 1330, 5115, 5120, 5140, 5130, 4130, 4140, 4142, 4320, 4330, 4340, E3310, 8617, 8620, 8740, 1026, 5150, 6135, 3135

HOT ROLLED SQUARE BARS (BLOOMS + SQUARE BILLETS)

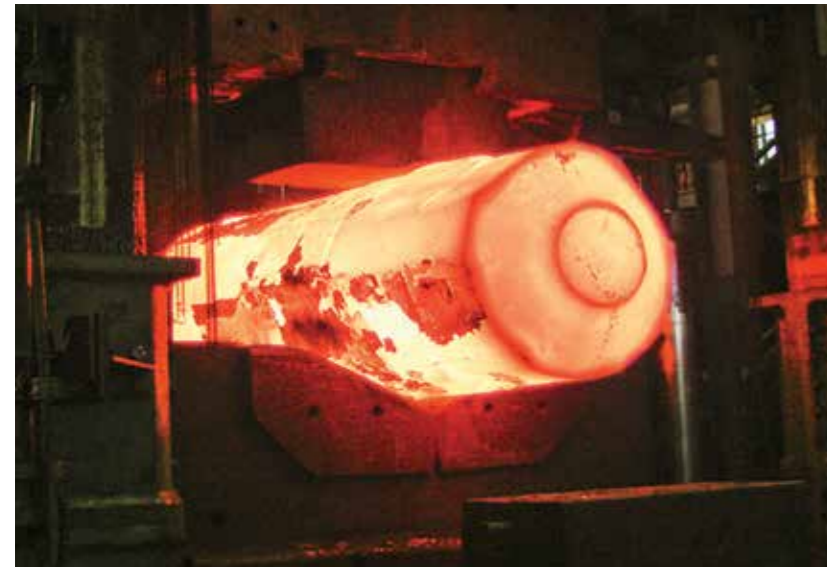


RANGE OF PRODUCTS	SHAPE	
	DIMENSIONS, MM	LENGTH, MM
Structural alloy and nickel-containing steel	200...360 x 200...360	2000...6000
	200...360 x 200...360	2000...6000
	200...360 x 200...360	2000...6000
	200...360 x 200...360	2000...6000
Structural and commercial quality carbon steel	200...360 x 200...360	2000...6000
	200...360 x 200...360	2000...6000
	200...360 x 200...360	2000...6000
	200...360 x 200...360	2000...6000
Tool steel	200...360x200...360	2000...6000
		2000...6000

TECHNICAL REQUIREMENTS TO THE CHEMICAL COMPOSITION AND RANGE OF PRODUCTS	STEEL GRADES	EQUIVALENT FOREIGN STANDARDS	
		European standards (DIN, EN)	US standards (ASTM/AISI)
TU 14-1-4492-19, group 1ГП, 2ГП, GOST 20072-74	12X1MΦ, 25X1MΦ, 20X3MБΦ, 15X5M, 12MX	1.7366/X16CrMo5-1	
TU 14-1-4492-19, group 1ГП, 2ГП, GOST 14959-2016	50XΦA, 60Г, 65Г, 70Г, 55C2, 55C2A, 60C2, 60C2A, 50XΦA, 60C2XΦA	1.8159/51CrV4, 1.1740/C60W, 1.5026/56Si7, 1.1231/C67S	9255, 9260, 6150, 1561, 1566, 1572
TU 14-1-4492-19, group 1ГП, 2ГП, GOST 4543-16	45XH2MΦA-Ш, 40XH2MA-Ш, 38X2MЮA-Ш, 30XMA-Ш, 40XΦA-Ш, 40XC-Ш, 20X2H4A-Ш, 38XH3MA-Ш, 38XH3MΦA-Ш, 25XГCA-Ш, 30XГCA-Ш, 12XH3A-Ш, 20XH3A-Ш, 18X2H4BA-Ш		
As agreed by the parties	14X2H3MA, 07X3ГHМЮA, 60XΦA-Ш, 16X3HБΦMБ-Ш (ДИЗ9-Ш)		
TU 14-1-4492-19, group 1ГП, 2ГП, GOST 380-2005	Ст3сп, Ст5сп	1.0037/St 37-2, 1.0050/ St 50-2	A570 GR 36, A570 GR 50
TU 14-1-4492-19, group 1ГП, 2ГП, GOST 1050-2013	10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60	1.1121/C10E, 1.1141/C15E, 1.1151/C22E, 1.1158/C25E, 1.1178/C30E, 1.1181/C35E, 1.1186/C40E, 1.1191/C45E, 1.1206/C50E, 1.1203/C55E, 1.1221/C60E	1010, 1015, 1020, 1025, 1030, 1035, 1040, 1045, 1050, 1055, 1060
TU 14-1-4492-19, group 1ГП, 2ГП, GOST 14959-2016	65, 70, 75, 80, 85	1.1231/C67S, 1.1248/C75S, 1.1269/C85S	1065, 1070, 1075, 1080, 1084
TU 14-1-4492-19, group 1ГП, 2ГП, GOST 19281-2014	09Г2С, 10XCHД, 15XCHД, 12ГС, 17ГС		
TU 14-1-4492-19, group 1ГП, 2ГП, GOST 1435-99	У7, У7А, У8, У8А, У9, У9А, У10, У10А, У12, У12А	1.1620/C70W2, 1.1520/C70U, 1.1625/C80W2, 1.1525/C80U, 1.1535/C90U, 1.1545/C105U, 1.1645/C105W2, 1.1563/C125U, 1.1555/C120U	W1, W108, W110, W112
TU 14-1-4492-19, group 1ГП, 2ГП, GOST 5950-2000	4X5MΦ1C, ХВГ, 4X5MΦC, 4XMΦC, 3X3M3Φ, 5XHM, 6XB2C, 9XΦM, 9XΦ	1.2365/X32CrMoV33, 1.2344/X40CrMoV5-1, 1.2713/55NiCrMoV6, 1.2419/105WCr6, 1.2343/X38CrMoV5-1, 1.2714/55NiCrMoV7	H13, L6, D3, O2, O1, H11, L2

