



EL 6 GROUP

EL6.RU

2021

PRODUCING GRAPHITE SINCE 1954



CARBON

Carbon is the sixth, non-metallic element in the periodic table of elements. It creates a large number of chemical compounds, and is the basis of all organic matter.

In its pure form, it has many allotropic modifications, the most common being diamond, graphite, and amorphous carbon.



SYNTHETIC GRAPHITE

The artificial (synthetic) graphite is typically produced by heating the calcined petroleum coke up to temperature about 3,000°C (graphitization). The synthetic graphite is widely used in modern technology as structural, refractory, current, and heat-conductive material. It is used for electric-arc and ore-smelting furnaces, etc.

EL 6 IS THE LEADING VERTICALLY INTEGRATED CARBON-GRAPHITE MANUFACTURER

50 000

metric tons

Of carbon products



50 000

metric tons

Of graphitized products



50 000

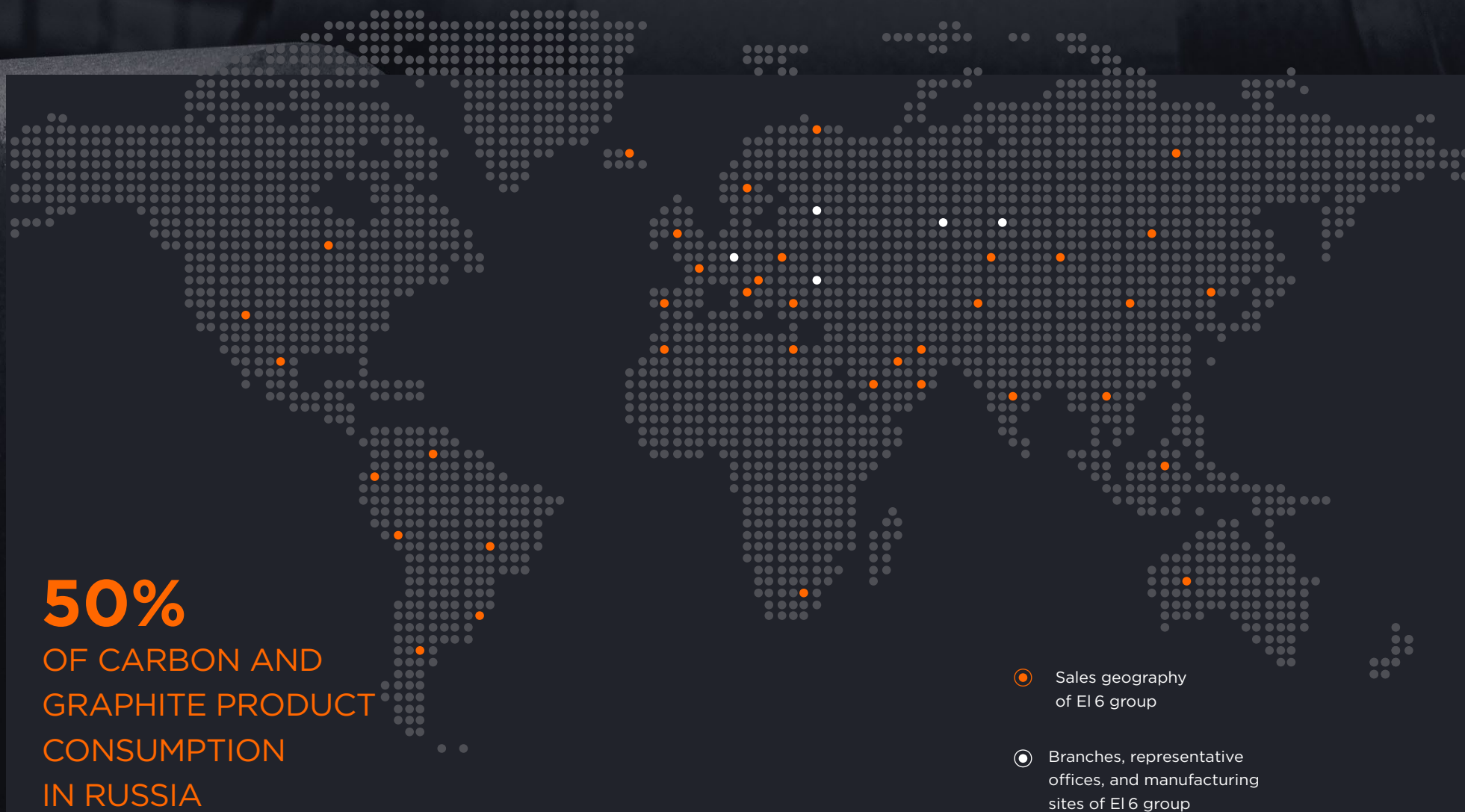
metric tons

Of other carbon and graphite products



