Uralcem

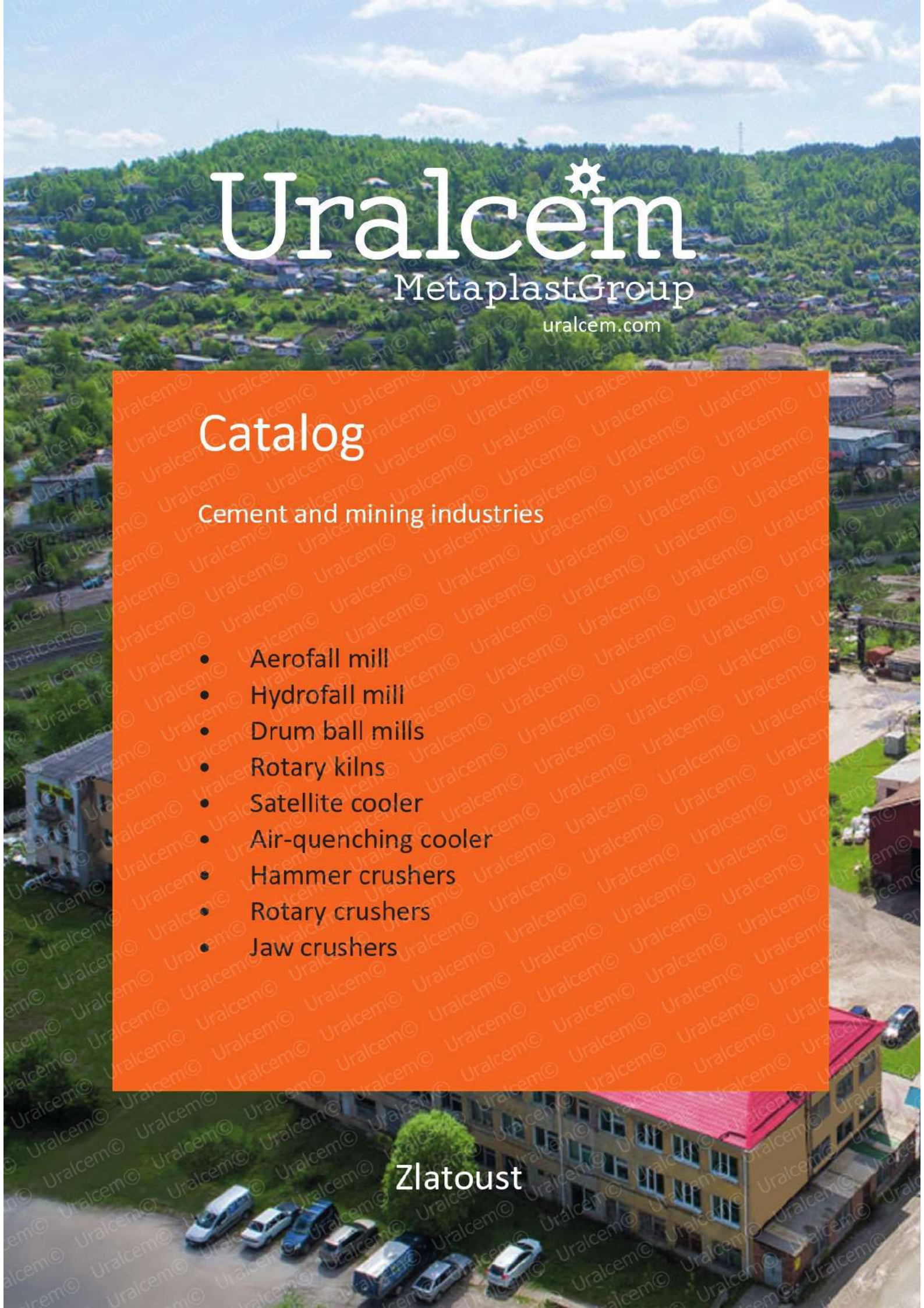
MetaplastGroup

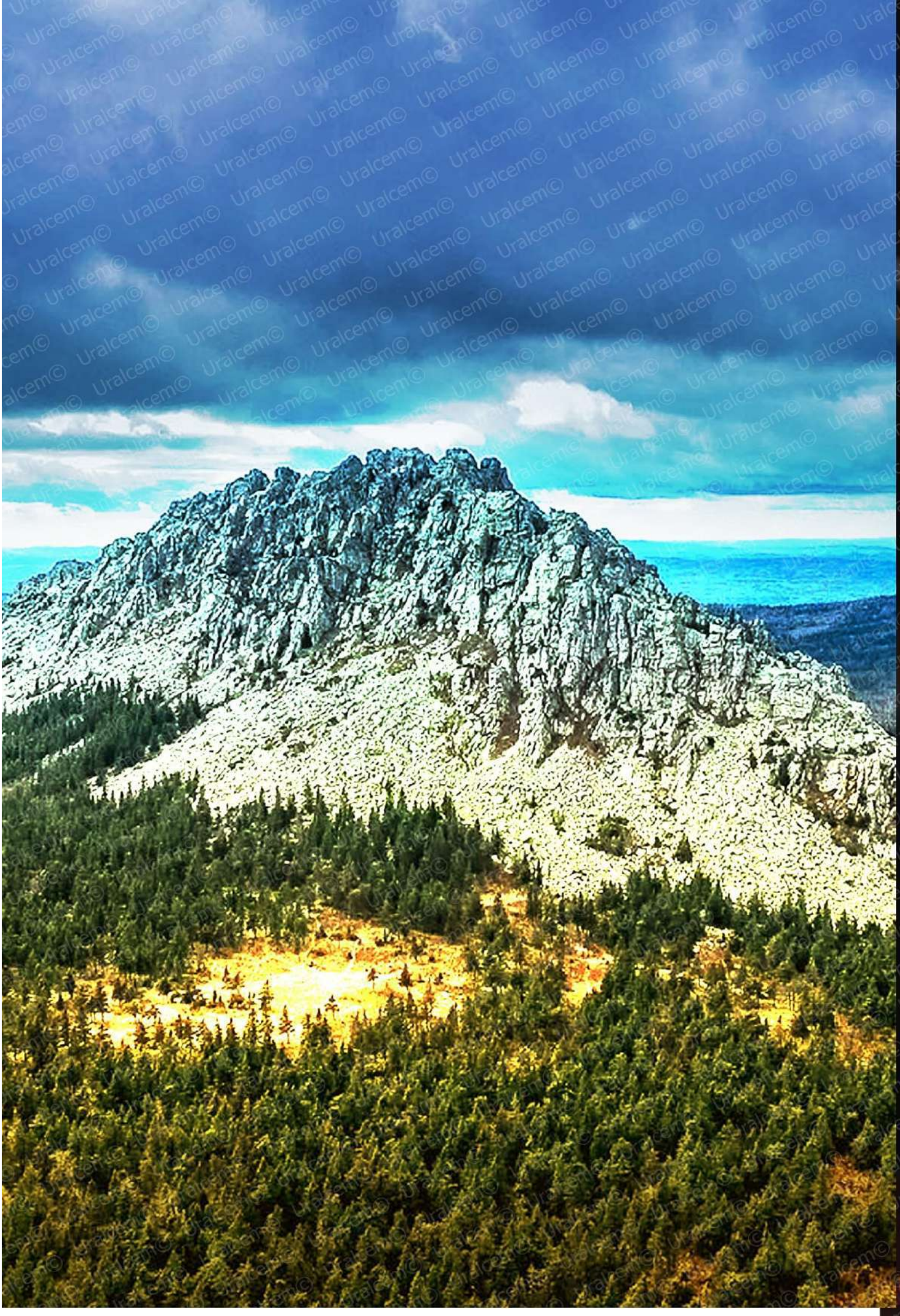
uralcem.com

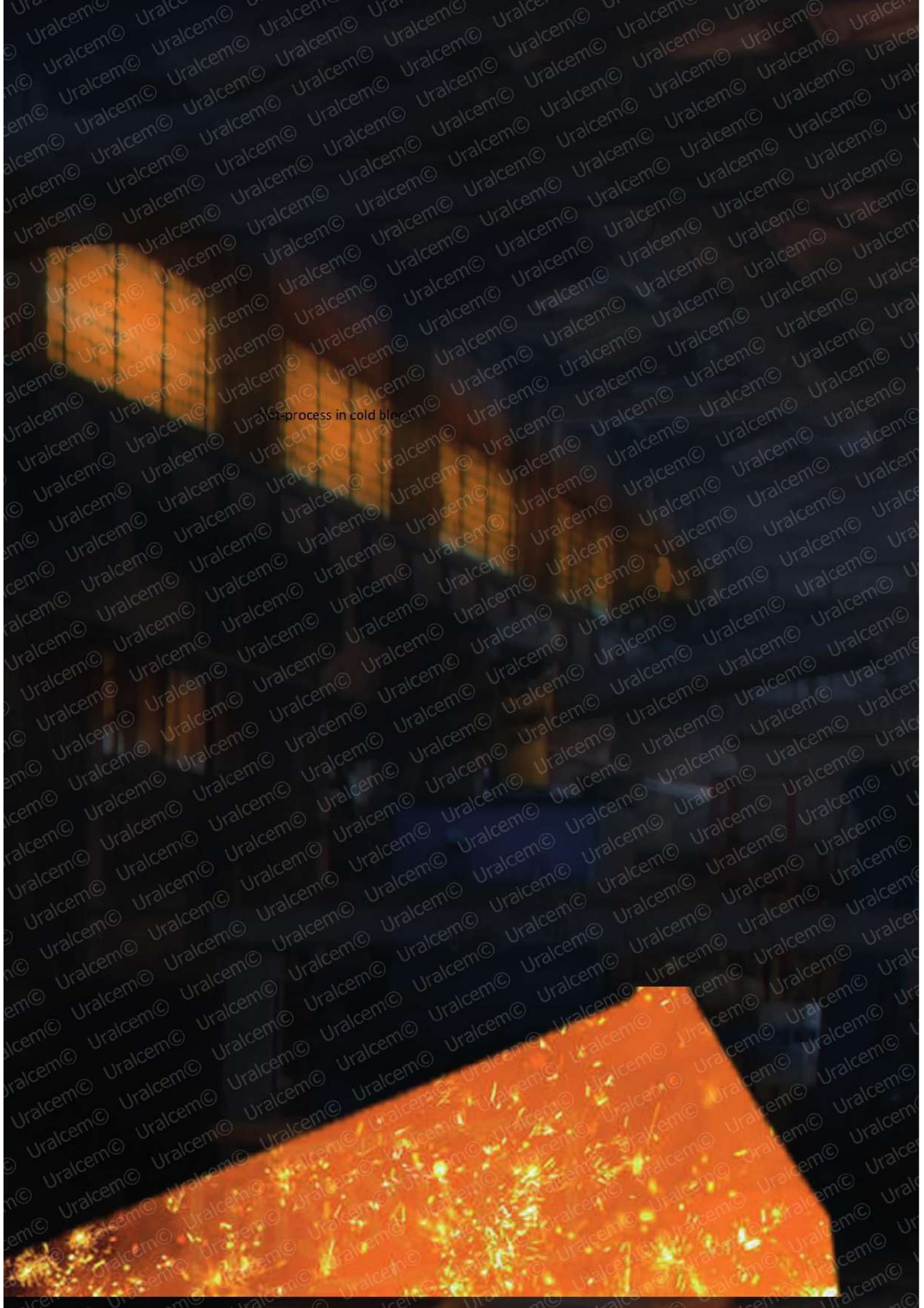
Catalog

Cement and mining industries

- Aerofall mill
- Hydrofall mill
- Drum ball mills
- Rotary kilns
- Satellite cooler
- Air-quenching cooler
- Hammer crushers
- Rotary crushers
- Jaw crushers







UralCem:

precision casting from highly durable alloys

Zlatoust Casting Plant, or OOO Uralcem, is located at the very heart of Russian steelworks: Chelyabinsk Oblast. OOO Uralcem is part of the Metaplast Group founded in 1993; today, it is the Urals' one of the top manufacturers of heat- and wear-resistant precision castings made of high-alloyed steels and alloys.

The Company's facilities can be used for casting cast iron, manganese steels, heat- and wear-resistant steels, etc. For more than 25 years, the Company has made specialist one-of-a-kind products from strong steels for use in mining and cement production. The Company's professionals have mastered the LOST-FOAM CASTING technology. The technology has been patented by the Company in Eurasia and Russia, and earned multiple professional awards. Product quality is checked against standards for the specific operating conditions, high temperature, exposure to gas and abrasive wear.

The facilities are equipped to produce 5 thousand tons of castings per annum, 400 tons per month on average. A casting can weigh 1 to 800 kg; casting dimensions are conditionally unlimited. Today, the Company manufactures more than 1,300 different items, and the range is expanding. The Company's design and technological services is actively involved in expanding the product range by rapidly developing new drawings and steel grades as well as by making custom castings to the customers' requirements.

The production facilities are located far away from the residential areas, which helps avoid environmental deterioration.

Ever High-Demanded Products!

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Uralcem

MetaplastGroup

Equipment of Production Sites

The Company has all the sites to make the final products:

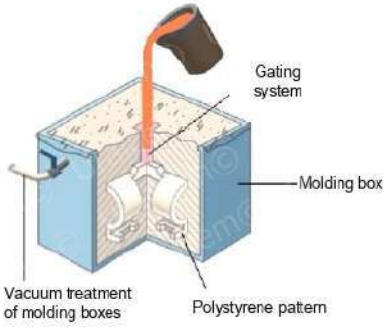
- The Pattern Site has molding machines, semiautomatic machines, and a manual cutting section to make polystyrene patterns;
- The Casting Site has four vacuum induction melting sets that can produce up to 5000 of liquid steel per annum.
  As part of the retrofitting efforts, a second molding line by GEMCO has been installed.
- The Stockyard has overhead cranes, plasma cutters, and balers.
- **A modern automated thermal treatment site can perform a wide range of treatment operations to adjust the hardness of products to any specifications.**
- Machining Site
- The Tool Site produces all the pattern tooling for the Company and is equipped with high-performance vertical milling centers. The in-house spectral lab monitors the chemical composition of steel at all melting phases.

Lost Foam Casting

The Company uses the advanced LOST FOAM casting technology. This is an advanced high-performance process for high-quality casting. One peculiar feature of this technology is that it does not use the familiar reusable wooden patterns; instead, LFC uses patterns made of the "styrofoam" we all know, or foamed polystyrene.

A polystyrene pattern is placed in the casting mold made of vibration-compacted quartz sand; when liquid metal is cast in the mold, the pattern is evaporated (gasified), and the cast metal takes the exact shape of the evaporated pattern. Vacuuming the casting molds helps completely remove the gaseous polystyrene-pattern decomposition products while producing a dense casting.

LFC can be used to make geometrically complex yet precise castings while reducing the process duration, i.e. the time to complete an order.



ЕВРАЗИЙСКАЯ ПАТЕНТНАЯ ОРГАНИЗАЦИЯ
ЕВРАЗИЙСКОЕ ПАТЕНТНОЕ ВЕДОМСТВО

ЕВРАЗИЙСКИЙ ПАТЕНТ

№ 009145

Название изобретения:
«БРОНЕВАЯ ПЛИТА ДЛЯ ФУТЕРОВКИ БАРАБАНА ТРУБНОЙ МЕЛЬНИЦЫ»

Патентовладелец (лицо):
ОБЩЕСТВО С ОГРАНИЧЕННОЙ ОТВЕТСТВЕННОСТЬЮ "ЗЛАТОУСТОВСКИЙ ЛИТЕЙНЫЙ ЗАВОД - МЕТАЛЛАСТ" (RU)

Изобретатель (и):
Гранин Михаил Сергеевич, Ефимов Сергей Андреевич (RU)

Заявка №: 200709786
Приоритет изобретения:
Дата подачи заявки: 27 марта 2007 г.
Дата выдачи патента: 26 октября 2007 г.

ГРИГОРЬЕВ Александр Николаевич
Президент Евразийского патентного ведомства

ЕВРАЗИЙСКАЯ ПАТЕНТНАЯ ОРГАНИЗАЦИЯ
ЕВРАЗИЙСКОЕ ПАТЕНТНОЕ ВЕДОМСТВО

ЕВРАЗИЙСКИЙ ПАТЕНТ

№ 009144

Название изобретения:
«КЛАССИФИЦИРУЮЩАЯ БРОНЕВАЯ ПЛИТА ДЛЯ ФУТЕРОВКИ БАРАБАНА ТРУБНОЙ МЕЛЬНИЦЫ»

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Изобретатель (и):
Гранин Михаил Сергеевич, Ефимов Сергей Андреевич (RU)

Заявка №: 200706787
Приоритет изобретения:
Дата подачи заявки: 27 марта 2007 г.
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РОССИЙСКАЯ ФЕДЕРАЦИЯ

ПАТЕНТ

№ 2270073

СПОСОБ ОТЛИВКИ ЛИТОЙ ПЛИТЫ ДЛЯ ФУТЕРОВКИ БАРАБАНА МЕЛЬНИЦЫ

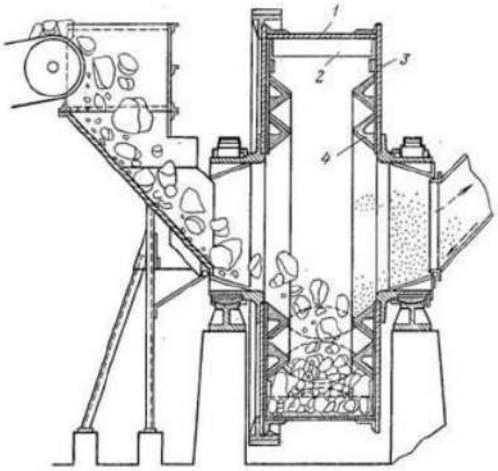
Патентообладатель(и): ЗАО "Златоустовский литейный завод - Металласт" (RU)

Автор(ы): Ефимов Сергей Андреевич (RU)

Заявка № 2004122211
Приоритет изобретения 13 июля 2004 г.
Зарегистрировано в Государственном реестре изобретений Российской Федерации 20 января 2006 г.
Срок действия патента истекает 13 июля 2024 г.

