

# Spare and wear parts of crushing and grinding equipment



**element**<sup>TM</sup>  
Integrity in details



**Element™ is the manufacturer of high quality spare and wear parts for mining equipment providing the highest service level to its Customers.**

Element Company Group does not own or represent any of the brands stipulated here. Spare parts and components are completely interchangeable with parts of pointed equipment. Provided and produced with warranty obligations of the Element™ trademark.

## Element offers the equipment users access to the alternative spare and wear parts of verified quality.

The range of spare and wear parts manufactured under the own Element™ trademark comprises more than 40 thousand items. Instead of limiting on a single brand, Element focuses it's scope on various equipment types from multiple manufacturers.

Element's mission is to help its Customers optimize their expenses related with high costs of authentic replacements, as well as to the unpredictable quality of the off-brand parts and the lack of fast maintenance support with the alternative suppliers.

- Crushing and grinding equipment spare and wear parts
- Slurry pumps spare and wear parts
- Conveyor transport components
- Wear-protection materials
- Mill lining
- Standard components and and a selection of their functional replacements
- Engineering
- Technical maintenance and audit
- Repair works and equipment modernization
- Logistics and warehousing



# Materials.

## Manganese steels

### Austenitic manganese steel

Mn: 13% Cr: —

Specification: ME01-18

Analogs: A ASTM A128, 110G13L  
GOST 21357-87,  
GX120Mn13 ISO 13521:2015

Classic Hadfield steel. High structural strength, medium abrasion resistance. Significantly increases hardness by work hardening.

A

### Austenitic manganese steel

Mn: 18% Cr: 2%

Specification: ME01-18

Analogs: C ASTM A128, GX120Mn-Cr13-2 ISO 13521:2015

Improved formula with additional chromium alloying. Substantial increase in hardness upon thermal treatment, increased abrasion resistance (up to 20% against grade A).

D

C

### Austenitic manganese steel

Mn: 13% Cr: 2%

Specification: ME01-18

Analogs: C ASTM A128,  
GX120MnCr13-2 ISO 13521:2015

Increased tensile strength and decreased lower impact strength parameters, improved abrasion resistance due to the increase in surface hardness prior to work hardening.