- Manufacturer of carbon and graphite products No. 1 in Russia
- Supplier No. 1 of cathode blocks in Russia
- We have been working with carbon for 66 years
- More than 1,000 global customers
- Customers from 60 countries across the world
- Manufacturing capacity: 150k metric tons per year

5% OF THE GLOBAL CARBON AND GRAPHITE PRODUCTION



EL6 PLANTS



YEAR OF FOUNDATION: 1954

Vertically integrated

- ISO 9001-2015
- ISO 14001-2015
- ISO 45001-2018

📍 The city of Novocherkassk,
Rostov region



YEAR OF FOUNDATION: 1974

Vertically integrated

- ISO 9001-2015
- ISO 14001-2015
- ISO 45001-2018

📍 Linevo workers' settlement,
Novosibirsk region



HAS BEEN IN PRODUCTION SINCE 1958

Vertically integrated

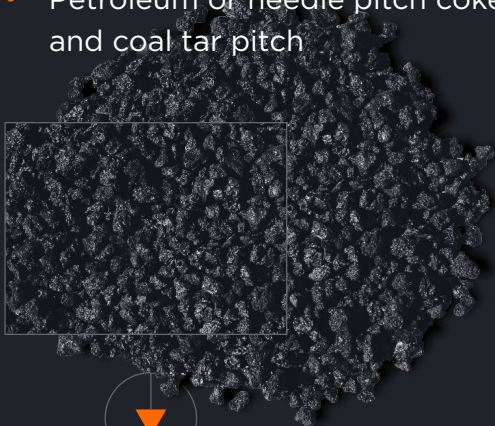
- CERTIFICATE OF CONFORMITY
- ISO 9001-2015

📍 The city of Chelyabinsk,
Chelyabinsk region

GRAPHITE ELECTRODES

STEEL MELTING IN ELECTRIC ARC FURNACES

- Petroleum unscreened cokes
- Petroleum or needle pitch cokes, and coal tar pitch