Aerofall mill

The Aerofall mill, intended for dry self-grinding (see Figure), is a short drum (1) with a big diameter (5.5-11 m). Beam ribs (3) are fastened on the inside surface along the drum generatrix at some distance. When the drum rotates, beam ribs lift pieces of material. Falling down, the pieces hit the ribs and break, simultaneously crushing the material located below. On the front covers (3) of the drum the V rings (4) are fixed. The ring intended use is to direct pieces of material towards the drum mid part.

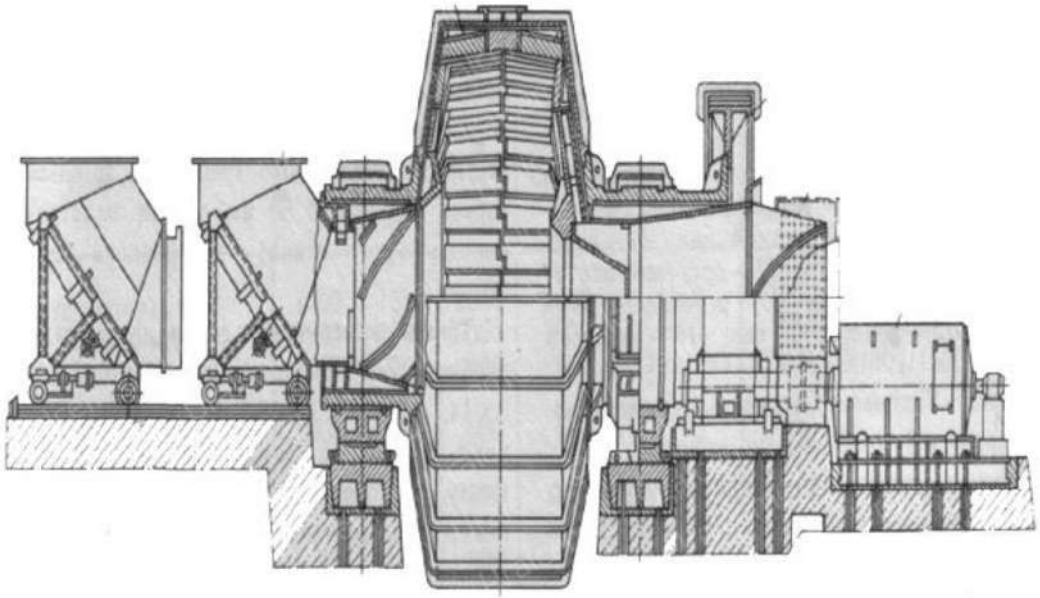


The efficiency of self-grinding is defined by a maximum size of initial material pieces as well as by the ratio of coarse and fine fractions. The optimal coarseness of material, fed into the mill, depends on its diameter and rotation frequency. The pieces of limestone, delivered to the mill with a 7 m diameter, should have the size of 350-450, the content of chalk – 500-800 mm. The key advantages of self-grinding mills consist in the simplicity of their structure and maintenance, low rotation frequency of implements, low specific electric energy costs necessary for grinding, absence of grinding bodies, combining grinding and milling processes in one unit, high operation efficiency (up to 500 t/h). Self-grinding mills are intended for dry grinding (Aerofall mill). Such unit generation allowed processing raw materials with the humidity 20-22 % (dry process). A large diameter of spouts allows delivering a significant volume of hot gases, thus, one can use the gases with relatively low temperatures (off-gases of rotary kilns).

Hydrofall mill

The mill MMC-70-23 of the Hydrofall type for wet self-grinding of raw materials is developed for wet grinding of ferrous and non-ferrous metal ores at ore-dressing plants. Further, the mills were applied at wet method cement production lines for pre-grinding of soft raw materials (clay, chalk, forest with remilling in tube mills).

The engineering intended use of Hydrofall mills is the same as the one of loam mills, which have been replaced by the Hydrofall mills more frequently by cement plants in recent years. The mills are similar in terms of their design concepts and are different only in their size.



Operation principle

The material, subject to grinding, is delivered by a belt conveyor or feeding device into a charging retractable chute of the mill, from which it is poured into a hollow spout, equipped with a pipe screw, helping to transport the material inside the spout into the mill drum. The water, necessary for wet milling, is also fed into the mill through the charging kiln.

Armored plates and lifters, made of wear-resistant steel, are fixed onto the inside surface of the drum cylindrical part. Under the action of centrifugal forces, occurring during the drum rotation, and with the help of lifters is elevated for some significant height, from which it falls down grinding due to the impact and armored of the material layer, located at the drum lower part, as well as because of hitting armored lining plates and lifters. To improve grinding efficiency, the mill drum is loaded with a small number of milling agents (steel balls with the diameter 80... 100 mm. Drum front walls have a tapered shape. Outside they are equipped with radial ribs, while inside they are lined with armored lining plates made of wear-resistant steel.

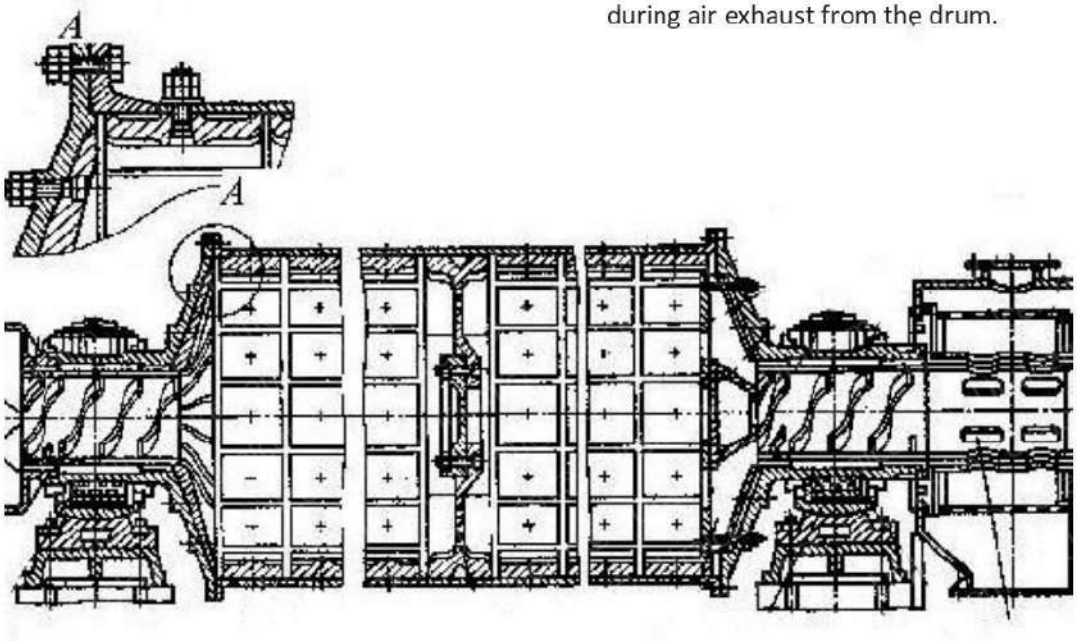
At the discharging side, at the spot of its junction to the spout, the drum operating space is limited by a vertical barrier with concentrically arranged tapered bores for feeding ready material. The obtained pulp slurry is delivered from the mill via a hollow spout and a discharge pipe, fixed on its continuation. Only 20-40% of the ground products, released by the mill, are ready, other products are directed to tube mills for remilling.

Drum ball mills

By the customer's order and the drawings our company manufacturers the moulds of liner plates, the sectors of diaphragms and face plates for ball mills with the diameter of 24 meters.

A drum mill is a hollow drum, closed by end caps, with hollow journals in the center. The journals rest on bearings, the drum rotates around a horizontal axis. The mill drum is filled for a half of its volume with a milling agent. At its rotation, due to friction, milling agents are involved by its internal surface, are lifted on some height and fall down, in a free manner or rolling over.

Through one hollow journal the ground material is continuously delivered inside a drum; the material passes along the drum and, under the action of milling agents, is crushed by impact, armored and crushing. The ground product is continuously unloaded through other hollow journal. At the drum rotation the material moves along its axis due to the difference of charging and discharging levels and the head of continuous material feed; in case of wet grinding, the material is carried away by discharge water flow, in case of dry grinding - by air flow occurring during air exhaust from the drum.

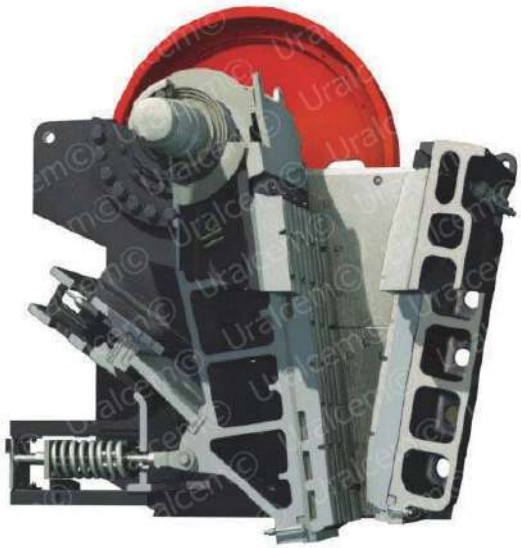


Rotary kilns

Modern kilns of wet cement production have the followwing diameters (diameter and length: 3.3x3X3.3X 118; 3.6X3x X3.6X127; 3.6X150; 4X150; 4.5X170; 5×185 m. The first three kilns are equipped with chain curtain and satellite coolers. Three latter kilns in the line are equipped with the chain curtain, metal sectional heat exchangers and satellite shearing cooler. The firing rate of the first three kilns, providing the slime humidity is 36%, is 6.7—6.9, while in the latter – 5.67—5.88 L\J/ (kg of clinker). Correspondingly, the specific capacity of the first three kilns is 15—17 kg/ (m2 -h) at the internal surface of 1,050— 1,500 m2 , the latter - 21—27 kg/(m2X Xh) at the internal surface of 1,700—2,650 m2 . Recently, high-capacity cement plants, using wet production, have started to equip their facilities with rotary kilns of the length 230 m and diameter 7 m. Specific heat rate for clinker burning in such kilns at the capacity 125 ton/h is approximately 6,300 KJ/(kg of clinker).

The kilns for a dry mix process have the following dimensions: with a conveyor calcinizer 4X53, 4X60; with a cyclone heat exchanger 4X60, 5X75, 6.4X95 m. The specific heat rate in the first two kilns is 3,780—3,860 kJ/(kg of clinker), the specific capacity 51.5 and 53.5 kg/(m 2 -h). In the next three kilns the specific heat rate is 3,360—3,780 kJ/(kg of clinker), the specific capacity, correspondingly, is 52, 62 and 70 kg/(m2 -h).

Jaw crushers



The jaw crushers mainly grind the material with the help of crushing between the jaws at periodical approximation. When a mobile jaw moves away from an stationary one, the crushed material falls out from the crusher. Simultaneously, during piece compression, their relative motion occurs, due to which the pieces are worn off. If the jaw operating surfaces are corrugated, the crushing of material pieces can be also accompanied by split and fracture.

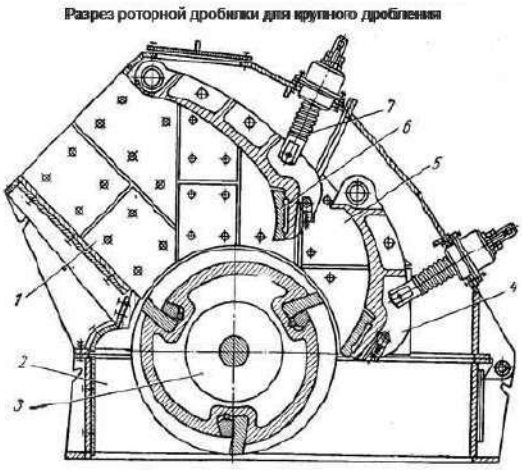
The operating principle of the jaw crusher is based upon material compression with operating surfaces (jaws), which induces high strains of compression and shift, destroying the material. The Figure shows the operating principle of the jaw crusher. One of the jaws of the crusher is made stationary. The second jaw is fixed on a piston rod providing for the motion of the upper jaw edge in such a way that the jaw swings. The piston rod rotation is induced through a V-belt drive by the motor (electric, diesel).

The second idle wheel, functioning as a flywheel and an offset for the main idle wheel, is fixed on the same shaft. The lower edge of the mobile jaw has a possibility to adjust the position horizontally (mechanical or hydraulic drive, which influences the width of a minimum slit, defining the maximum size of material at the crusher output from the crusher. The jaws make up a taper crushing chamber, where the material under the action of gravity force moves away from the upper part (where large pieces are loaded) after destruction to the output (discharge) slit. The lateral walls do not participate in the grinding (crushing) process. Today the plants apply jaw crushers of jaw simple and complex jaw swining. The latter ones provide for a high load on the material (large shift strains). One of the relatively recent innovations are vibration jaw crushers, that should be applied on extremely hard materials.

Due to high normal and shift strains the material in the jaw crusher is destroyed with the formation of elongated pieces: plates, the content of which in the ground material can reach a large amount (in percentage terms by mass from 25 to 50 %). That is why the material on one of the characteristic directions moves through the discharge slit, while on the two others the material can exceed the slit size. If the discharge slit width is set and equal to D, the ground material have the 95 % of material with the size of less than 1.5*D, while 100 % of the material should be less than 2*D. The common extent of material size compression in the jaw crusher corresponds to 2-3 (average size decrease by 2-3 times).

Rotary crushers

Rotary crusher — mechanical grinding machine with rigidly fixed operating parts — hammers (blades), intended for crushing low hardness materials by means of massive fast rotation of a rotor with rigidly fixed operation bodies— beaters (hammers) and multiple beats of pieces onto impact plates or grates. A separate type of rotary crushers are centrifugal striking crushers different by a vertical position of the rotor and use of of a centrifugal material acceleration and its pieces impac not on the armor, but on the self-lining.
More stringent construction requirements to the road coating quality – towards the form (cubic one) and hardness of small rock – led to a new developed device in the family of crushers, a three-toro crusher ДИМ 800К.
Rock grinding occurs during the rotation of the driving rotor towards reflecting rotors (rotor rotation frequencies are the same).
The driving rotor beaters conduct primary material grinding. Leaping aside from the driving rotor with some specific velocity, ground and non-ground pieces pass either to a reflector or the beaters of reflecting rotors. The velocities of flying rocks and rotation frequency of reflecting rotors (in the points of their collision) are summed up, and after that, secondary, more destructive crushing occurs.
Falling on the gratings, the material is crushed with the driving rotor beaters and newly delivered material above, is subject to additional grinding and moves to the shipping area.
Additional advantages — processing of hard materials, extremely fine grinding (replacement in the ДСУ line of jaw and cone crushers), obtaining small rock of the highest characteristics.



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Hammer crushers

Hammer crushers of impact action conduct material grinding due to the impact of the pieces of rotating beaters or hammers as well as collision of cast off pieces with machine reflecting elements.

In terms of the structure, hammer crushers are rather simple, in compliance with the technical documents they consist of a metal body and frame, the main rotor of an operating part, fine gratings and covers. The rotation of operating rotor device is conducted by means of the torque transmission from an electric motor. Through the provided charging holes (bottom doors, semi-products or the materials subject to recycling are delivered to the frame department of a hammer unit. Further, the electric motor is actuated. This motor, by means of a cylindrical or any other gearbox, starts a rotor device.

At the moment the units, grinding the materials with beaters, are widely applied in many sectors: mining, metallurgical, construction, food, wood processing industries.

Also, such type of grinding equipment is successfylly used in the cement industry as these machines are not subject to material sticking to the walls. Hammer crushers are used for agglomeration of clay, chalk, limestone materials and marlstone — key components of cement concentrate. They are applied for fine grinding of gypsum and other admixtures added into cement clinker. The asbestus production efficiently uses hammer crushers for grinding and loosening of asbestrs ores. Such machines allow finishing the operation after 3-5 stages.

In mining and metallurgical complexes hammer units are presented alongside with their similar rotor units. As they are different only by the way of fixing operating parts to the rotor body, hammer units are used for grinding the agglomerate, feed stock and other components used in metallurgy to get cast iron and steel.