D1

### Austenitic manganese steel

Mn: 21% Cr: 2,5%

Specification: ME01-18

Analogs: none

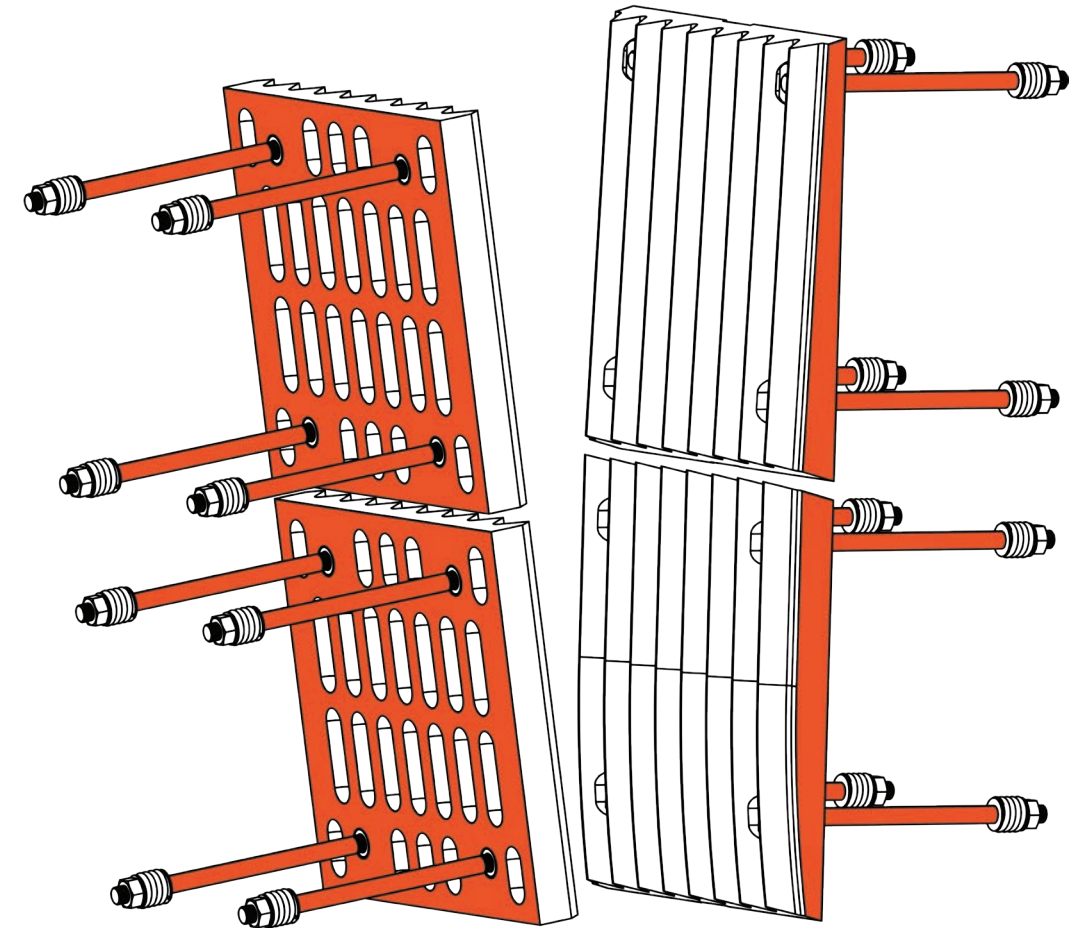
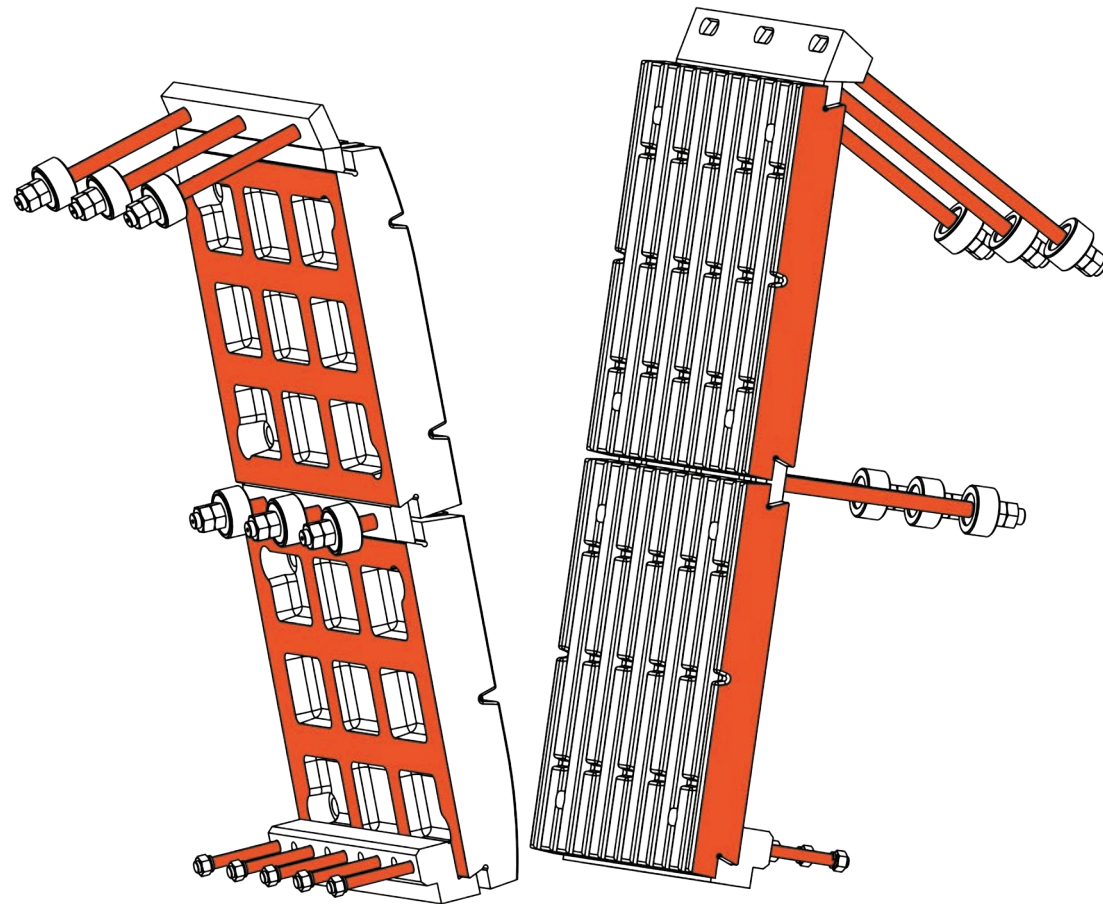
Special formula containing over 20% of manganese and additional alloy elements. Exhibits improved characteristics of tensile strength and the highest abrasion resistance among Element™ manganese steels.



# Jaw crusher wear parts

Element manufactures and supplies wear parts and components for jaw crushers of domestic and foreign production\*. The range includes wear parts for crushers of various designs: complex and simple jaws swing, one-, two-, and three-rowed crusher jaws position.

Our range includes fully replaceable standard parts as well as specially designed options. As an engineering company Element takes into account Customer's needs and requirements and makes necessary changes in technical parameters and design of the part.



Element takes care of the equipment operational costs optimization and supplies related wearing parts and substructure components at the best combination of price and quality.

All applicable requirements and standards are met during the wearing parts manufacture providing for the highest quality of the resulting product.