- EG-RP
- EGP-HP
- EGPK-SHP
- EGSP-UHP

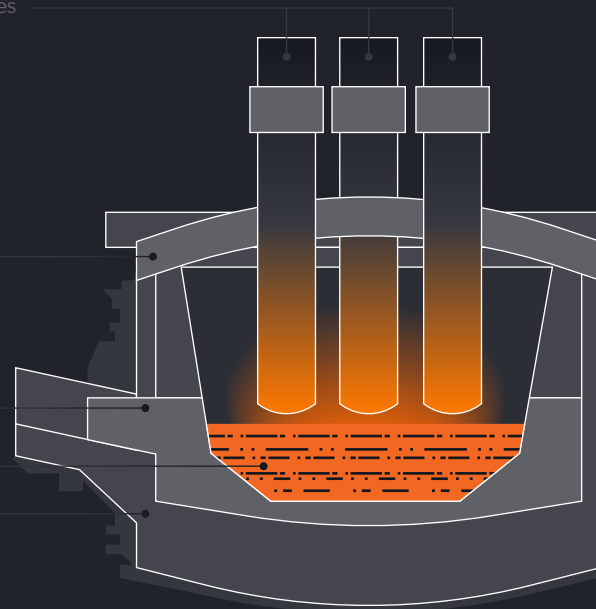
Electrodes

Cover

Chute

Steel

Hearth



Electric furnace

Final products



GRAPHITE ELECTRODES

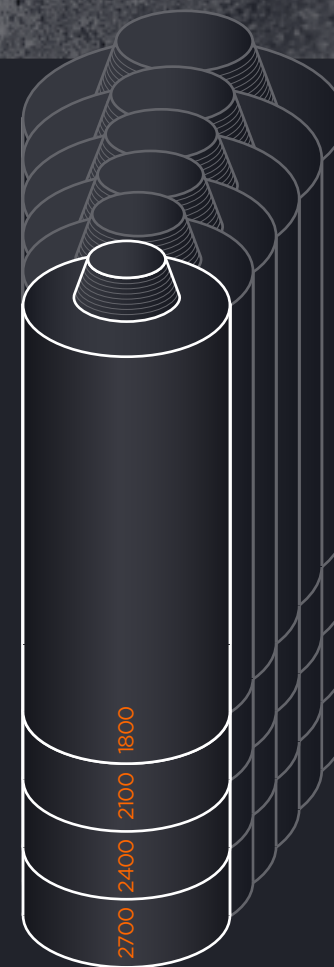
Ø
710
650
610
559
501/500/508
457/450

GRADES

- EG-RP
- EGP-HP
- EGPK-SHP
- EGSP-UHP

CONSUMERS

- Steelmaking, ferroalloy
- Tube and pipe industries
- Mechanical engineering



All dimensions are in mm

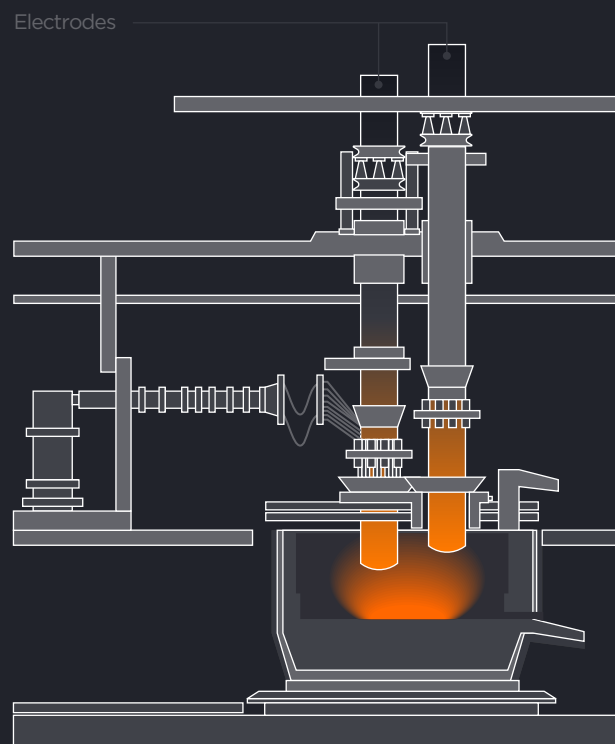
CARBON ELECTRODES

ORE-SMELTING FURNACES

- Anthracite
- Petroleum coke