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1 to 50 kg

Conv. 1 Gravel strip

p.1953.02.013.0.0, mass 41.6,
st. 40KH24N12SL

Conv. 29 Armored lining plate

p. 62.537.001.0, mass 42.3,
st. 110G13KH2L

Conv. 70 Rack

p. 2002.00.02, mass 3.4,
st. 35KH23N7SL

1 to 50 kg

Conv. 76 Rack

p. 10268, mass 1.7, st. 30KHGSL

Conv. 79 Kiln bar of the boiler BONO

p. , mass 23, st. SCH20

Conv. 80 Upper armor plate

p. 10523.00.002, mass 49,
st. 110G13L

1 to 50 kg

Conv. 90 Chain link

p. 1975.20.192.00, mass 2.5,
st. 110G13L

Conv. 102 Locating device of the standard cell 30013542

p. 30013542, mass 1.1,
st. 40KH24N12SL

Conv. 103 Segment - Standard cell

p. 10051114, mass 23.1,
st. 40KH24N12SL

1 to 50 kg

Conv. 125 Kiln bar

p. KCP (KTsZ), 9-9-01, 22-08, mass 7.4,
st. 35KHGSL

Conv. 133 Shield

p. 7947-02, mass 31,
st. 40KH24N12SL

Conv. 150
Double-link clevis, Φ26

p. 10239, mass 1.7,
st. 35KH23N7SL

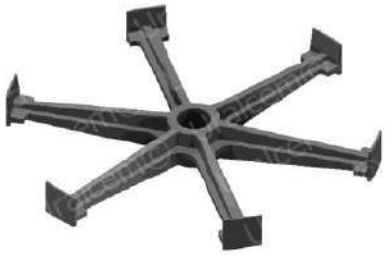
1 to 50 kg

Conv. 157
Blade, p.f GM-136

p. P-07.02.06.015, mass 1.9,
st. CHKH16N2L

Conv. 171 Crossbar

p. 930.004.00, 01554,
mass 47.2,



Conv. 184 Section

p. 01555, 930.001.00,
mass 9.5

1 to 50 kg

Conv. 191 Armored plate

p. 2504.12-42, mass 46,
st. 110G13L

Conv. 192 Armored plate

p. 2504.12-43, mass 46,
st. 110G13L

Conv. 193 Armored plate

p. 2504.12-44, mass 36.5,
st. 110G13L

1 to 50 kg

Conv. 198
Step-type armor

p. 1505.3005, mass 50,
st. 110G13L

Conv. 205
Beater, GM- 297

p.1991.51.054, 1953.54.104.0023,
mass 38, st. 110G13L

Conv. 212 Armored plate

p. 2504.12-41, mass 50,
st. 110G13L

1 to 50 kg

Conv. 219
Kiln end section

mass 30, st. 40KH23N10SL

Conv. 221
Heat exchanger blade

mass 35,
st. 20KH25N19S2L

Conv. 315 Blade

p. P-08 10.00.026, mass 9.1,
st. CHKH16N2L

1 to 50 kg

Conv. 316 Blade

p. P-08 10.00.028, mass 10,
st. 110G13KH2L, CHKH16N2L

Conv. 329 Armored lining plate, d.43, without wedging

p. ПМУ.000.03.001-01, mass 42,
st. 110G13KH2L

Conv. 352 Board plate

p. 1953.02.011.0.0 (one slit,
mass 49.1, st. 35KH23N7SL

1 to 50 kg

Conv. 359
General type plate

p. 2002.41.004.0.0, mass 28.5,
st. 35KH23N7SL

Conv. 390
Chain link (GM 248)

p. 3.511.01, 14-13,
1953.20.191.0,1951.20.041,
mass 9.2,
st. 110G13L, 110G13KH2L

Conv. 392
Board plate
right Lepol kiln

p. 22-22, mass 8.2,
st. 40KH24N12SL

1 to 50 kg

Conv. 393
Board plate left Lepol kiln

p. 22-23, mass 8.2,
-st. 40KH24N12SL

Conv. 394 Chain link

p. 28-122, mass 1.3,
st. 30KHGSL

Conv. 444 Sill plate

mass 34, st. 40KH24N12SL

1 to 50 kg

Conv. 451
Roll armor

p. 14016Ф-10, mass 42.8,
st. 110G13KH2L

Conv. 456 Attachment angle of a kiln bar

p.22-21, mass 0.7,
st. 35KH23N7SL

Conv. 466 Blade

p. R-05M.03.03.001, mass 2.4,
st. CHKH16N2

1 to 50 kg

Conv. 471
Front lining of a ball mill

p. CM 6001.01.02.012, mass 48,
st. 110G13L

Conv. 473
Double-link reinforced and expanded celvis

p., mass 2.2, st. 30KHGSL

Conv. 481
Kiln bar of a pallet car 0051

p. У14.12.0560 (8.23249), mass 6.6,
st. 75KH24TL

1 to 50 kg

Conv. 484 Clamp

p. 2415.47.151, mass 24.4,
st. 35GL

Conv. 486
Collar of the sill plate

p. , mass 31.5, st. 40KH24N12SL

Conv. 487
Base of the sill plate

p. , mass 34.6, st. 40KH24N12SL

1 to 50 kg

Conv. 488 Double-link expanded clevis

p. ., mass 2.22

Conv. 495 Beater

p. B79-15C2-0°, mass 45.5,
st. 110G13L

Conv. 496 Kiln bar

p. 3-351346, mass 6.3,
st. 75KH24TL

1 to 50 kg

Conv. 497 Kiln bar

p. 3-351345, mass 6.1,
st. 75KH24TL

Conv. 516
First chamber armored plate. Mill D2.55x13 m, non-sorting. Counter-clockwise rotation. Type Б.

, mass 44.6, st. 110G13KH2L

Conv. 586 Kiln bar

p. ДМ -2 . -2.01, mass 6.1,
st. 110G13L, 110G13KH2L

1 to 50 kg

Conv. 588 Sector

p. 3601.24.003.2, mass 43,
st. 110G13KHML, 110G13X2L

Conv. 633 Beater

p. 314-21, mass 5.7,
st. 110G13L

Conv. 634
Crusher plate

p. СМД.115.01.01.001А, mass 41,
st. 110G13L

1 to 50 kg

Conv. 635
Fixed jaw

p. СМД.115.01.01.002А, mass 43,
st. 110G13L

Conv. 636
Overturning plate

p. 636-ПР-Н12, mass 42.6,
st. 40КН24N12SL

Conv. 637
Heater plate

p. 637-ПН-Н12, mass 28,
st. 40КН24N12SL

1 to 50 kg

Conv. 638
Rotary-bladed plate

p., mass 15, st. 40KH24N12SL

Conv. 653
Window casing TYPE 1

p. TC.222-H04.1101-И1, mass 37,
st. 35KH23N7SL

Conv. 655
Window casing TYPE 1

p. TC.222-H04.1101-И1, mass 27,
st. 35KH23N7SL

1 to 50 kg

Conv. 730 Heat exchanger blade

h ., mass 32.4,
st. 20KH25N19S2L

Conv. 741 Mobile armored plate of a jaw crusher

p.62403, mass 29.2,
st. 110G13FTL

Conv. 742 Stationary armored plate of a jaw crusher

p. 62402, mass 30.5,
st. 110G13FTL

1 to 50 kg

Conv. 745 Plate

p. MC 004.217, mass 15.2, 110G13L
110G13KH2L

Conv. 746 Bracket of cyclone collector nipple

P. 1467.05.200.05, mass 17.5,
st. 40KH24N12SL

Conv. 751 Hammer

p. БММ -1360.1310.730, mass 9.47,
st. 110G13FTL

1 to 50 kg

Conv. 756
Beater БТ 144-3 31

p., mass 5.6, st. 110G13L

Conv. 760
Board armored plate

p.2005.46.001.0.0, mass 43.2,
st. 30KHGSL

Conv. 764
Diaphragm semi-ring

(Mill 2.2x13, p. 048. 6-02,
mass 45.4, st. 110G13L

1 to 50 kg

Conv. 765 Ribbed armored plate

p.240-135-2, mass 38.3,
st. 110G13KH2L

Conv. 768 Board

p. 15433.01.01, mass 8.9,
st. 40KH24N12SL

Conv. 773 Kiln bar Uralmash 402

p. 5433 01 402, mass 2.62,
st. 40KH24N12SL

1 to 50 kg

Conv. 774
Kiln bar Uralmash 401

p.15433 01 401, mass 4.8,
st. 40KH24N12SL

Conv. 786
Armored lining plate with a projection

p. ПМС.000.06.005, mass 24.6,
st. 110G13FL

Conv. 791 Draw wedge

p. 3-61143И1, mass 10.1,
st. 110G13L

1 to 50 kg

Conv. 793 Chequered armored lining plate

p. ПМС.000.03.004, mass 22,
st. 110G13FL

Conv. 797 Section

p. 6107-70, mass 47.2,
st. 20KH27N4SL

Conv. 798 Section

p. 6107-72, mass 50.2,
st. 20KH27N4SL

1 to 50 kg

Conv. 801
Tray for PKT -1.2-36

p. 35KH18N24S2L, mass 18.1,
st. 35KH18N24S2L

Conv. 807
Board plate

p. 2005.43.003.0.0, mass 25.5,
st. 35KH23N7SL

Conv. 808 Hammer

p.7.104.157.73, mass 28,
st. CHKH16N2

1 to 50 kg

Conv. 809 Hammer

p. F.104.157.83, mass 42.5,
st. CHKH16N2

Conv. 810
Board plate

p. 2005.44.001.0.0, mass 25.9,
st. 35KH23N7SL

Conv. 811
Board plate

p. 2005.41.011.0.0, mass 41.2,
st. 35KH23N7SL

1 to 50 kg

Conv. 812
Board plate

p. 2005.41.009.0.0, mass 24.3,
st. 35KH23N7SL

Conv. 813
Board plate

p. 2005.41.012.0.0, mass 29.3,
st. 35KH23N7SL

Conv. 814
Board plate

p. 2005.42.003.0.0, mass 29.3,
st. 35KH23N7SL

1 to 50 kg

Conv. 832
Striking element

p. Д-10.М, mass12.5,
st. 110G13KH2

Conv. 836
Cylindrical armored lining plate

p. 47023, mass 27,
st. 110G13FL

Conv. 841
Armored plate 3A

p., mass 27.7, st. 110G13KH2L

1 to 50 kg

Conv. 843 Hammer

p. 022.02.00547.05.00.01, mass 9.3,
st. 110G13L, 110G13KH2L

Conv. 844
Cascade section plate

p. 2005.40.001.0.0., mass 19.6,
st. 40KH24N12SL

Conv. 845
Main blade

p. БП-2Г-750 14.00.001 (M,
mass 3.6, st. CHKH16N2L

1 to 50 kg

Conv. 846
Main blade

p. БП-2Г-375 14.00.002 М, mass 2.8,
st. CHKH16N2L

Conv. 847
Lateral blade

p. БП-2Г-750 15.00.001 М,
mass 4.3, st. CHKH16N2L

Conv. 848
Lateral blade

p. БП-2Г-750 15.00.002 М,
mass 4.3, st. CHKH16N2L

1 to 50 kg

Conv. 849
Lateral blade

p. БП-2Г-375 15.00.003 М, mass 4.4,
st. СНКН16N2L

Conv. 850
Lateral blade

p. БП-2Г-375 15.00.004 М, mass 4.4,
st. СНКН16N2L

Conv. 852
Plate. Big kiln

p. 000 102.4295 (8НТ.067.295,
mass 49.8, st. 20KH25N19S2L

1 to 50 kg

Conv. 853
Plate Big Kiln

p. 000 102 4294, mass 47.4,
st. 20KH25N19S2L

Conv. 854
Plate. Small kiln

p. 000 102 4293 (8HA.067.519,
mass 25.9, st. 20KH25N19S2L

Conv. 855 Armored sheet

p. 9.8604.000.005, mass 5.2,
st. 110G13L, 110G13KH2L

1 to 50 kg

Conv. 856 Armor

p. 9.8604.000.005-01, mass 9.4,
st. 110G13L, 110G13KH2L

Conv. 857
Armored plate
of a rotary crusher (left)

p. , mass 38, st. 110G13L

Conv. 858
Armored plate
of a rotary crusher (right)

p. , mass 38, st. 110G13L

1 to 50 kg

Conv. 861
Blade Kemma

p. E65A.02.020, mass 3.8,
st. CHKH16N2

Conv. 862
Weighted beater

p. (СМД-114.02.014 4847202014,
mass 5.7, st. 110G13L

Conv. 871
Plate of discharging diaphragm

p. 048.3-01б, mass 45.6,
st. 110G13L

1 to 50 kg

Conv. 875 Impeller

p. 239383, mass 9, st. CHKH16N2

Conv. 876 Clamp

p. E65A.02.006, mass 4.2,
st. CHKH16N2

Conv. 877 Clamp

p. E65A.02.014, mass 11.1,
st. CHKH16N2

1 to 50 kg

Conv. 880 Hammer ДР 4x4

p. МС 004.171, mass 8.8,
at.110G13FTL, 110G13L

Conv. 881
Kiln grate element for hammer crushers, МД20х20, МД20х21, МД20х30

ч.У5-2350.00.00, 2210.01.005,
mass 202.5, st.110G13L

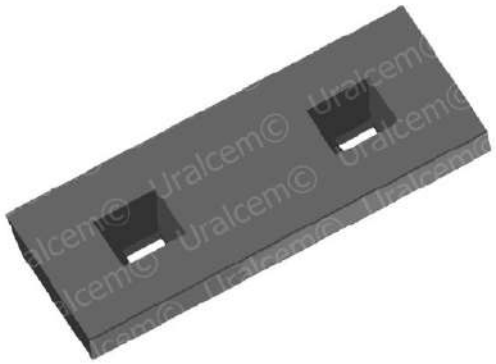
Conv. 882 Armored plate

p. 7.200.006.64, mass 18.9,
st. СНКН16N2

1 to 50 kg

Conv. 883 Draw wedge

p. 4-60357, PK 1584, mass 20,
st. 110G13L



Conv. 884
Lining wedge

p. 118-1-29, mass 9.5,
st. 110G13L

Conv. 885 Armored plate

p. 100.397.92, mass 36.7,
st. CHKH16N2

1 to 50 kg

Conv. 888 Armor for a bottom door

p. 3-85382И1ГЧ, mass 35,
110G13L

Conv. 889 Armored plate

p. 7.104.169.54, mass 20.1,
st. CHKH16N2

Conv. 894 Cylindrical wave armored lining plate

p. ПМУ 000.02.002, mass 46.7,
st. 110G13FL

1 to 50 kg

Conv. 898
Lining wedge

p. 1456A.01.02.014, mass 12,
st. 110G13L

Conv. 899
Lining section

p. 1456.01.02.011, mass 42.9,
st. 110G13L

Conv. 900
Standard
lining section

p. 1456.01.02.009, mass 43.7,
st. 110G13L

1 to 50 kg

Conv. 903
Discharge grate

p. 1456-04-12, mass 35.8,
st. 110G13L

Conv. 904
Lining, hammer crusher СМ-170Б

p. СМ-170-Б-1-0-9А, mass 18,
st. 110G13L

Conv. 905
Lining, hammer crusher СМ-170Б

p. СМ-170-Б-1-0-25А, mass 18,
st. 110G13L

1 to 50 kg

Conv. 906 Fork cog

p. , mass 21.4, st. 110G13L

Conv. 908 Blade

p. БП-2Г-185 05.00.001М, mass 2.6,
st. СНКН16N2

Conv. 909 Blade

p. БП-2Г-185 04.00.001М, mass 2,
st. СНКН16N2

1 to 50 kg

Conv. 922 Blade

p. БП-2Г-185 05.00.002М, mass 2.5,
st. СНКН16N2

Conv. 930 Vane

p. К30.45.010, mass 6.4,
st. СНКН16N2

Conv. 931 Vane

p. БП-1Г-450.05.00.001, mass 5.1,
st. СНКН16N2

1 to 50 kg

Conv. 932 Vane

p. БП-1Г-450.05.00.002, mass 5.1,
st. CHKH16N2

Conv. 933
Knife-vane (left)

p. СБ-163А.02.01.710-М СБ,
mass 8.5, st. CHKH16N2

Conv. 934
Knife-vane (right)

p. СБ-163А.02.01.810-М СБ,
mass 8.5, st. CHKH16N2

1 to 50 kg

Conv. 935 Vane

p. СБ-163А.02.01.910-М СБ, mass 6,
st. СНКН16N2

Conv. 936 Vane

ч.БП-1Г-450.05.00.002, mass 7.7,
st. СНКН16N2

Conv. 940 Hammer

p. КЧ-15-00А, mass 11.6,
st. 110G13L

1 to 50 kg

Conv. 943 Blade

ч., mass 4.4, st. ЧКН9N5

Conv. 944 Sill plate

p. , mass 34.8, st. 40KH24N12SL

Conv. 947 Vane

p.КД.03.010.001.2007, mass 16.6,
st. СНКН16N2

1 to 50 kg

Conv. 951
Mixing vane

p.C371.06.2A, mass 6.3,
st. 30KHGSL

Conv. 953
Base of the intermediate diaphragm sector

(mass 41.6 kg., st. 110G13KH2L

Conv. 955
Heat exchanger blade

p. , mass 30.6, st. CHKH16N2

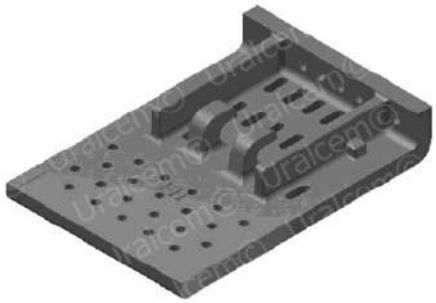
1 to 50 kg

Conv. 963 Hammer

p. MC 003 161, mass 33.1,
st. 110G13L

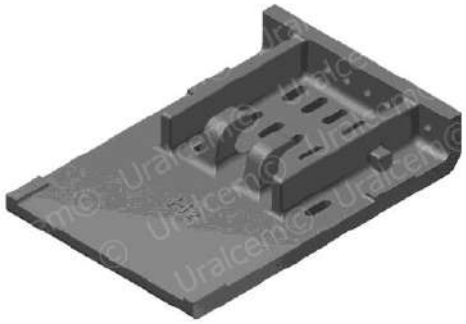
Conv. 966 Kiln bar

p. 2005.41.001.0.0, mass 24.7,
st. 40KH24N12SL



Conv. 967 Kiln bar

p. 2005.41.002.0.0, mass 21.8,
st. 40KH24N12SL



1 to 50 kg

Conv. 968
Kiln bar with angular projection

p. 2005.41.005.0.0, mass 29.5,
st. 40KH24N12SL

Conv. 969
Special kiln bar

p. 2005.41.008.0.0, mass 27.7,
st. 40KH24N12SL

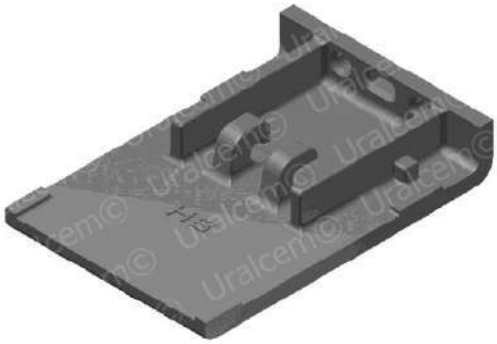
Conv. 970
Special kiln bar

p. 2005.42.002.0.0, mass 27.7,
st. 40KH24N12SL

1 to 50 kg

Conv. 971
Blind kiln bar

p. 2005.41.003.0.0, mass 22.41,
st. 40KH24N12SL



Conv. 972 Kiln bar
(2005.43.001)

p. 2005.43.001.0.0, mass 19.9,
st. 35KH23N7SL

Conv. 973
Special plate

p. 2005.41.007.0.0, mass 36.1,
st. 40KH24N12SL

1 to 50 kg

Conv. 974 Special plate

p. 2005.42.001.0.0, mass 36.1,
st. 40KH24N12SL

Conv. 979 End lower armor

p. 3B.28.09-9, mass 49.1,
st. 110G13L

Conv. 995 Draw wedge

p.3Г28.09-2, mass 9,
st. 110G13KH2

1 to 50 kg

Conv. 999
Board plate

p. 2005.43.004.0.0, mass 43.2,
st. 35KH23N7SL

Conv. 1000
Board plate

p. 2005.44.002.0.0, mass 43.2,
st. 35KH23N7SL

Conv. 1001 Strip

p. 2005.41.006.0.0, mass 8.9,
st. 40KH24N12SL

1 to 50 kg

Conv. 1002
Board plate

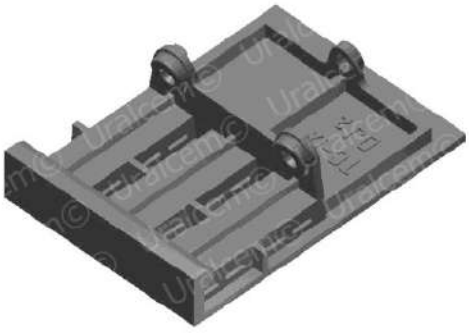
p. 2005.45.002.0.0, mass 43.2,
st. 30KHGSL