FORGING HAMMER PRODUCTION

At forging hammer shop it is possible to manufacture the round billets using forging hammers.



STEEL GRADES TO BE USED

RANGE OF PRODUCTS	STEEL GRADES
Low-alloy steel	09Г2С
	S355J2
Structural carbon steel	20-45
	C45E
Structural alloy steel	20X-40X
	20-30XГСА
	15XM
	16-20MnCrS5
	14-20MΠСГ5
	42CrMoS4
	Nickel-containing alloy steel
	20X2H4A
	0XH1M
	0XH3M
	30X2M10A
	45XH2MΦ
	34CrNiMo6
	17NiCrMoS6-4
	18CrNiMo7-6
	00CrNiMo0
	39NiCrMo3
Stainless steel	30X13
	14X17H2
	12X18H9T
	304/1.4301

PACKING AND MARKING

Rolled products are packed and marked in accordance with the requirements of standards and specifications as well as orders and contracts.

DEPENDING ON THE TYPE OF ROLLED PRODUCTS THE SHAPE OF BUNDLE OR PACKAGE MAY BE AS:

round;
triangle;
rectangle.

EACH BUNDLE OR PACKAGE IS SECURED WITH:

steel strip (for sheets and plates);
wire of 6–7 mm in diameter (for bars);
two-sided strapping with corrosion-resistant packing band using two synthetic ropes (for ground rolled products).

PRESERVATION:

liquid preservation composition based on industrial oil with addition of inhibitors.

PACKING:

wrapping with water-repellent paper or polyethylene film;
each sheet or plate is laid using package liners.

- with wire strapping every 2-3 metres;
- with laying of polyethylene film under strapping for stainless steel products.

Two labels with the following information are attached to each bundle or package of bars, sheets and plates intended for export:

RED OCTOBER	Krasny oktyabr
RUSSIA	Russia
C №	contract number
COUNTRY	country of destination
SIZE	dimensions
GRADE	steel grade
HEAT	heat number
LOT	lot (specification) number
PIECES	number
WEIGHT/MT	weight in metric tons (kilograms).