- Coal tar pitch



- MUV-A
- MUV-S
- MUGV
- MGV



Ore-smelting furnaces

Final products



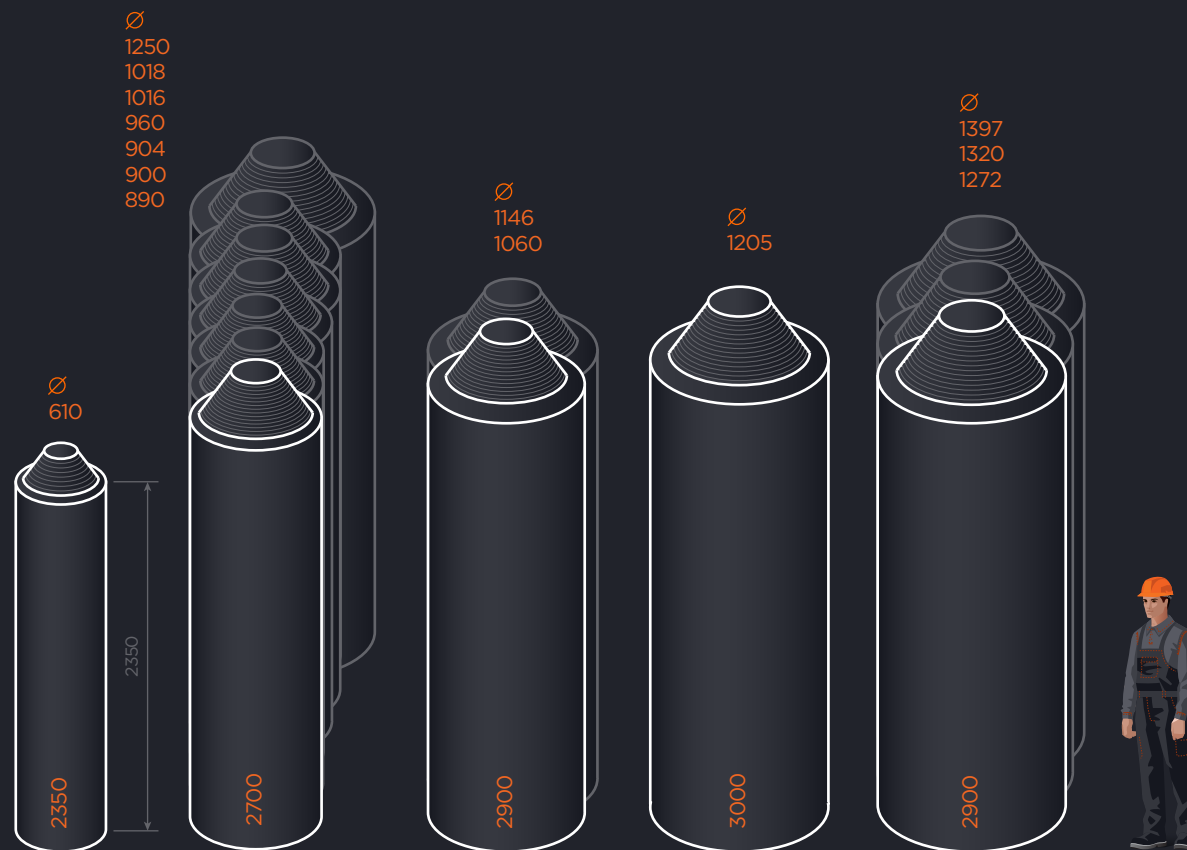
CARBON ELECTRODES

CONSUMERS

- Ferroalloy industry
- Production of silicon, phosphorus, calcium carbide

GRADES

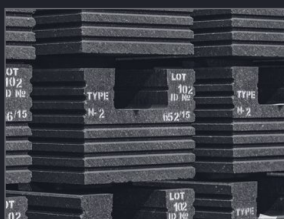
- Carbon electrodes **MUV-A**
(**50%** anthracite, **50%** graphite)
- Carbon electrodes **MUV-S**
(**55%** anthracite, **45%** graphite)
- Carbon electrodes **MUGV**
(**20%** anthracite, **80%** graphite)
- Graphitized electrodes **MGV**
(petroleum coke + pitch)