Conv. 1003 Wedge

p.1398.03163-1, mass 20.1,
st. 110G13L

Conv. 1024 Kiln bar

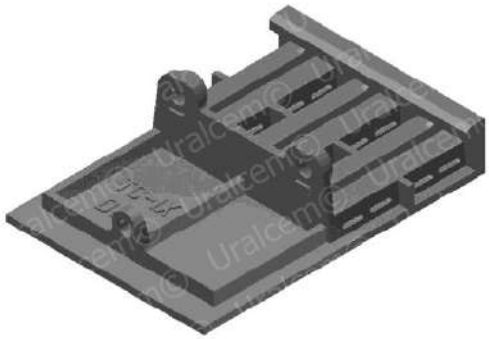
p. TC - IX DJ 2, mass 19.1,
st. 40KH24N12SL



1 to 50 kg

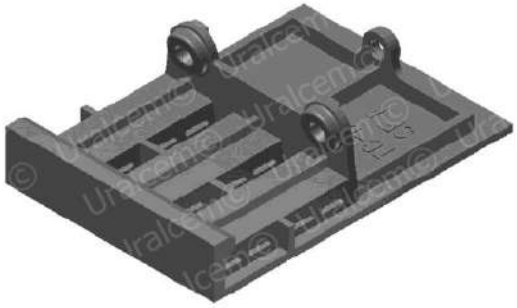
Conv. 1025 Kiln bar

p. TC - IX DJ 1, mass 19.1,
st. 40KH24N12SL



Conv. 1026 Kiln bar

p. TC - IX SF A, mass 19.1,
st. 40KH24N12SL



Conv. 1027 Kiln bar

p. DJ 3 CTC - VIII, mass 30.6,
st. 40KH24N12SL

1 to 50 kg

Conv. 1028 Kiln bar

p. SF TC - VII A, mass 25.1,
st. 40KH24N12SL

Conv. 1029 Kiln bar

p. SF TC - X C1, mass 19.1,
p. 40KH24N12SL

Conv. 1030 Half-beam

p. DJ 4, mass 4.6,
st. 40KH24N12SL

1 to 50 kg

Conv. 1031 Box

p. DJ 2, mass 20.7,
st. 40KH24N12SL

Conv. 1032
Lateral left clamp

p. R 4051 2 - 10ADJ 2, mass 15.9,
st. 40KH24N12SL

Conv. 1033
Lateral right clamp

p. R 4051 2 - 10BDJ 2, mass 15.9,
st. 40KH24N12SL

1 to 50 kg

Conv. 1078 Armor

p. M1250.8-3, mass 46.5,
st. 110G13L

Conv. 1081 Armor

p. M1250.8-9, mass 38.5,
st. 110G13L

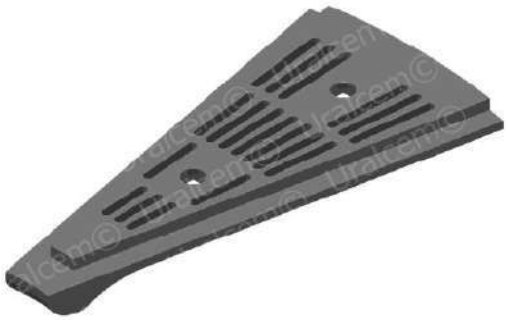
Conv. 1082 Armor

p. M1250.8-10, mass 42.3,
st. 110G13L

1 to 50 kg

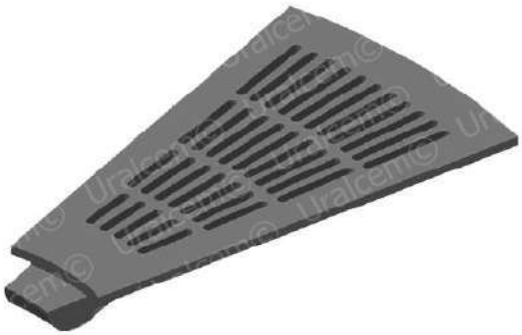
Conv. 1085
Grating plate

p. 14055Ф-4, mass 39.5,
st. 110G13KH2L



Conv. 1086
Grating plate

p. 14055Ф-5, mass 50,
st. 110G13KH2L



Conv. 1093
Grinding plate

p. 47-5-0-0-2, mass 6,3 ,
st. 110G13L

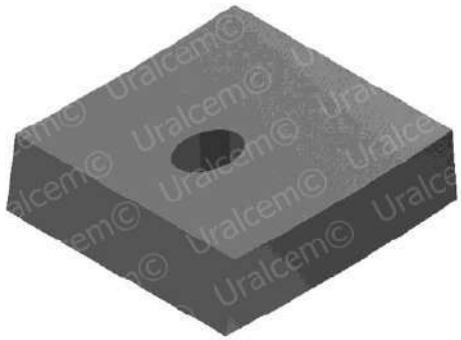
1 to 50 kg

Conv. 1115 Base plate

p. 6101-37.1в-01,mass 27.6,
st. 30KHGSL

Conv. 1128
Bottom door armor plate

p. M1250.8-11, mass 29.5,
st. 110G13L



Conv. 1129
Bottom door armor plate

p. M1250.8-12, mass 43.1,
st. 110G13L

1 to 50 kg

Conv. 1131 Armor

p. M1250.8-7, mass 43.9,
st. 110G13L

Conv. 1182 Rack

p. 286.18.001.0.0, mass 5.4,
st. 12KH18N10T

Conv. 1190 Kiln bar VN pos.858 VN 932B2-00СБ

p. СЛ-2546002.932B2-00СБ,
mass 21.6, st.

1 to 50 kg

Conv. 1192
Small-sized armored sheet

p. 5113.00.03, mass 46.7,
st. 110G13L

Conv. 1193
Lateral armored sheet

p. 5113.00.01, mass 6.3,
st. 110G13L

Conv. 1203 Armored plate
(1 chamber)

p., mass 49.6, st. 110G13L

1 to 50 kg

Conv. 1222 Kiln bar

p., mass 13.7, st. CHKH16N2

Uralcem

Metaplast Group

Productions of castings made of heat and wear-resistant steels and alloys for cement kilns, refrigerators and mills

OOO Uralcem

456203, Chelyabinsk region, Zlatoust, Kusinskoye Shosse 15a, b. 2,office 309

8(3513)64-24-80
8-982-308-01-69

uralcem25@gmail.com

uralcem.com

HINGED CHAINS FOR CHAIN CURTAINS OF ROTARY CEMENT KILNS

STO 51468360-001-2007

The Company has developed an original patented technology to make solid-cast hinged chains with oval, toroidal, and round links of D-shaped cross-section; chains can be made to any size and of any materials. The Company also produces chain attachments of cost-effective sizing and profiles from high-alloyed steels, including ferritic steels.

No.	Chain type	Chain pitch	Profile size	Link size (width)	Design link weight, kg
Oval-link chains					
1	ЦОЖЦ 22х120	120	22	90	1.07
2	ЦОНЦ 22х120	120	22	90	1.07
3	ЦОЖЦ 25х120	120	25	100	1.44
4	ЦОНЦ 25х120	120	25	100	1.44
Round-link chains					
5	ЦКЖЦ 19х76	76	19	114	0.72
6	ЦКНЦ 19х76	76	19	114	0.72
7	ЦКЖЦ 22х76	76	23	122	0.99
8	ЦКНЦ 19х76	76	19	122	0.99
9	ЦКЖЦ 25х80	80	25	130	1.37
10	ЦКНЦ 25х80	80	25	130	1.37
11	ЦКЖЦ 25х90	90	25	140	1.50
12	ЦКНЦ 25х90	90	25	140	1.50
13	ЦКЖЦ 25х100	100	25	150	1.75
14	ЦКНЦ 25х100	100	25	150	1.75
15	ЦКЖЦ 28х90	90	28	146	1.95
16	ЦКНЦ 28х90	90	28	146	1.95
Toroidal-link chains					
17	ЦТЖЦ 20х90	90	20	130	0.85
18	ЦТНЦ 20х90	90	20	130	0.85
19	ЦТЖЦ 22х90	90	22	134	1.04
20	ЦТНЦ 22х90	90	22	134	1.04

Specifications:

Recommended material-specific chain and attachment operating conditions are specified below:

Product material and steel class	Recommended application		
	Recommended application	Gas flux temperature (kiln section)	Special conditions
Normal-resistance chains and attachments:			
30ХГСЛ - low-alloyed structural steel, 0.35% C max.	100 to 700° (cold and medium)	Wear-resistant in any medium	No
Heat-resistant chains and attachments:			
40ХН25Л heat-resistant steel	300 to 800 °C (medium and hot)	Wear-resistant, resistant to the sulphur-containing medium (coal, heavy oil)	Section 8.4 of the Standard
СЧХ28Д6Ш heat-resistant cast iron	300 - 900 °C (medium and hot)	Wear-resistant, resistant to any medium type (gas, oil, coal, heavy oil)	No
Duplex stainless steel, grades 35ХН23Н7Л, 40ХН24Н10Л, 40ХН24Н13Л, 30ХН30Н14Л, 30ХН37Н4Л	750-1,000 °C (medium and hot) 900-1,050 °C 800-1,050 °C 800-1,100 °C 900-1,100 °C hot	Resistant in carbonizing media (gas, oil)	
Austenitic steel 35ХН18Н24Л	900-1,200 °C (hot))		

Intended use:

OOO UralCem's solid-cast chains are designed for heat transfer, material transport, moisture evaporation from mud, and prevention of mud ring formation. When used in clinker kilns, the chains are mainly intended to intensify the heat transfer between hot gases and raw materials. Chains are exposed to aggressive and abrasive action of the raw materials and gas fluxes.

Advantages:

OOO UralCem's advanced technologies can produce solid-cast chains to any lengtp. Chains are only made of cast links; no welded links, no welds. The Company's facilities will meet the needs of any customer, as we can produce chains of any geometry, formulation, alloy, or size.

Application:

Chain curtains of rotary cement kilns

Uralcem
Metaplast Group

Productions of castings made of heat and wear-resistant steels and alloys for cement kilns, refrigerators and mills

ARMORED PLATES FOR LINING TUBE MILL DRUMS

STO 51468360-002-2008

Armor-lining plates are an important component of cement mills. The working-surface profile and the material of such plates determine the lifting height and trajectory of the grinding media, their arrangement by the mill length, durability, retention of properties and operating performance; all of these factors affect the final product quality.
OOO UralCem uses a patented technology for making armor plates of a special uniform profile to stay in continuous contact with the ground material and the grinding medium without removing the lower layer of the grinding media from the armor plate; it provides an enhanced and nearly constant adhesion coefficient.

Intended use:

Optimized operation of grinding media in tube mills.

Application:

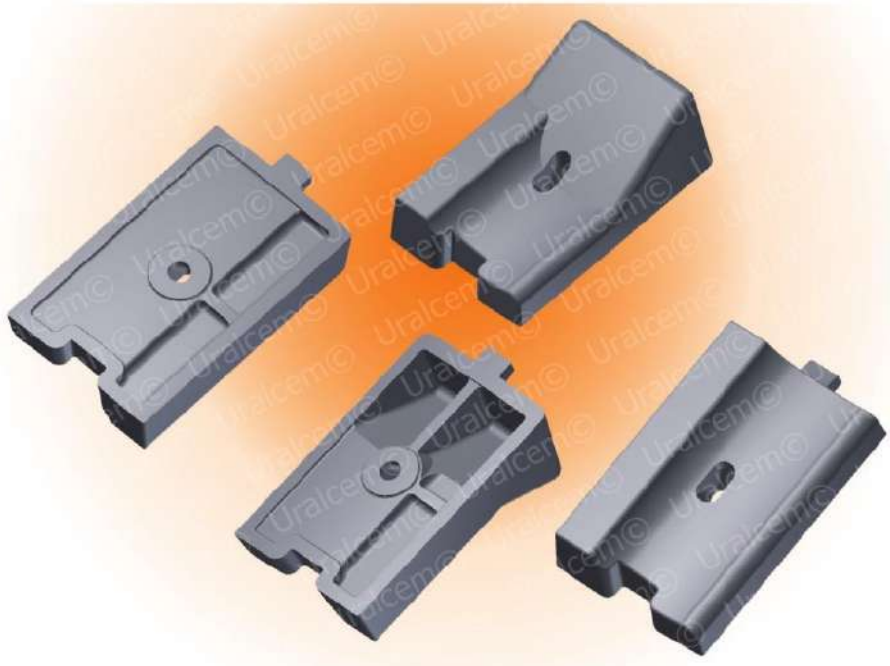
- raw drying (ventilated) mills for grinding raw materials in closed-cycle production;
- raw mills for wet grinding in open- or closed-cycle production;
- cement mills for grinding cement clinker and additives in open- or closed-cycle production.

Specifications:

1. The working surfaces are pre-configured to be in continuous contact with the ground material and the grinding media without removing the lower layer of the grinding media from the armor plate; this provides an enhanced and nearly constant adhesion coefficient while preventing the medium slippage along the plate.
2. Grinding media are cast to a higher trajectory, which increases the energy transfer in the plate-media-material system.

Advantages:

1. The predesigned differences in the surface of armor plates adjust the grinding dynamics to prevent uneven wear in thickness, which helps retain optimal heat transfer until the working surface is fully worn; this enables the use of cost-effective and affordable alloys for making such plates.
2. The grinding-media layer in contact with the surface of the new classifying armor plates grinds more efficiently compared to known counterparts. Raw materials and cement clinker are ground better as the grinding medium is always in a "waterfall motion".
3. Armor plates of this design are guaranteed to serve up to 25 thousand hours.
4. Armor plates are 8% to 10% lighter.
5. The new design reduces the weight by 7 to 9 percent for more energy-efficient grinding.



OOO Uralcem

456203, Chelyabinsk region,
Zlatoust, Kusinskoye Shosse
b.15a, b. 2, office No. 309

8(3513) 64-24-80
8-982-308-01-69

uralcem25@gmail.com

uralcem.com

1 to 50 kg

Conv. 18
Gravel strip

p.5254, mass 62,
st. 35KH23N7SL

Conv. 19
Beater crusher СМД-97Д

p. 3699.000 A, mass 73.3,
st. 110G13L

Conv. 28
Slit sector

p. ПМУ.005.00.047, mass 90,
st. 110G13L, 110G13KH2L

1 to 50 kg

Conv. 32 Grate sector

p. 80-2-5-0-1A, mass 92.6,
st. 110G13L

Conv. 33 Wedge

p. ЦМ-168, mass 72.2,
st. 110G13L

Conv. 35
Face armored plate

p. CM-79A, mass 78.3,
st. 110G13L

51 to 100 kg

Conv. 36 Armored plate

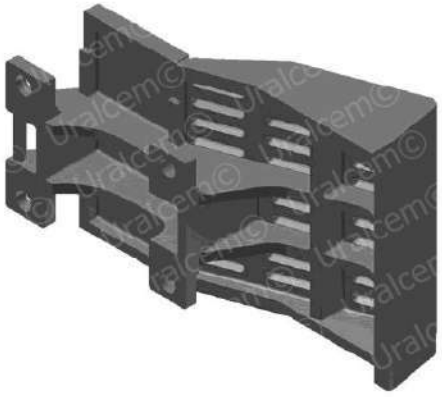
p. CM-190-4Б, mass 67,
st. 110G13L

Conv. 37 Armored plate

p. CM-190-1Б, mass 64.5,
st. 110G13L

Conv. 53
Board kiln bar (right)

p. P61.07.001. mass 78.6,
st. 30KH23N7SL



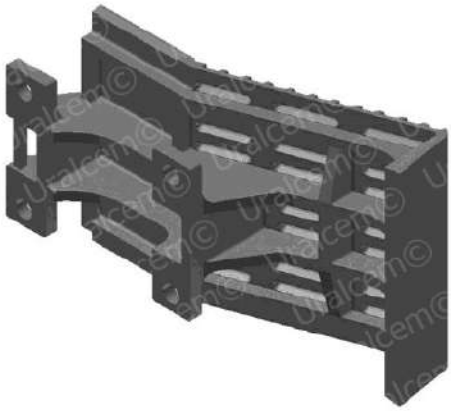
51 to 100 kg

Conv. 54
Board kiln bar (left)