ADDITIONAL REQUIREMENTS



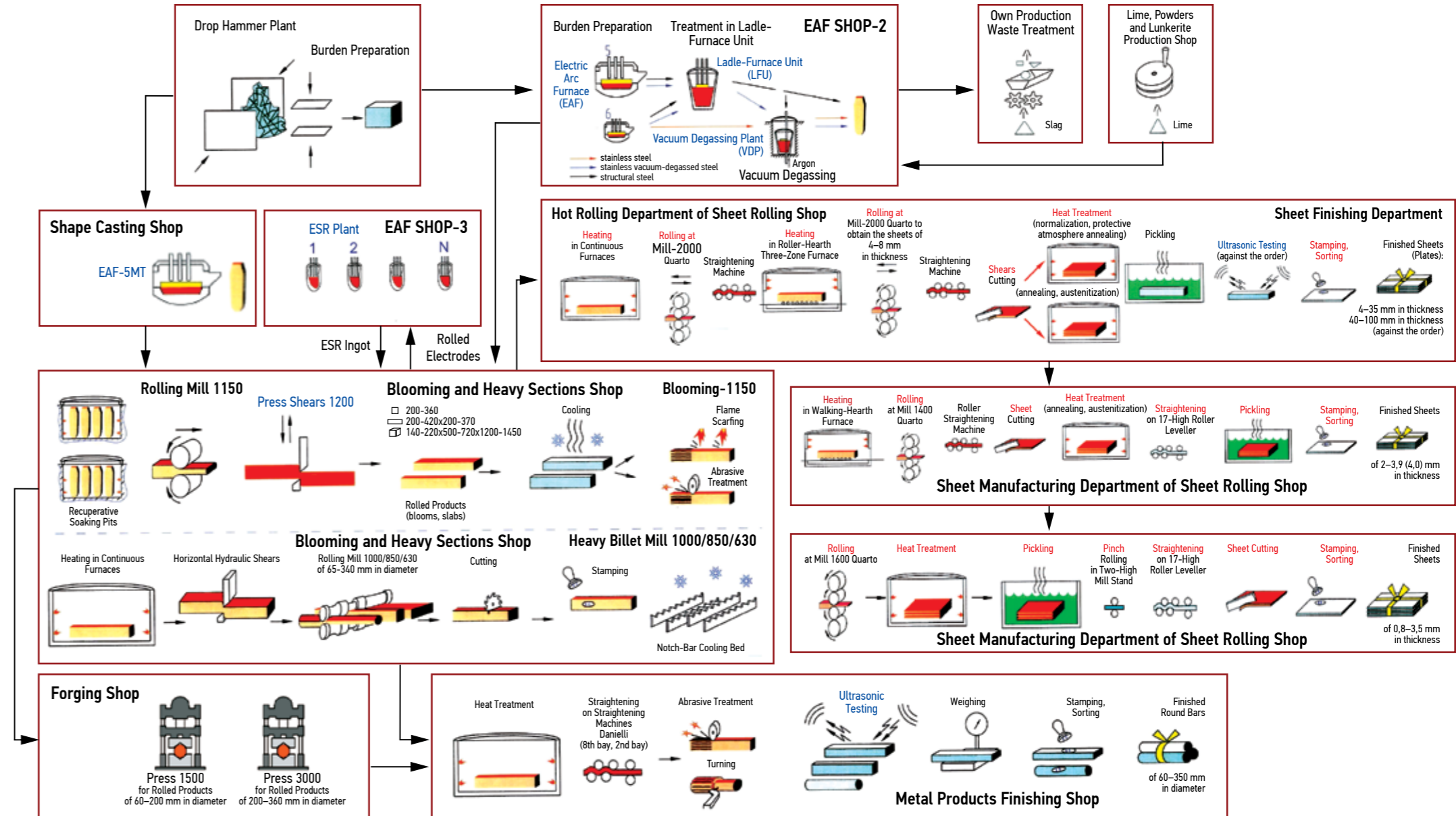
By the customer's request the rolled products may be manufactured according to the requirements other than the applicable standards and specifications or in addition to them as follows:

- restricted limits for carbon and alloying elements;
- setting limits for hardness, mechanical properties, non-metallic inclusions and other characteristics not specified in the standards and specifications;
- pickling of sheets and plates;
- ultrasonic testing of internal defects for the turned round bars as well as sheets and plates clean from scale together with the examination of properties according to the procedures of international standards:
- grain size ASTME112;
- non-metallic inclusions ASTM E45 (method A);
- macrostructure ASTM E381;
- ultrasonic testing of internal defects SEP 1921
- and etc..

Special requirements are drawn up by technical agreements or specifications agreed on the basis of technical protocol when concluding the contract. As agreed with the customer the rounds of 70–340 mm in diameter may be supplied after grinding up to the surface roughness $Ra \leq 6,3 \mu m$.

By the customer's request the rolled products may be supplied in heat treated condition (after tempering, annealing, normalization, quenching + tempering).

FLOW SHEET OF MANUFACTURING OF METAL PRODUCTS



Krasny oktyabr Corporation, JSC

Russian Federation

400007, Volgograd, Lenina Av., 110

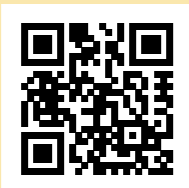
Phone: +7 (8442) 74-87-77 (Information Office)

+7 800-301-3335 (Sales Directorate)

Fax: +7 (8442) 74-84-88

E-mail: sales@vmzko.ru

www.vmzko.ru



@red_october_volgograd



@redoctober_volgograd