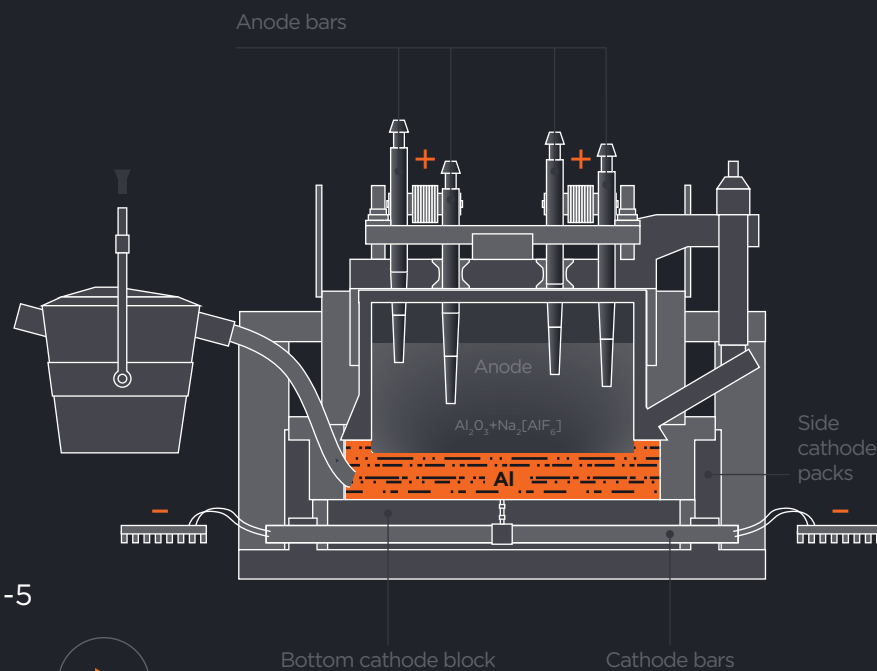
CATHODE BLOCKS

ALUMINUM PRODUCTION

- Gas and electrically calcined anthracite
- Synthetic graphite
- Petroleum coke and coal tar pitch



- N-1, N-3, N-4, N-5
- N-2/30
- N-2/40
- N-2/50



Final products



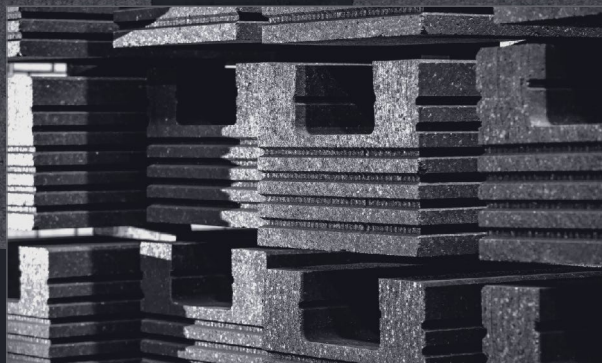
CATHODE BLOCKS

CONSUMER

- Aluminum industry

GRADES

- **N1** — 30% graphite, 70% gas-calcined anthracite
- **N2** — 30-50% graphite, 70-50% electrically calcined anthracite
- **N3** — 100% graphite
- **N4** — petroleum coke-based graphitized packs
- **N5** — Impregnated graphitized blocks



Bottom cathode blocks
(vibroformed and extruded)



Side cathode packs
(custom designed)

Section
options

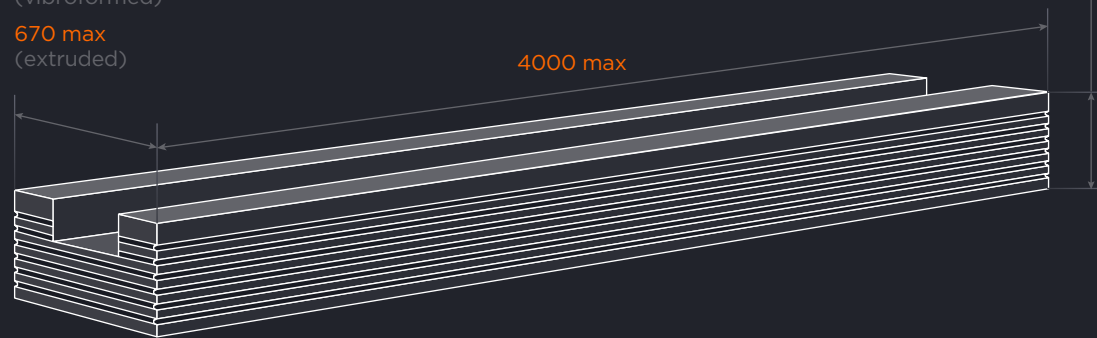


720 max
(vibroformed)
670 max
(extruded)

490 max
(vibroformed)

400 max
(extruded)