p. P61.07.005, mass 78.6,
st. 35KH23N7SL

Conv. 55
General purpose kiln bar

p. P61.07.003. mass 68.3,
st. 35KH23N7SL



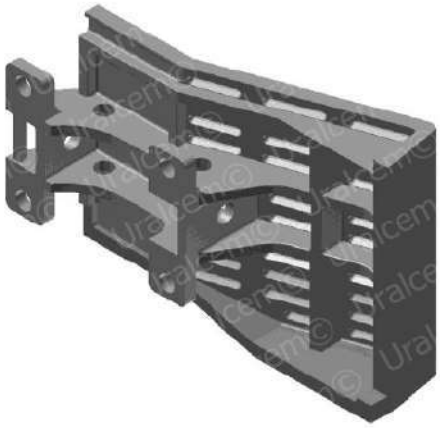
Conv. 56 Grating sector

p. 4475, 3611.04.003, mass 90.2,
st. 110G13L

51 to 100 kg

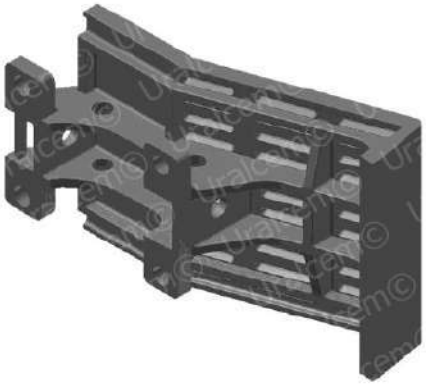
Conv. 57
Board kiln bar (left)

p. 1953.02.022, mass 78.5,
st. 40KH24N12SL



Conv. 64
General purpose kiln bar

p. 1953.02.024, mass 69.9,
st. 40KH24N12SL



Conv. 65
Lower sector of output grating

p.3945-0-0-13A, mass 56,3,
st. 110G13L

51 to 100 kg

Conv. 66 Board plate

p. 1953.02.011.0, KHK3.03.001,
mass 55.8, st. 35KH23N7SL

Conv. 67
Upper sector of output grating

p. 3945-0-0-14A, mass 90.2,
st. 110G13L

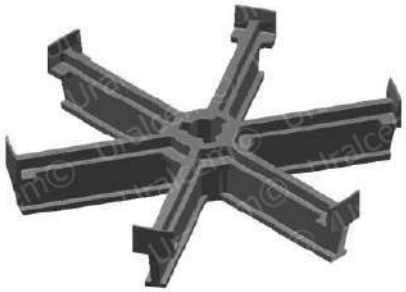
Conv. 77
Crusher beater СМД-97

p. 12863, mass 51.5

51 to 100 kg

Conv. 88
Crosspiece d.1300

p. 01553, 930.003.00,
mass 90.5



Conv. 137
Overfire air kiln bar

p. 3.1103, П3.086, ХК3.00.002,
1951.07.215.1, mass 70,
st. 40KH24N12SL

Conv. 163
Board plate

p. 1953.02.011, mass 54,
st. 35KH23N7SL

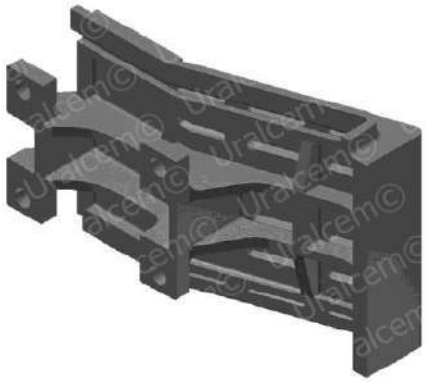
51 to 100 kg

Conv. 169 Sill plate

p. 1236.40.210.0.023, mass 84.8,
st. 40KH24N12SL

Conv. 224
Kiln bar with engagement

p. 1953.02.028.00, mass 93,
st. 40KH24N12SL



Conv. 299
Armor sub-grating ribbed plate

p. 3393, mass 69.9,
st. 110G13FL

51 to 100 kg

Conv. 306 Armored plate

p. MC-02896- I, mass 55,
st. 40KH24N12SL

Conv. 309
Armored lining corrugated plate d.45, without wedging (p.f ГМ 188)

p. ПМН.000.04.001-01, mass 58,
st. 110G13KH2L, 110G13L

Conv. 312
Armored plate (right rotation)

p. 18161.00.00, MC-03 492,
mass 57, st. 40KH24N12SL

51 to 100 kg

Conv. 341
Armored plate of the first mill chamber D2,6x13м, non-sorting, type A. d.43, p.f ГМ-258

p. 341-БПН, mass 83,
st. 110G13KH2L, 110G13L

Conv. 342
Sorting armored plate of right rotation d.43, d.45, p.f ГМ-295

p. 342-БПСП, mass 92,
st. 110G13KH2L, 110G13L,
110G13KHML

Conv. 344 Armored plate of the first chamber

p. , mass 62.7, st. 110G13KH2L

51 to 100 kg

Conv. 374 Plate

p. 14-39, mass 73.8,
st. 40KH24N12SL

Conv. 383
Corrugated armored plate

p. 33-24, mass 50.3,
st. 110G13L

Conv. 389
Taper&corrugated armored plate with cyma convexes

p. 61.00.001Б-1А, 34-41а,
ПМУ.000.01.001-01, mass 67.4,
st. 110G13L

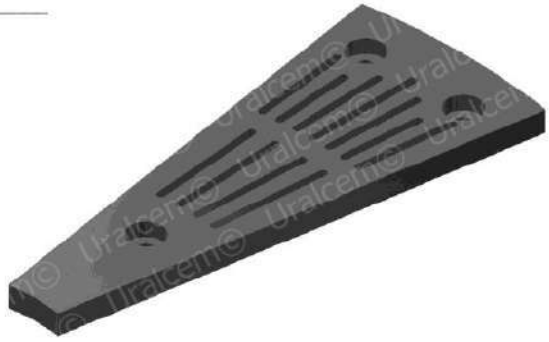
51 to 100 kg

Conv. 396
Grating sector

p. 8185-03, mass 62.5,
st. 110G13L

Conv. 397 Grating

p. 7988-011, mass 69.7,
st. 110G13KH2L



Conv. 398
Non-sorting armored plate of the first chamber. Mill D4x13.5

p., mass 93, st. 110G13L

51 to 100 kg

Conv. 400
Armored plate of the first chamber before metal diaphragm. Mill D4x13.5

p., mass 61.1, st. 110G13KH2L

Conv. 404
Face armored lining plate

p. ПМН.004.00.060, mass 60,
st. 110G13L

Conv. 419
Taper&corrugated armored plate

p. 4446-A, mass 81.1,
st. 110G13KH2L

51 to 100 kg

Conv. 427
Board plate

p. 1951.02.002, P61.07.014 (two holes, mass 58.8,
st. 35KH23N7SL

Conv. 430
Sorting armored plate
Mill 3

p., mass 92.5, st. 110G13KH2L

Conv. 431 Sill plate

p. 19794.00.00, mass 77,
st. 35KH23N7SL

51 to 100 kg

Conv. 446
Armored plate of the first mill chamber D2.2x13 m, sorting, type Б (Polizius mill)

(р. , mass 84.2, st. 110G13KH2L)

Conv. 448
First chamber armored plate. Type Б. Mill D2.2x13m

(ч. , mass 77, st.110Г13Х2Л)

Conv. 450
Discharging plate

p. 14016Ф-12, mass 98.3,
st. 110G13KH2L

51 to 100 kg

Conv. 461 Disc

p. ПМУ.005.01.002, mass 73.6,
st. 110G13L

Conv. 462 Kiln bar

p. 1043.24.002, 1218.10.003,
mass 92, st.

Conv. 465 Beam-1

p. 3606.20.006.0.0, mass 65.8,
st. 110G13L, 110G13KH2L

51 to 100 kg

Conv. 467 Beam-2

p. 3606.20.021.0.0, mass 63.7,
st. 110G13KH2L

Conv. 468 Beam-3

p. 3633.20.002.5.0, mass 64,
st. 110G13KH2L

Conv. 469
Armored non-sorting plate
Mill 3

p. , mass 74.4, st. 110G13KH2L

51 to 100 kg

Conv. 474 Beam-4

p. 3633.20.003.5.0, mass 60,
st. 110G13KH2L

Conv. 475 Beam-6

p. 3633.20.001.5.0, mass 82,
st. 110G13KH2L

Conv. 476 Beam-7

p. 3643.20.002.4.0, mass 86,
st. 110G13KH2L

51 to 100 kg

Conv. 485 Sill plate

p. 1236.40.210.0.023, mass 72.3,
st. 40KH24N12SL

Conv. 501
Flat armored plate with a leg

p. 3632.20.004.2, mass 65,
st. 110G13

Conv. 513
Non-sorting armored plate for the mill D2,55x13 m. Type A

p., mass 89.28, st. 110G13KH2L

51 to 100 kg

Conv. 523
Armored plate.
P-61-00-001A.
Mill 2, 6x3 unified

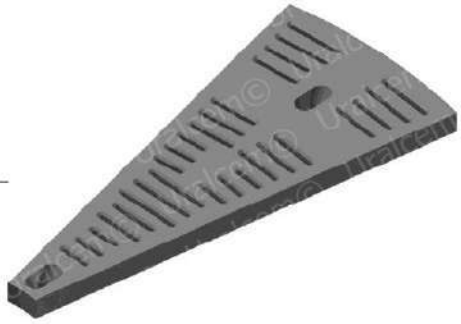
p., mass 82. st. 110G13KH2L

Conv. 591 Beater

p. 3582.02.005A, mass 61.6,
st. 110G13L

Conv. 593
Sector with tangential slits 10 mm

p. 19252.00.00, mass 93.6,
st. 110G13KH2L



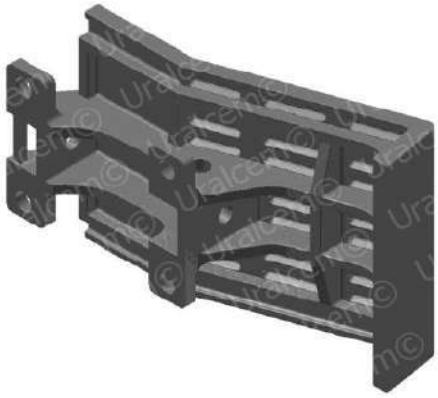
51 to 100 kg

Conv. 594 Armored plate

p. 22727, mass 92.3

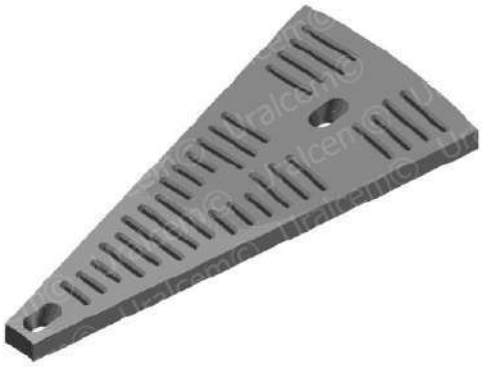
Conv. 599 General purpose kiln bar with reinforceent

p. M 840, mass 74,
st. 40KH24N12SL



Conv. 600 Slit sector with tangential slits 8 mm

p. 19251.00.00, mass 97,
st. 110G13KH2L, 110G13L,
110G13KHML



51 to 100 kg

Conv. 603
Armored lining plate, taper&corrugated

p. ПМН.000.01.001-003, P P-12,
mass 63.9, st. 110G13FL

Conv. 605
Armored lining plate, taper&corrugated

p. ПМН.000.01.001, P P-12,
mass 63.9, st. 110G13FL

Conv. 606
Armored lining corrugated plate

p. ПМН.000.04.001, mass 58,
st. 110G13FL

51 to 100 kg

Conv. 608
Grating sector

p. 4618, mass 96,
st. 110G13KH2L

Conv. 615
Drum armor

p. 3-54034, mass 95,
st. 110G13L

Conv. 616 Armor of the wedge

p. 3-54288, mass 88,
st. 110G13L

51 to 100 kg

Conv. 624
Slit section

p. ПМУ 005.00.048, mass 56.3,
st. 110G13L

Conv. 625
Slit section

p. ПМУ 005.00.049, mass 90.2,
st. 110G13L

Conv. 628
Three-wave lining plate

p. ПМ-142.00.000 КБ, mass 75.3,
st. 110G13L

51 to 100 kg

Conv. 656
Window casing TYPE 1

p. ТС.222-Н04.1103-И1, mass 60,
st. 35KH23N7SL

Conv. 665
Beater of the hammer crusher DM-1700x1450

p. ДМ.1.008, 3582.02.005, mass 57,
st. 110G13L

Conv. 674
Smooth armored plate

p. 11041.00.001, mass 80,
st. 110G13L

51 to 100 kg

Conv. 677
Locking armored plate

ч.11041.00.002, mass 75,
st. 110G13L

Conv. 678
Armored plate of the mill first chamber D2.2x13m, non-sorting, type A

p. , mass 73, st. 110G13KH2L

Conv. 679
Non-sorting armored plate of the mill second chamber, type Б

p., mass 78.8, st. 110G13KH2L

51 to 100 kg

Conv. 684
Window casing TYPE 1

p. ТС.222-Н04.11.04-И1, mass 60,
st. 35KH23N7SL

Conv. 687 Plate

p. 7988-012, mass 86.3,
st. 110G13L

Conv. 688 Plate

p. 8185-04, mass 78.6,
st. 110G13L

51 to 100 kg

Conv. 689 Grate

p. 7587-011, mass 91.6,
st. 110G13L

Conv. 694
Hammer, crusher СМД-75А

ч.75А-484.04.00.002ES, mass 52.1,
st. 110G13L

Conv. 695
Lower sector of the output grate

p.3945-0-0-13, ПМУ 005.00.048
(slit 6mm, mass 72, st.
110G13L

51 to 100 kg

Conv. 696
Upper sector of the output grate

p.3945-0-0-14A, ПМУ 005.00.049
(slit 6 mm, mass 95,
st. 110G13L

Conv. 698
Armor C2-30
Cement mill D4x13,5

p. СЛ1850167, 102C1, mass 79.9,
st. 110G13KHML

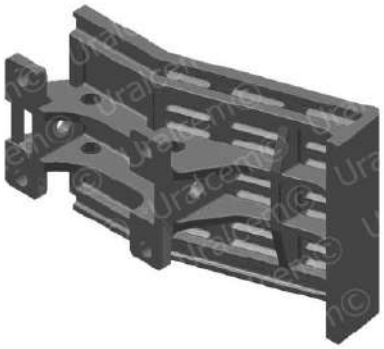
Conv. 701
Gravel strip

p.П-1336К, mass 64,
st. 20KH25N19S2L

51 to 100 kg

Conv. 705
General purpose kiln bar

ч.1955.41.024А, mass 72,
st. 40KH24N12SL

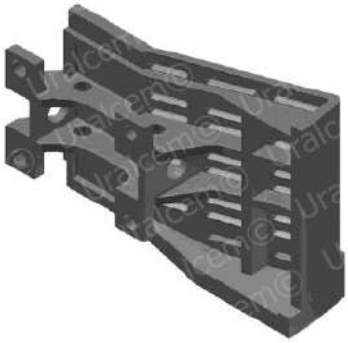


Conv. 713 Armor

p. 07.70.02.00.09, mass 80,
st. 110G13L

Conv. 715
Board kiln bar (left)

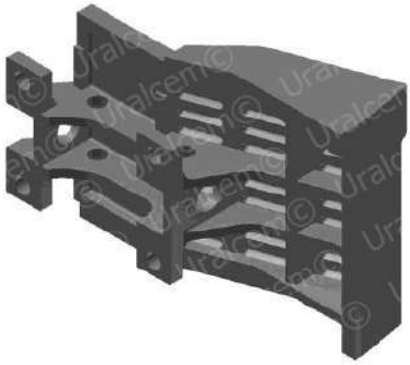
p. 025.3-306, mass 88.5,
st. 40KH24N12SL



51 to 100 kg

Conv. 716
Board kiln bar (right)

p. 025.3-276, mass 86.8,
st. 40KH24N12SL



Conv. 719
Upper armor plate

p. 07.70.02.00.27, mass 69,
st. 110G13L

Conv. 720
Armored lining corrugated plate d.43, d.45, wedging, without wedging, p.f ГМ-328

p. 62.537.003.0, mass 63, st. 110G13L,
110G13KH2L, 110G13KHML

51 to 100 kg

Conv. 721
End face lining

ч.3601.21.003.2.0., mass 55,
st. 110G13L

Conv. 725
Input inside armor

р.СЛ-1850167.229В1, mass 87,
st. 110G13KHML

Conv. 726
Input outside armor

р.СЛ-1850167.231В1, mass 78,
st. 110G13KHML

51 to 100 kg

Conv. 729
End face section

ч.52645, mass 100,
st. 35KH23N7SL

Conv. 738
Non-sorting armored plate of the first chamber. Mill D3,2x15

p., mass 79.3, st. 110G13KH2L

Conv. 739 Plate

p. АЦ.54.190, mass 97,
st. 35KH23N7SL

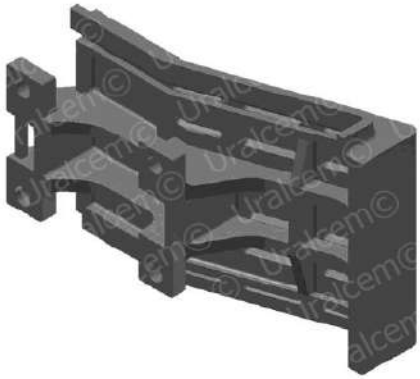
51 to 100 kg

Conv. 740
Armored sorting plate of the mill left rotation 3,2x15, d.38

p., mass 91, st. 110G13L, 110G13KH2L

Conv. 743 Kiln bar

h 1953.02.028.00, mass 96.8, st. 40KH24N12SL



Conv. 747
Armored plate of the first mill chamber D3x14m.

p., mass 51.5, st. 110G13KH2L

51 to 100 kg

Conv. 748
Armored plate of the second mill chamber D3x1m

p., mass 62.6, st. 110G13KH2L

Conv. 755
Beater of the crusher ОСД-100

p. 5970, mass 61.7, st. 110G13L

Conv. 757
Clinker crusher beater

ч.10645.00, mass 53.7,
st. 110G13L

51 to 100 kg

Conv. 758
Diaphragm sector

(p.04714-015a, mass 93.105,
st. 110G13L

Conv. 759
Non-sorting armored plate of the first mill chamber, type Б

p., mass 84.8, st. 110G13KH2L

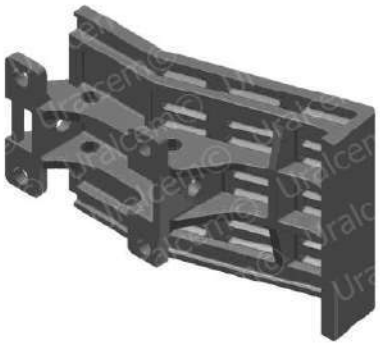
Conv. 761
Non-sorting armored plate of the first mill chamber, type Б

p., mass 83.2, st. 110G13KH2L

51 to 100 kg

Conv. 771
General purpose kiln bar

p. П3.015.1, 3.1100, mass 72,
st. 40KH24N12SL

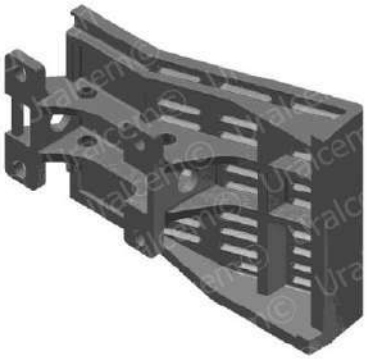


Conv. 775
Armored lining corrugated plate, d.43, wedging

(p.f ГМ-328 p.P 61.00.002, 12-6388,
62.537.003.0, mass 63,
st. 110G13KH2L

Conv. 778
Board kiln bar (left)

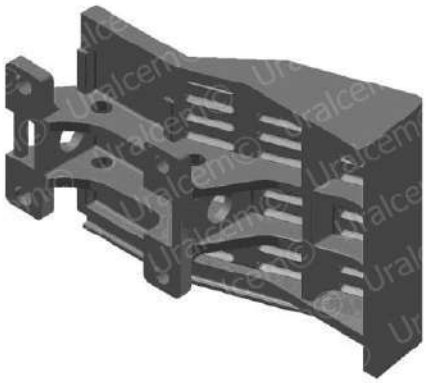
p.1953.02.022.0, 3.1102. mass 75,
st. 40KH24N12SL



51 to 100 kg

Conv. 779
Board kiln bar (right)

p.1953.02.023.0, 3.1101, mass 75,
st. 40KH24N12SL



Conv. 782
Corrugated plate (mill 2, 4x13)

ч.048.6-036, mass 98.7,
st. 110G13L

Conv. 783
Left armored lining plate

р. ПМН.004.00.048, mass 93,
st. 110G13L

51 to 100 kg

Conv. 784
Plate of the intermediate diaphragm

p. 46659, mass 83.1,
st. 110G13L

Conv. 789
Armored taper&corrugated plate (mill 3.2x15, resp. d.38)

ч.Р.61.00.001.Б, ПМН.000.01.001.01А,
Р3.165.000, mass 85,
st. 110G13FL

Conv. 790
Armored lining corrugated plate, d.37, d.38, without wedging, p.f ГМ-188

р.ПМН.000.04.001, mass 58,
st. 10G13FL

51 to 100 kg

Conv. 794 Armored taper&corrugated subgrating plate

p. 8132-00, mass 97.5,
st. 110G13L,110G13KH2L

Conv. 796 Armored lining taper&corrugated plate

p. ПМН.000.01.001,mass 65.6,
st. 110G13L

Conv. 800 Armored lining plate

p. 3630.03.006, mass 65,
st. 110G13KH2L

51 to 100 kg

Conv. 803 Armored energy exchanging plate

p. 7814-00, mass 82,
st. 110G13L

Conv. 806 Sill armor

p. 1236.01, mass 53.6,
st. 40KH24N12SL

Conv. 816 Blind sector

p. M8.101, mass 68,2,
st. 110G13L

51 to 100 kg

Conv. 819
Slit sector

p. 122.32.00 (slit 8mm, mass 97,
st. 110G13KH2L

Conv. 823
End face upper armor

p. 3-54582И1, mass 64,
st. 110G13L

Conv. 824
End face inside armor

p. 3-61819И3, mass 62,
st. 110G13L

51 to 100 kg

Conv. 826 Sector

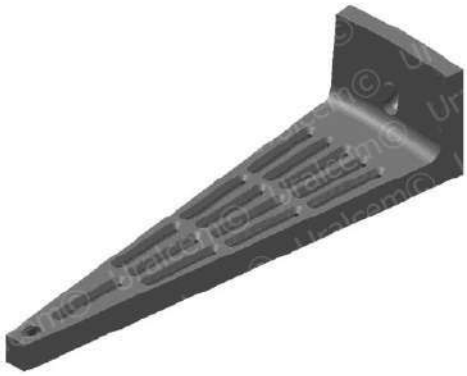
p. 3601.23.001.2, mass 90.6,
st. 110G13L

Conv. 828 Armored lining cylindrical&wave plate

p.ПМС.000.02.012, mass 61.4,
st. 110G13KH2L

Conv. 829 Intermediate diaphragm sector (Mill D2,6x13 m)

p. ПМУ 005.07.001, mass 96,
st. 110G13L



51 to 100 kg

Conv. 831
Mouth plate.
Rotary kiln 10

p.120905, mass 88.1,
st. 40KH24N12SL

Conv. 835
Armored lining
cylindrical plate

p. 47024, mass 55.1,
st. 110G13FL

Conv. 837
Upper face armored plate

p.46415, mass 65.5,
st. 110G13KH2L

51 to 100 kg

Conv. 838
Drum armor

p. 46866, mass 75.1,
st. 110G13L

Conv. 839
Armored plate (smooth and elongated)

p. ДЦ 1014.001, mass 86.5,
st. 110G13L, 110G13KH2L

Conv. 840 Armored plate

p. ДЦ 927.004, mass 78.3,
st. 110G13KH2L

51 to 100 kg

Conv. 842
Armored plate 3B

p. , mass 56.3, st. 110G13KH2L

Conv. 851
Compound plate. Central kiln

p. 000 102 4297, mass 79.8,
st. 20KH25N19S2L

Conv. 859
Diaphragm sector

p. 14415-9-4-10, mass 92.4,
st. 110G13KH2L

51 to 100 kg

Conv. 863
Armored taper&corrugated plate (3-wave)

p. ПМС.000.01.013-01, mass 82.3,
st. 110G13FL

Conv. 864
Armored plate of the first chamber of the mill 3,2x13 m, non-sorting

p. , mass 73.4, st. 110G13FL

Conv. 865
Armored plate. 4255

(with the drawing 18792376C1, mass 57.2,
st. 110G13KH2L

51 to 100 kg

Conv. 866
Armored lining taper&corrugated plate

p. 6150, mass 88.3,
st. 110G13FL

Conv. 869
Non-sorting cam plate

ч.39.11-02, mass 91.9,
st. 110G13L

Conv. 870
Corrugated compensating plate

p. 048.6-010, mass 95.7,
st. 110G13L

51 to 100 kg

Conv. 874
Taper&corrugated armored plate with cyma convexes

p. P 6100.001 Б-1А, mass 73.1,
st. 110G13L

Conv. 878
Armored lining plate

p. 3632.20.004.2.023, mass 65,
st. 110G13L, 110G13KH2L

Conv. 879
Rail of the sill plate

p. П-878-02 (in place of 819-ППП-Н19),
mass 84.7, st. 20KH25N19S2L

51 to 100 kg

Conv. 886 Armored plate

p. 100.397.92-A, mass 54.8,
st. CHKH16N2

Conv. 887 Bottom door armor

p. 3-76570И3 ГЧ, 142.24.00,
mass 55, st. 110G13L

Conv. 890
Heat exchanger blade

p., mass 32.9,
st. 20KH25N19S2L

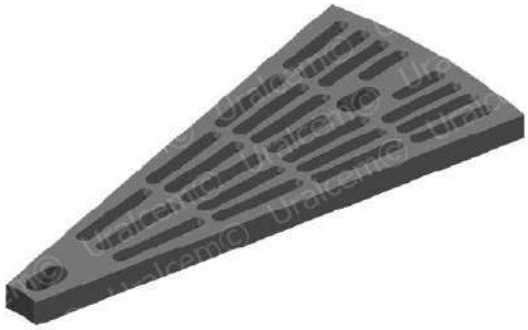
51 to 100 kg

Conv. 895
Armored lining cylindrical plate

p. ПМУ.000.02.008, mass 54.6, st. 110G13FL

Conv. 896
Diaphragm sector

p. ДЦ 928.004, mass 86.8, s t. 110G13L



Conv. 897
Diaphragm sector

p. 1456.01.02.001, mass 66.7, st. 110G13L

51 to 100 kg

Conv. 901
Manhole facing

p. 1456.01.02.006,
mass 65.4, st. 110G13L

Conv. 902
Manhole cover facing

p. 1456.01.02.201 (93-14 CM 436-1-0-11, mass 66.3, st. 110G13L

Conv. 910 Plate

p. 14247Ф-1-2, mass 71.7,
st. 110G13L

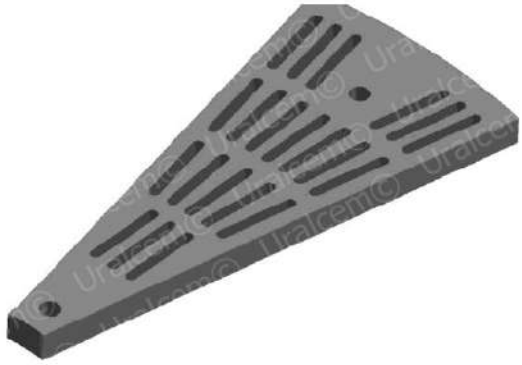
51 to 100 kg

Conv. 911
Armored plate

p. 14247-1-3, mass 65.8,
st. 110G13L

Conv. 913
Diaphragm sector

p. 14247Ф-8, mass 95.3,
st. 110G13L



Conv. 914
Armored plate of the first chamber of the mill D2,6x10.6 m, mill rotation clockwise

p., mass 72, st. 110G13KH2L

51 to 100 kg

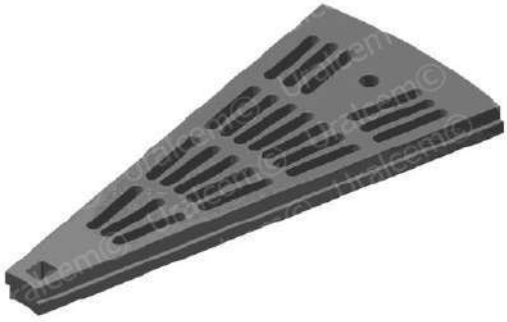
Conv. 915 Armored plate of the first chamber of the mill D2,6x10.6m, sorting, mill rotation clockwise

p., mass 85, st. 110G13L

Conv. 916 Armored plate (smooth and elongated)

p. , mass 84.2, st. 110G13L

Conv. 917 Diaphragm sector (cement mill) D2,6x13 m



р.ДЦ 952.001И, mass 95, st. 110G13L

51 to 100 kg

Conv. 921 Screw

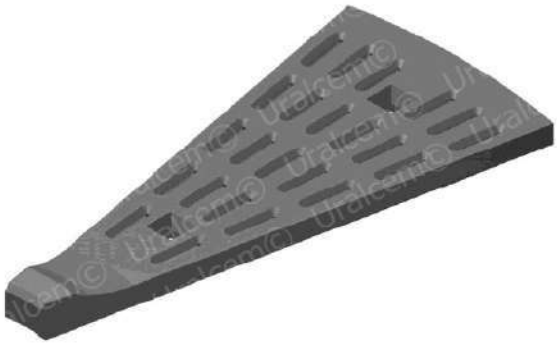
p. E65A.02.060A, mass 54.9,
st. CHKH16N2

Conv. 926
Grating sector

p. 3611.04.003, mass 92.6,
st. 110G13L

Conv. 927
Grating sector

p. M7.111, mass 71.9,
st. 110G13L



51 to 100 kg

Conv. 928 Blind sector

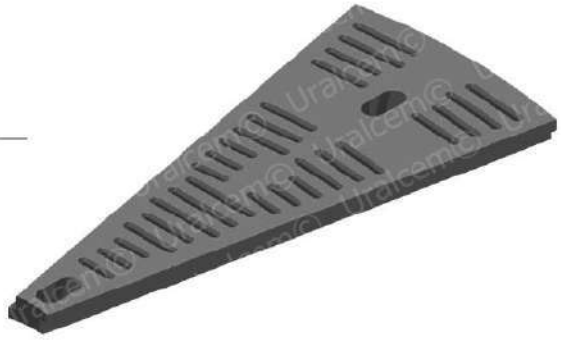
p. M7.112, mass 79.9,
st. 110G13L

Conv. 929
Armored subgrating plate

p. 3393-01, mass 75,
st. 110G13FL

Conv. 937
Slit sector

ч.19251.00.00, mass 94,
st. 110G13KH2L



51 to 100 kg

Conv. 941 Screw

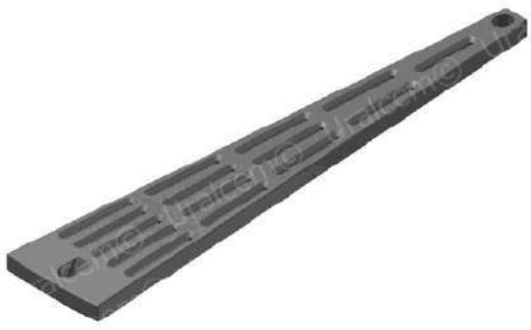
p.E65A.02.070A, mass 54.9,
CHKH16N2

Conv. 946
First chamber armored plate. Mill D2,55x13м, non-sorting, counter-clockwise rotation

p. Prototype 515-БПК.А, mass 96,
st. 110G13KH2L

Conv. 952
Intermediate diaphragm sector

(mass 87,2, st. 110G13KH2L



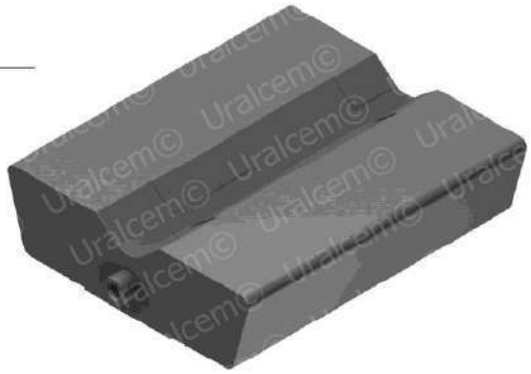
51 to 100 kg

Conv. 954
Taper&corrugated armored plate

p. ПМН.000.01.001, 4446-А,
mass 76, st. 110G13KH2L

Conv. 956 Hammer

(p., mass 90.7, st. CHKH22,



Conv. 957
Ribbed armored plate

p.183336, mass 56.5, st. 110G13L,
110G13KH2L

51 to 100 kg

Conv. 959
Armored plate, smooth. Mill 2,0x10,5

ч., mass 51.2, st.

Conv. 960
Armored plate, non-sorting (Mill D2x10,5 m)

ч., mass 74, st. 110G13KHML

Conv. 961
Smooth armored plate with a back-up ring

р., mass 76.1, st.

51 to 100 kg

Conv. 962
Armored sorting plate. Mill 2x10.5 m

p., mass 78.5, st.

Conv. 965
Kiln sill plate D4,5x80

p. 14 60.43.110.0, mass 91.2,
st. 40KH24N12SL

Conv. 976
Wedged armor

p. 3B.28.09-1, mass 61.7,
st. 110G13L

51 to 100 kg

Conv. 977
Drum armor

p. 3B.28.09-4, mass 68.1,
st. 110G13L

Conv. 978
Upper end face armor

p. 3B.28.09-8, mass 62.5,
st. 110G13L

Conv. 980
Armored lining plate, d.45, wedging, p.f ГМ-328

ч.62.537.003.0, mass 63,
st. 110G13L

51 to 100 kg

Conv. 981
Grating plate

p. 14016Ф-1-1, mass 62.4,
st. 110G13KH2L

Conv. 982 Blind plate

p. 14016Ф-1-2, mass 62.8,
st. 110G13KH2L

Conv. 983
Armored plate

p. 14016Ф-5, mass 56.3,
st. 110G13KH2L

51 to 100 kg

Conv. 984
Armored plate

p. 14016Ф-6, mass 69.8,
st. 110G13KH2L

Conv. 985 Bottom door

p. 14016Ф-2, mass 67.8, st.