4000 max

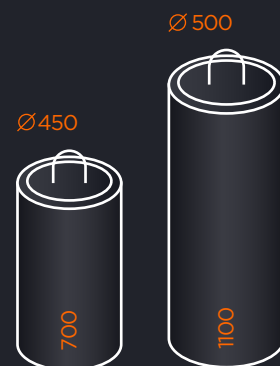


All dimensions are in mm

ANODE PASTE

CONSUMERS

- Production of ferroalloys
- Calcium carbide, phosphorus
- Abrasive materials



All dimensions are in mm

ANODE PASTE QUALITY INDEXES

Main filler: anthracite	Gas-calcined		Electrically calcined
Grade	A	C	C
Fluidity factor, %	1,6-2,5	1,8-2,3	1,8-2,3
Volatile matter, %	12,0-18,0	13,0-16,0	13,0-16,0
Ash content, %	6.0 max		

The paste can be produced with other physical and mechanical parameters and other sizes depending on the customer's requirements



Anode paste cylinders



Anode paste in bags



Anode paste briquettes

CARBON MATERIALS

CONSUMER INDUSTRIES

- Steelmaking
- Cement manufacturing
- Refractory materials
- Carbon-graphite products
- Fuel briquettes
- Concealer/process mixtures
- Graphite greases
- Colloidal graphite
- Cutting fluids

PACKAGING

All products are packed in big bags, or supplied in bulk.

QUALITATIVE PROPERTIES OF CARBON MATERIALS

	MU-99	MU-95	MU-90	MU-80 (MUL-80)	MU-60
Carbon mass fraction, % max	99	95	90	80	60
Ash content, % max	1,0	5,0	10	20	40
Sulfur content, % max	0,10	0,50	0,50	0,50	1,50
Moisture content, % max	1,0	1,0	5,0	5,0	10,0



STRUCTURAL PRODUCTS

STRUCTURAL GRAPHITE PRODUCTS

Graphite products of various grades including special-grade graphites. They can be made to customer drawings for application in metallurgy, mechanical engineering, electronic industry, and other industries.



GRAPHITIZED ANODES

Used in special metallurgy for electrolytic production of alkali and rare-earth metals. The unique antioxidant impregnation allows for high resistance in aggressive environment and long service life.

SILICIFIED GRAPHITE PRODUCTS

The three-component composite material (graphite, silicon and silicon carbide) possesses unusually high thermal and wear resistance and other unique properties that have determined its extensive demand in nuclear and chemical industry, aerospace, and arms industry.



CURRENT CONTACT INSERTS

Contact inserts are used to transfer electrical current upon sliding contact from the contact line to the power cable. Graphite-based inserts for electric transport (trolleybuses and locomotives) have higher anti-friction properties compared to other materials.



GRAPHITE HEAT-EXCHANGE EQUIPMENT



Assemblies that are a structure made of plates, cylindrical or rectangular blocks forming the cruciform configuration of coolant circulation. Used in petrochemical industry, pharmaceuticals, gas-processing, nuclear industry, as well as energy and coke production.

CUSTOMERS

ABS ACCIAIERIE BERTOLI SAFAU	ACCIAIRIE VALBRUNA	AFV BELTRAME	ALBA	ALCOA INC	ALFA ACCIAI	ALTON STEEL
ARBED	ARCELOR MITTAL	ARVEDI	BADISCHE STAHLWERKE (BSW)	BENTELER	BGH EDELSTAHL FREITAL	
BOHLER EDELSTAHL	CSN	BREITENFELD EDELSTAHL	ELBE STAHLWERKE FERALPI	ELKEM	EZZ STEEL	FERALPI
FERRIERA VALSABBIA	FERROATLANTICA	GERDAU	GLOBE METALLURGICAL CARBON	GMH	HOGANAS	HYDRO ALUMINIUM
LECH-STAHLOWERKE GMBH	LIBERTY STEEL	LIGAS LIASA	LONATI	MARIENHUTTE GRAZ	MAADEN ALUMINIUM	MEGASA
METALLEGHE S.P.A	MISSISSIPPI SILICON LLC	NORDURAL	OPTIMUS	ORI MARTIN	OUTOKUMPU	OVAKO
SAARSTAHL	SALZGITTER	SANDVIK	SCHMOLZ+BICKENBACH	USIMINAS	VOESTALPINE	WACKER CHEMICALS NORWAY
SF BALAKOVO	MAGNEZIT GROUP	MMK	METALLOINVEST	MECHEL	NKLM GROUP	PNTZ
					SEVERSTAL	TMK
						KAMAZ



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