Conv. 988
Grating ring

p. 14016Ф-15, mass 82.4,
st. 110G13KH2L

51 to 100 kg

Conv. 989 Bottom door armor

p. 14016Ф-17, mass 38.7,
st. 110G13KH2L

Conv. 1004
Armored taper&corrugated plate

p.P61.00.004.8Б, mass 75,
st. 110G13L

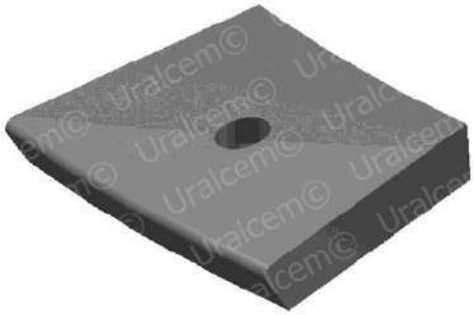
Conv. 1018
Reinforced kiln bar

p., mass 75, st. 35KH23N7SL

51 to 100 kg

Conv. 1022 Armor

p.M1250.8-4, mass 56.6,
st. CBMA



Conv. 1023 Armor

p.M1250.8-5, mass 53.7,
st. 110G13L

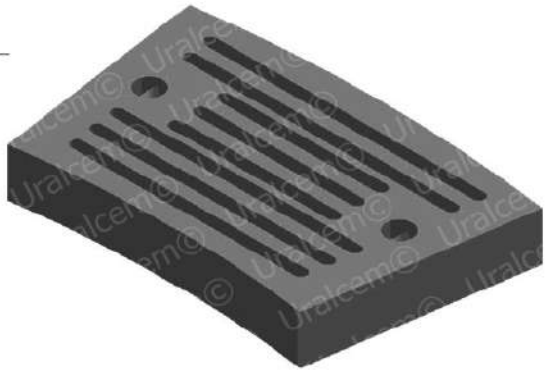
Conv. 1046
Lower armored plate

p. 10523.00.001, mass 60,
st. 110G13L

51 to 100 kg

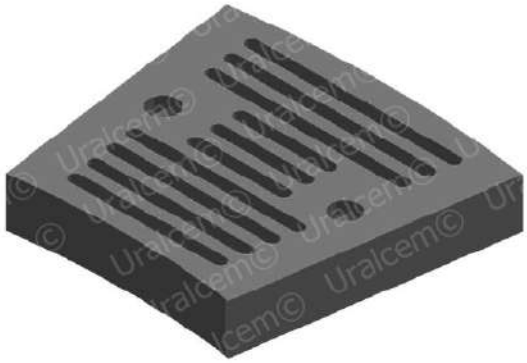
Conv. 1065
Grate armor

p.M1250.8-20, mass 55.9,
st. 110G13L



Conv. 1066
Grate armor

p.M1250.8-21, mass 54.3,
st. 110G13L



Conv. 1069 Beater

ч.3699 000 А, mass 71.1,
st. 110G13L

51 to 100 kg

Conv. 1079 Armor

p. M1250.8-6, mass 53.9,
st. 110G13L

Conv. 1080 Armor

p. M1250.8-8, mass 95.2,
st. 110G13L

Conv. 1083 Grating armor

p. M1250.8-24, mass 51,
st. 110G13L

51 to 100 kg

Conv. 1084 Armor

p. M1250.8-25, mass 65.6,
st. 110G13L

Conv. 1094 Armored cylindrical wave plate. Mill D2,6x13 m

p. ПМС.000.02.011, mass 53.6,
st. 110G13L

Conv. 1095 Armored classifying helicoid plate. Mill D2,4

p. 4357 П, mass 79.4,
st. 110G13FTL

51 to 100 kg

Conv. 1096
Armored classifying helicoid plate.
Mill D2,4. Mill D2,4

p. 4357 O, mass 79.4,
st. 110G13FTL

Conv. 1106 Rack

p. П-402.000.000.002, mass 6.9,
st. 30KHGSL

Conv. 1110
Intermediate diaphragm

p. 1-722, mass 95.4,
st. 110G13L

51 to 100 kg

Conv. 1112
Armored flat plate 8.
Cement kiln D3,2x15 m

ч.Р3.142.000, mass 71.3,
st. 110G13L

Conv. 1122 Sill plate

p. 1236.40.210.023, mass 84.6,
st. 40KH24N12SL

Conv. 1124 Armored plate of the input faceplate

(p .M16.019, mass 63,
st. 110G13L

51 to 100 kg

Conv. 1125
Armored full-wave plate

p. P61.00.003.ВУ, mass 56.4,
st. 110G13L

Conv. 1132
Shortened
non-sorting plate

p. , mass 95.8, st. 110G13L

Conv. 1133
Armored smooth plate

p. , mass 63, st. 110G13L

51 to 100 kg

Conv. 1134
Armored plate of the 2nd chamber, non-sorting and shortened. Left rotation mill D3,2x15 m

p. , mass 60.5, st. 110G13L

Conv. 1135 Armored sorting plate. Type VI

p. , mass 95.8, st. 110G13L

Conv. 1141
Armored non-sorting plate of the 1st line of the 1st chamber. Left rotation mill D3,2x15 m

p. , mass 78.7, st. 110G13L

51 to 100 kg

Conv. 1188 Knife

(mass 62.3, st. 20GSL

Conv. 1189
Armor (cement mill)

p.M1250.8-26, mass 55.2,
st. 110G13L

Conv. 1194
Large armored sheet

p. 5113.00.02, mass 91.6,
st. 110G13L

51 to 100 kg

Conv. 1199
Input medium armor

p. СЛ-1811102.262 B1, mass 100.2,
st. 110G13L

Conv. 1201
Lining armor

p. БП.К3Ц.17.11.2014.01, mass 76.2,
st. 110G13L

Conv. 1205
Armor lining of the 2d chamber

p. ESTANDA late BB-2427 FE-M320-0521, mass 62.5, st. CBMA F3

51 to 100 kg

Conv. 1208
Armored plate before intermediate diaphragm

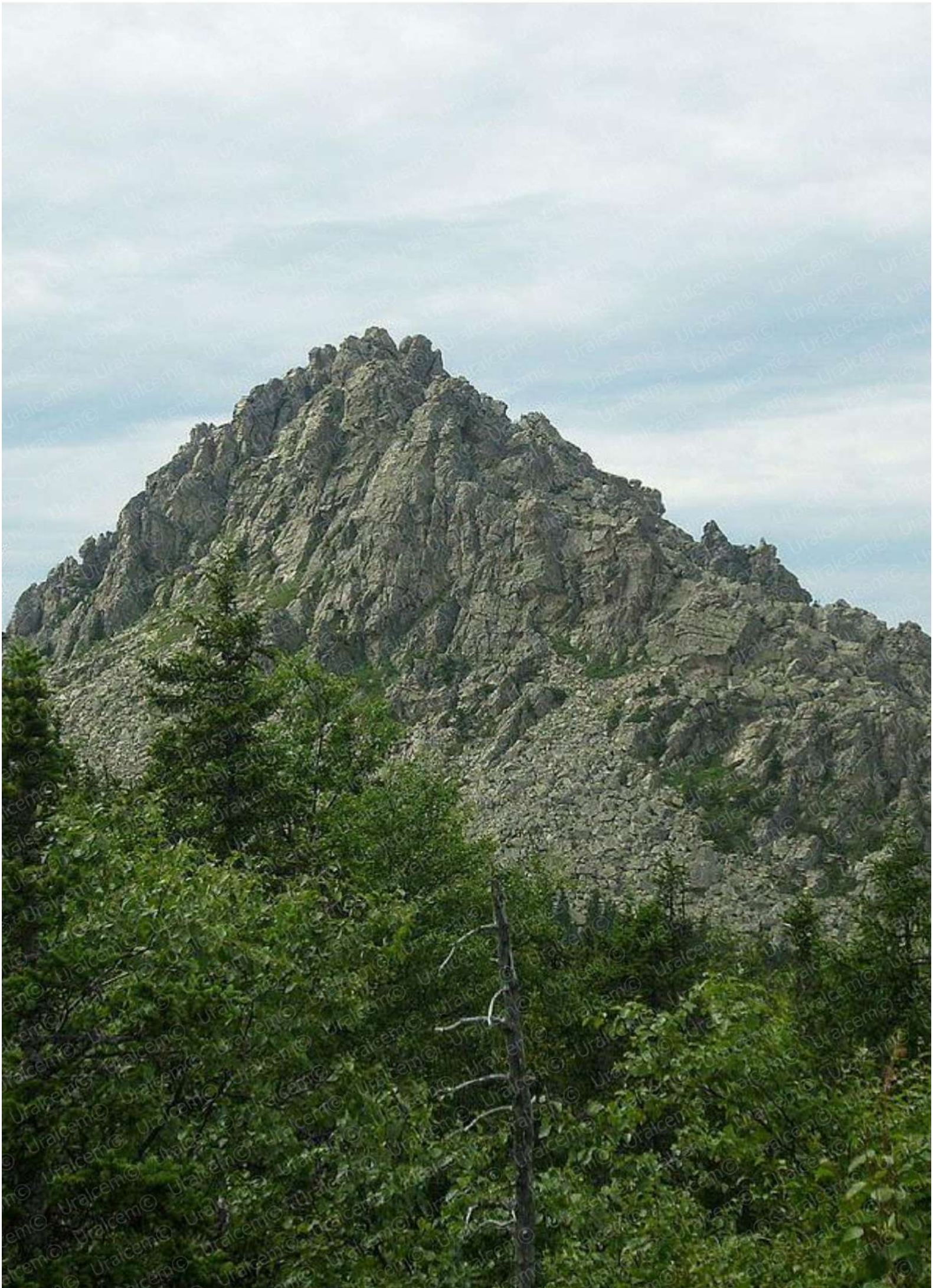
p. , mass 54.8, st. 110G13L

Conv. 1209
Bottom door cover

p.M7.096, mass 59.9,
st. 110G13L

Conv. 1210
Armored plate of input faceplate

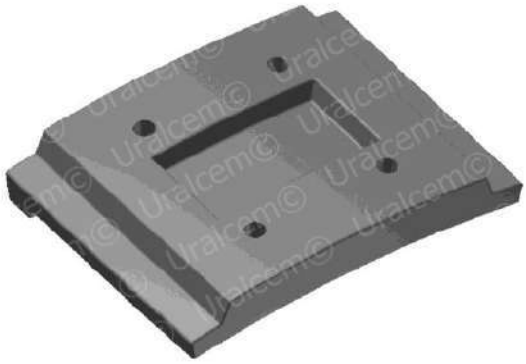
p. П5-386, mass 65.7,
st. 110G13KH2L



101 to 200 kg

Conv. 4
Front pad

p. MC-02905-1, mass 178.2,
st. 40KH24N12SL



Conv. 20 Sill plate

p. Ф-20.12.К01.00.003, mass 123.1,
st. 40KH24N12SL

Conv. 27
End face lining

p. 3611.01.005, mass 133.2,
st. 110G13KH2L

101 to 200 kg

Conv. 34 Blind sector

p. ЦМ-585, mass 128.9,
st. 110G13L

Conv. 38
Beam armored plate

p. ДЦ-71, mass 101.3,
st. 110G13L

Conv. 39 Armored plate

p.СМ-182, mass 104.4,
st. 110G13L

101 to 200 kg

Conv. 52 Sill pad

p. MC-02893-1, mass 137.3,
st. 30KH24N12SL

Conv. 62
Pouring spout

p. 160.04.01.002, mass 110,
st. KH19N36BL

Conv. 73
Half plate

p. 2-103441, mass 200,
st. 35KHMFL

101 to 200 kg

Conv. 99
Front armored plate

p. ПМН.004.00.072, mass 120,
st. 110G13L

Conv. 106
Face pad

p. МС-02901, mass 183.7,
st. 40KH24N12SL

Conv. 136
Lining plate

p. РЧ169.001, МС-04-94Б,
mass 107.1, st. 40KH24N12SL

101 to 200 kg

Conv. 139 Sill plate

p. 3815, mass 108.1,
st. 40KH24N12SL

Conv. 165 Face plate

p. P61.06.011, mass 140.3,
st. 110G13KH2L

Conv. 269 Sill pad

p. B-94, mass 152.8,
st. 30KH24N12SL

101 to 200 kg

Conv. 297
Armored lining front plate

p. ПМН004.00.30, P61.004.007,
mass 122, st. 110G13KH2L

Conv. 298
Armored lining front plate

p. ПМН 004.00.026, mass 110,
st. 110G13L

Conv. 338
Right Aerofall plate

(45.1.3154.043.00, mass 100.5,
st. 40KHGML

101 to 200

Conv. 343
Sill pad

p. 02893, mass 133.8,
st. 40KH24N12SL

Conv. 348
Armored lining front plate

p. ПМН.004.00.066, 3616.21.003.40,
mass 150, st. 110G13L,
110G13KH2L

Conv. 350
Slit sector

p. 3616.24.004.40, ПМН.005.00.021,
3616.04.001, mass 135,
st. 110G13KH2L

101 to 200 kg

Conv. 361
Left Aerofall plate

p. 45.1.3154.042.00, mass 104.6,
st. 40KHGML

Conv. 366
Upper pad

p. 24-86, mass 143,
st. 40KH24N12SL

Conv. 367
Lower pad

p. 24-85, mass 135.1,
st. 40KH24N12SL

101 to 200

Conv. 399
Armored sorting plate of the first chamber. Type A. Mill D4x13,5

p., mass 107.2,
st. 110G13KH2L

Conv. 401
Slit sector

p. ПМУ.005.00.021, 3616.74.004.4.0,
3616.04.001, P61.06.013, mass 130,
st. 110G13L

Conv. 405
Armored lining front plate

p. ПМН.004.00.031, mass 151,
st. 110G13L

101 to 200 kg

Conv. 406
Armored lining front plate

p. ПМН.004.00.061, mass 116.2,
st.110G13L

Conv. 407
Armored lining front plate

p. ПМН 004.00.055, mass 105.5,
st. 110G13FL

Conv. 408
Armored lining front plate

p. ПМН 004.00.030, mass 122,
st. 110G13L

101 to 200 kg

Conv. 409
Armored lining front plate

р. ПМН 004.00.049, mass 126.6,
st. 110G13FL

Conv. 460 Blind sector

ч.3616.30.015.4.0, mass 123.6,
st. 30KHGSL

Conv. 512
First chamber armored plate.
Mill D2,55x13 m, sorting. Counter-clockwise rotation. Type Б

р., mass 107.8, st. 110G13KH2L

101 to 200 kg

Conv. 518
Armored lining front plate

p. 21068, P61.04.007, ПМН.004.00.030,
mass 116.2,
st. 110G13KH2L

Conv. 521
Armored lining front plate

p. ПМН.004.00.056, mass 125,
st. 110G13L, 110G13KH2L

Conv. 609 Grate

p. 51-5603.0165.00.001 (561-P,
mass 157, st. 35L

101 to 200 kg

Conv. 626
Diaphragm sector

p. 3632.20.006.2023 A, mass 144.4,
st. 110G13L

Conv. 661
Diaphragm sector

ч.3630.03.041.2, mass 142,
st. 110G13L

Conv. 685
Slit sector

p. ПМУ 005.00.052, mass 136,
st. 110G13L

101 to 200 kg

Conv. 686 Plate

p. 7587-012, mass 112.6,
st. 110G13L

Conv. 697
Armor C1-30
Cement mill D4x13,5

p. СЛ-1815105, 101B1, mass 119,
st. 110G13KH2L

Conv. 699
Armor V1-30
Cement mill D4x13.5

p.СЛ-1815105, 103B1, mass 114.3,
st. 110G13KHML

101 to 200 kg

Conv. 700
Armor V0-30
Cement mill D4x13.5

p. СЛ-1815105, 104В1, mass 156.3,
st. 110G13KHML

Conv. 704 Bearing plate

p. 03-1920, mass 122.3,
st. 40KH24N12SL

Conv. 708
Lining armor

ч.8710-1, mass 181.7,
st. 110G13L

101 to 200 kg

Conv. 711 Wedge

p. 8713-1, mass 164.4,
st. 110G13L

Conv. 717 Lower armor

p. 07.70.02.00.25, mass 150,
st. 110G13L

Conv. 727
Sill armor

p. 01-662-ПГ, mass 107.28,

101 to 200 kg

Conv. 740
Stationary armored plate of a jaw crusher

ч., 50-28-11-29, mass 109.8,
st. 110G13L

Conv. 744
Armored front plate

ч.ПМН.004.00.66К1, mass 170,
st. 110G13FL

Conv. 750
Sector of the grating of the discharging bottom door Mill 3,2x15

p. 25667, mass 130,7,
st. 110G13L

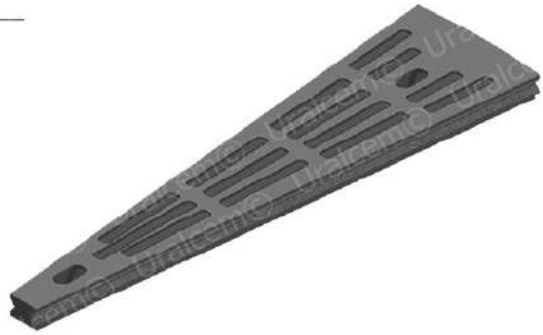
101 to 200 kg

Conv. 752 Support plate

p.018-1605, mass 122.8,
st. 40KH24N12SL

Conv. 753
Output grating sector

p.3632.20.006.2.023A, mass 142,
st. 110G13L



Conv. 762
Cam non-sorting plate

p. 048.20-01, mass 110.6,
st. 110G13FTL

101 to 200 kg

Conv. 763 Non-sorting cam plate

ч.048.21-01, mass 102.1,
st. 110G13FTL

Conv. 767 Diaphragm plate

р.048.6-01г , mass 128.4,
st. 110G13L

Conv. 769 Armored plate

р. 1170А 00.00.00.05, mass 152,
st. 110G13KH2L

101 to 200 kg

Conv. 770
Armored front plate

p.120149 - M, mass 187.7,
st. 110G13L

Conv. 772 Sill plate

p. П-878, mass 142.2,
st. 20KH25N19S2L

Conv. 776
Armored front plate

ч.ПМН.004.00.66К1, mass 159.4,
st. 110G13FL

101 to 200 kg

Conv. 777
Armored lining front plate

p.047.15-026, mass 123,
st. 110G13L

Conv. 787
Intermediate diaphragm pad

p. 2202, mass 162.4,
st. 110G13L

Conv. 788
Diaphragm plate

p. 046.3-5-01e, mass 124.2,
st. 110G13L

101 to 200 kg

Conv. 792
Slit sector

ч.РЧ.288.000, mass 130,
st. 110G13L

Conv. 795
Lining with ribs

р. 3611.01.005 з-д, mass 124.7,
st. 110G13KH2L

Conv. 799
Armored front plate (mill 3,2x15)

р.СЛ.3630.00.20., mass 154,
st. 110G13KH2L

101 to 200 kg

Conv. 802
Front lining

p. 102.32., mass 126.8,
st. 110G13L

Conv. 805
Loading chamber tray

p. 053-1-56, mass 151.1,
st. 40KH24N12SL

Conv. 815
Armored lining front plate

ч.ПМН.004.00.007, mass 128.9,
st. 110G13FL

101 to 200 kg

Conv. 821
Diaphragm sector. Mill D4x13,5 m

p. Ц 599.01.003 A, mass 132.7, st. 110G13L

Conv. 825
Mouth plate (sill plate)

p.23513, 19.2132.177, mass 138.5, st. 40KH24N12SL

Conv. 827
Grating sector

p. 8891-00 (130740822490, mass 135, st. 110G13L

101 to 200 kg

Conv. 830 Armored ribbed plate with a projection

p. ДЦ 854.001M, mass 106.5,
st. 110G13L

Conv. 833 Armored lining front plate

p. P61.06.011, mass 140.6,
st. 110G13KH2L

Conv. 834 Armored lining front plate

p. 8323.00, mass 145.6,
st. 110G13L

101 to 200 kg

Conv. 860
Face lining

ч.14415-9-1-22, ПМН.004.00.022,
mass 131.8, st. 110G13KH2L

Conv. 873
Diaphram sector

p. 3632.20.006.2.023A , mass 142,
st. 110G13KH2L

Conv. 891
Slit sector

p. РЧ.293.001 (3616.24.004.4.0, mass
114.5, st. 110G13L

101 to 200 kg

Conv. 892
Taper and corrugated armor A

p., mass 105.4, st. 110G13L

Conv. 893
Armored front plate

p.2100, mass 122.3,
st. 110G13L

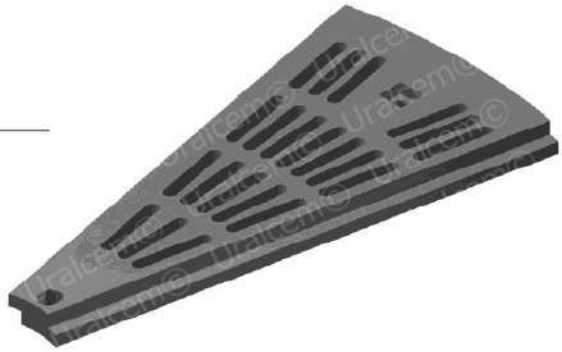
Conv. 912
End face lining

p. 14247Ф-4, mass 115.6,
st. 110G13L

101 to 200 kg

Conv. 918
Diaphragm sector

ч.10059.01, mass 105.4,
st. 110G13L



Conv. 919
Armored smooth and flat ribbed plate, d.43, d.45, wedging (p.f ГМ 257)

р.ДЦ 854.001М, 62.537.001.0,
mass 106.5, st. 110G13L

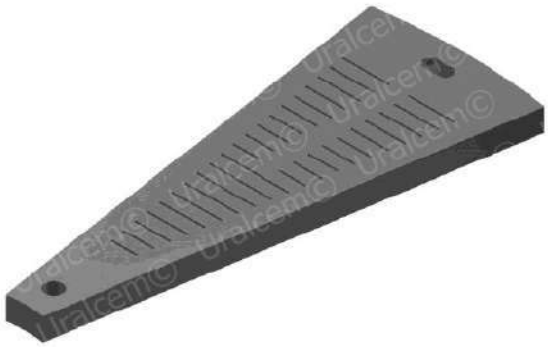
Conv. 920
Front armored lining plate

p. 142-19-00, mass 120.8,
st. 110G13FL

101 to 200 kg

Conv. 942
Discharge grating sector

p.P-740.01.006A, mass 132.6,
st. 110G13KH2L



Conv. 945
OFA kiln bar (reinforced)

p.309-145-K, mass 121.1,
st. 40KH24N12SL

Conv. 948
Left-hand rotation classifying liner plate

p. replacing 760, mass 103.3,
st. 110G13KH2

101 to 200 kg

Conv. 958 Kiln bar

p., mass 103.1,
st. 15KH25N20G2S2L

Conv. 975
Grating sector

ч.3613.24.004.4.0 A, mass 124.6,
st. 110G13KH2L

Conv. 1009 Lining 4

p. МБ-013 (with the drawing 3В36-09.13И-0 ,
mass 144.8, st. 110G13L

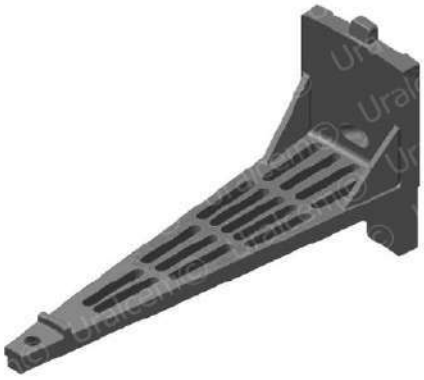
101 to 200 kg

Conv. 1014
Sill pad

ч.14425-2A-1-2 (acc. to drawing MC-02893, mass 124.2, st. 40KH24N12SL

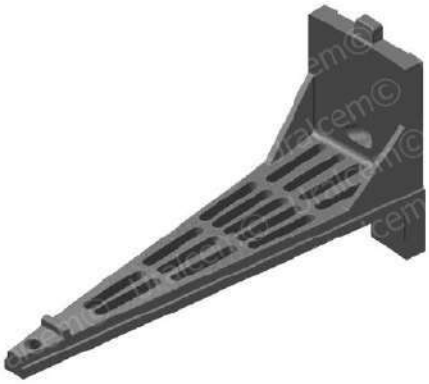
Conv. 1016
Diaphragm sector. Mill D2.6x13 m

ч.3601.23.001.2, 826-C, mass 108.2, st. 110G13L



Conv. 1017
Diaphragm sector

ч.3601.23001.2, 286-C, mass 107.9, st. 110G13L



101 to 200 kg

Conv. 1020
Armored plate (Aerofall mill)

p.453689-38133.574, mass 109.7,
st. 110G13L

Conv. 1070
Grating sector
(Mill 3.2x15 m)

p.25667, mass 129, st. 110G13L

Conv. 1071 Hammer

p., mass 109.6, st. 110G13L

101 to 200 kg

Conv. 1087
Well sill pad

p. 2005 0025 00 A P, mass 122.6,
st. 40KH24N12SL

Conv. 1088
End face lining
(Face armored plate.
Raw mill 10 and 9)

p. ДЦ 927.005, mass 125.1,
st. 110G13L

Conv. 1101
Elongated sill armor.
Rotary kiln 6

p. 342-266 Б К, mass 121,
st. 40KH24N12SL

101 to 200 kg

Conv. 1108
Sill plate. Kiln D4.5x170

p. MC-0813 3998,
mass 109.8, st. 40KH24N12SL

Conv. 1113
Cooler nipple

p. P61.07.012, mass 123.2,
st. 30KHGSL

Conv. 1114 Block

p. 6104-37.1r-01, mass 109.3,
st. 40KH24N12SL

101 to 200 kg

Conv. 1126 Lining

p. 3591.00.201.0023, mass 110,
st. 110G13L

Conv. 1198
Output medium armor

p. СЛ-1811102.265 В1, mass 114.1,
st. 110G13L

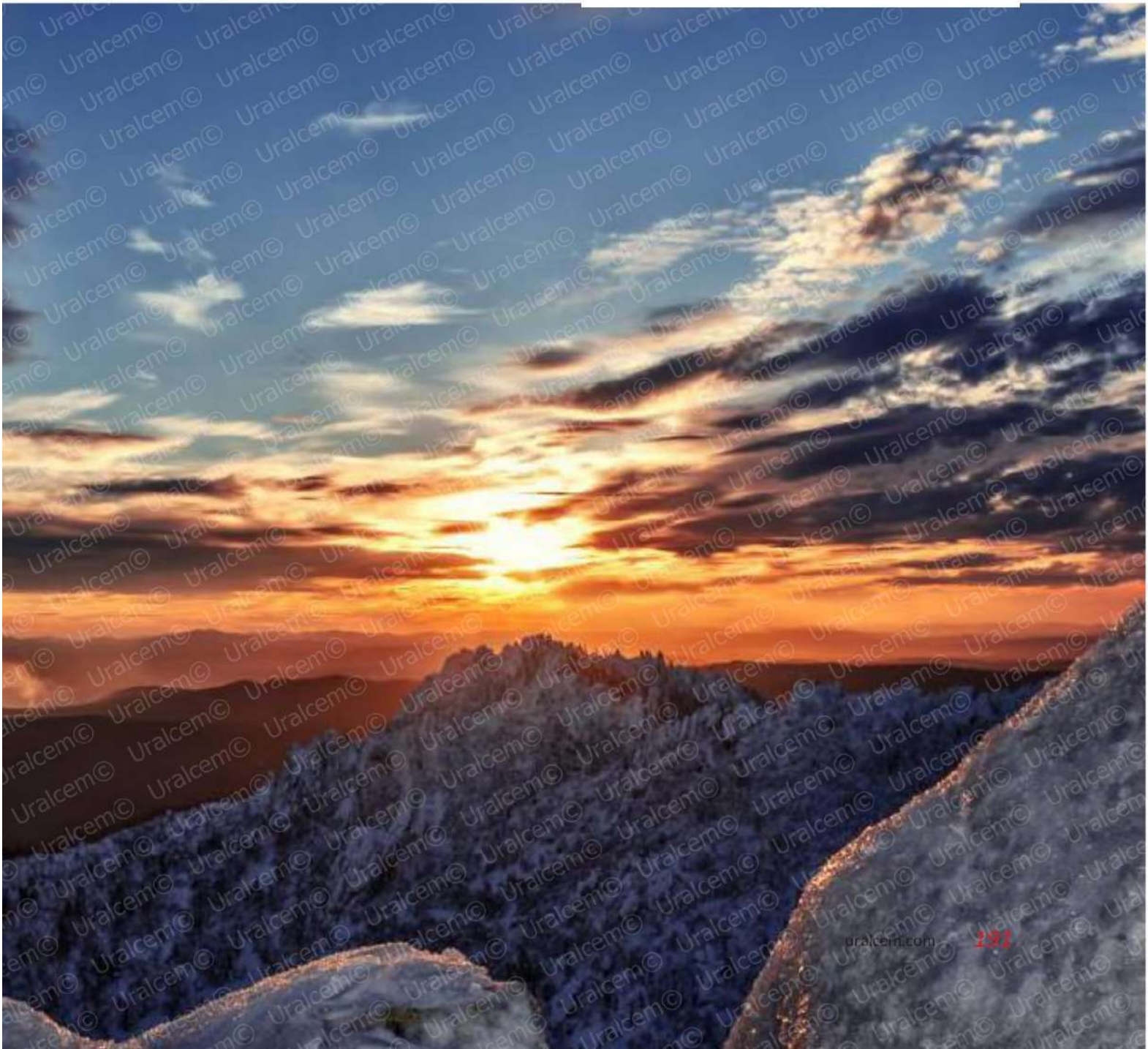
Conv. 1202
Armored plate upgrade

p. 18925-A, mass 106.3,
st. 110G13L

101 to 200 kg

Conv. 1211 Armored plate of the input faceplate. Mill D3x8,5 m

p. П5-387, mass 109.9,
st. 110G13KH2L



101 to 200 kg

Conv. 10 End face armor

p. 3630.01.012, mass 245, st. 110G13L, 110G13KH2L

Conv. 74 Plate half

p. 2-103442, mass 203, st. 35KHMFL

Conv. 75 Plate half

p. 2-103443, mass 203, st. 35KHMFL

101 to 200 kg

Conv. 107
Rear pad

p. MC-02902, mass 203,
st. 40KH24N12SL

Conv. 258 Firepot

p. M7322, mass 209.2,
st. 20KH25N19S2L

Conv. 260 Muffle

p. TH 9978.65.001, mass 312.2,
st. 20KH25N19S2L

201 to 800 kg

Conv. 293
Aerofall lifter

p. 3870.01.041.00, mass 237.5,
st. 40KHGML

Conv. 457 Lining 4

p. 3B.66.0906-0 СБ, mass 252,
st. 110G13L

Conv. 490 Nose piece

p. 17526, mass 660,
st. 40KH24N12SL

201 to 800 kg

Conv. 552 Lining 6

p. 3B.66.0909-0 СБ, mass 306,
st. 110G13L

Conv. 629 Grate

p. 72691.1, mass 368.4,
st. 110G13L

Conv. 693
End face lining

p. 3643.00.001 1023 з-д , mass 310,
st. 110G13KH2L

201 to 800 kg

Conv. 712
Cement mill wedge

p. 8716 -1, mass 374,
st. 110G13L

Conv. 804
Lower armor of a shovel head

p. 053-1-57, mass 267.6,
st. 40KH24N12SL

Conv. 817
Grating sector

p. M8.099, mass 362.1,
st. 110G13L

201 to 800 kg

Conv. 822
Diaphragm sector.
Mill D4x13.5 m

p. Ц 599.01.002 А, mass 250.2,
st. 110G13L

Conv. 868 Grating 2

p. 3B36.0918-0 plant P.O.Box 2628,
mass 203.2, st. 110G13L

Conv. 872
Grating assembly 1

p.3B66.0914-0 СБ, mass 297.2,
st. 110G13L

201 to 800 kg

Conv. 1005 Lining 5

ч.3B36.09144-9, mass 319,
st. 110G13L

Conv. 1006 Lining 3

ч.C20-1131-03, mass 350,
st. 110G13L

Conv. 1007 Lining 2

ч.C20-1131-02, mass 320,
st. 110G13L

201 to 800 kg

Conv. 1008 Lining 8

p. 3B36.0927И-O, mass 278,
st. 110G13L

Conv. 1010 Lining 9

p. 3B36.0928И-O, mass 226,
st. 110G13KH2L

Conv. 1011 Lining 6

p. 3B36.0918И-O, mass 480,
st. 110G13L

201 to 800 kg

Conv. 1012 Lining 5

p. BM2-66.09.07-0, mass 350,
st. 110G13L

Conv. 1013 Lining 1

p. 3B66.0901-0, mass 496,
st. 110G13L

Conv. 1035
Hammer crusher armor

p. 3591.00.10, mass 225.2,
st. 110G13L

201 to 800 kg

Conv. 1102
Grate plate.
Mill D2,2x13

p. 4.19.22.917, mass 204.6,
st. 110G13L

Conv. 1111
Discharging part lining

p. РЧ 184.20.000 СБ, mass 272,
st. 110G13L

Conv. 1127 Lining 2

p. 1398.03.091-1, mass 419,
st. 110G13L

201 to 800 kg

Conv. 1130
Sill plate

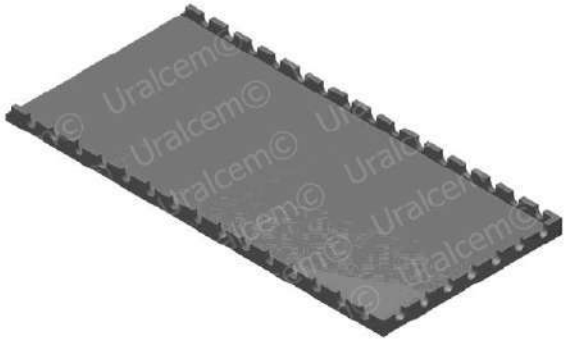
p. , mass 215.2,
st. 40KH24N12SL

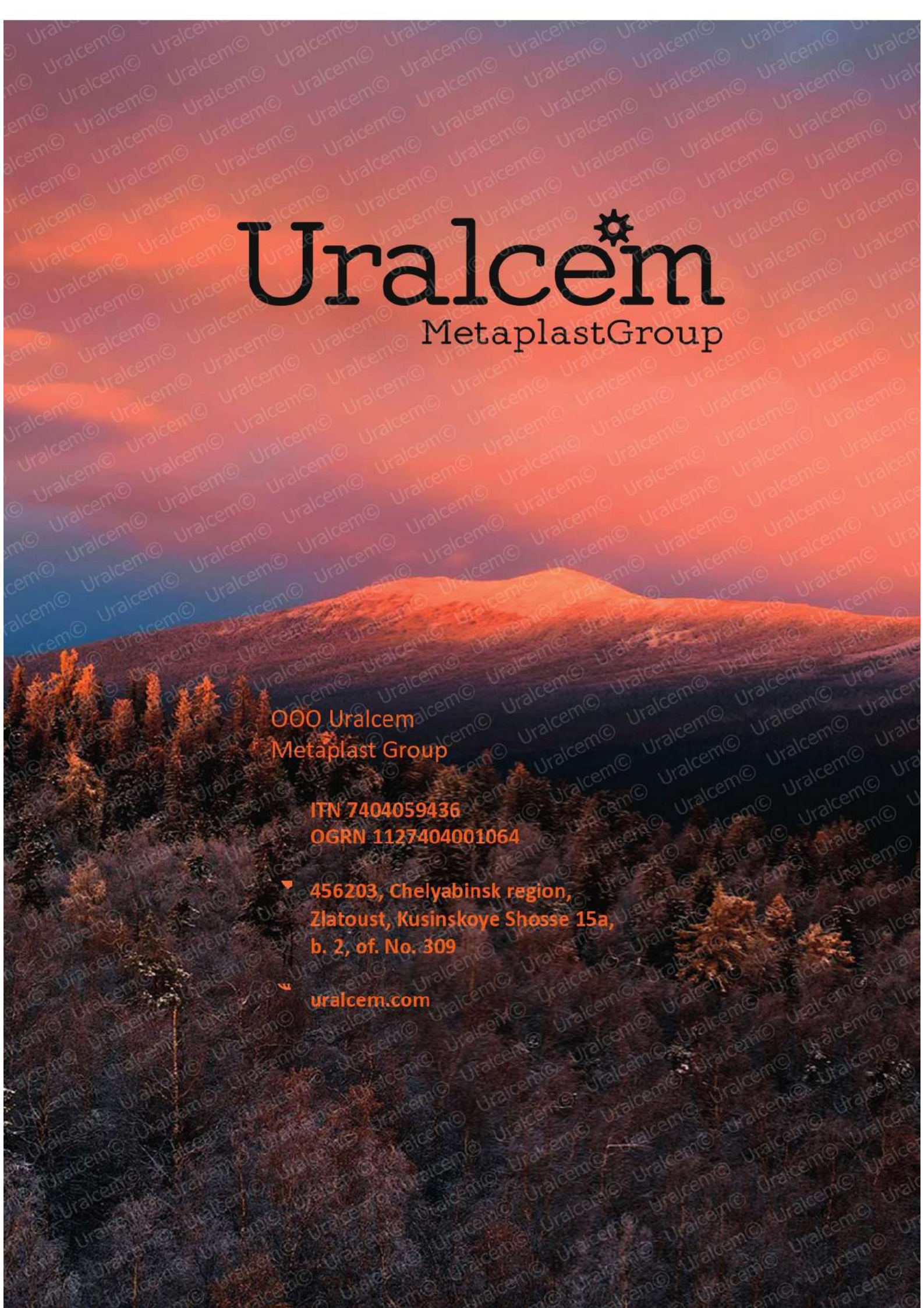
Conv. 1191 Grate

p. 3593.00.201.3.0, mass 210,
st. 110G13L

Conv. 1195 Plate

p. ПКМ8.16.5-М-06.00 СБ,
mass 209 kg. , st. 40KH24N12SL





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