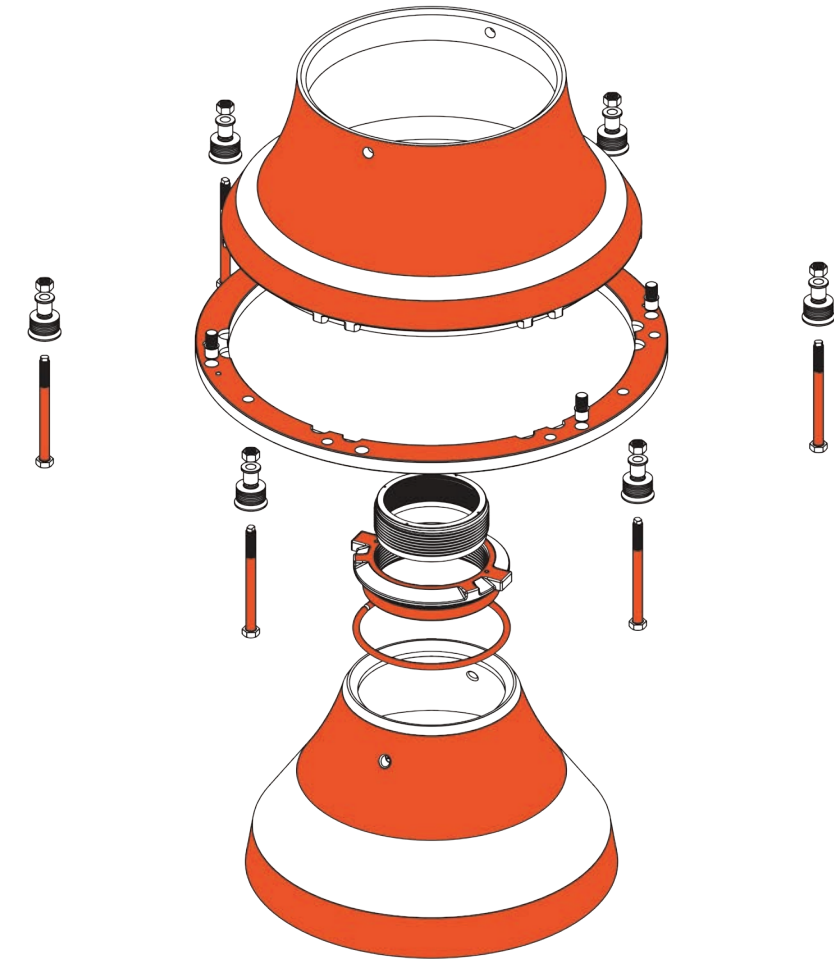
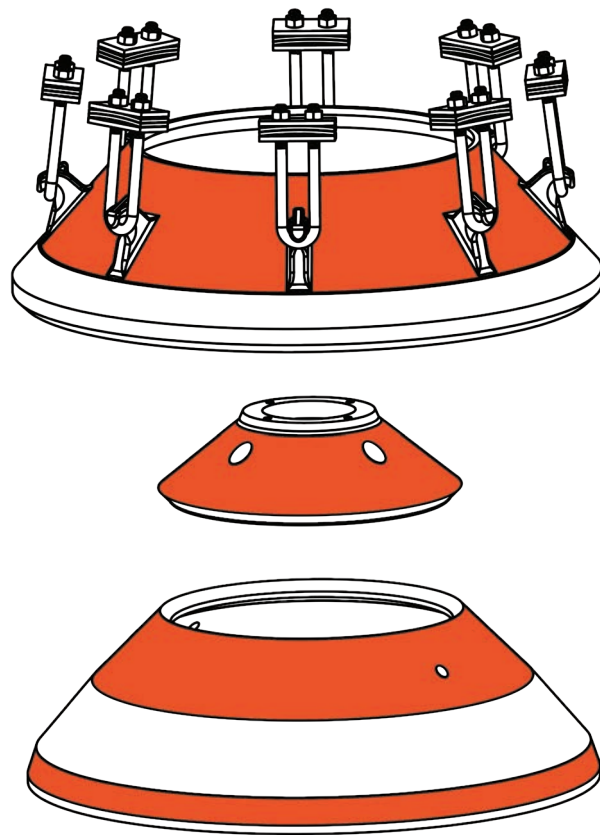
CJ 409, 411, 412, 612, 613, 615, 815  
JM 907, 1108, 1208, 1211, 1312, 1511, 1513  
Telsmith 30x42, 36x48, 38x58, 44x48, 50x60, 55x66

SM-741  
SCHDP 1200x1500, 1500x2100, 900x1200  
SMD 108A, 109A, 110A, 111, 111 A/B, 117, 117 A/B, 118, 118 A/B, 60A

# Cone crusher wear parts

Element manufactures and supplies wear parts and components for cone crushers of domestic and foreign production\*. Element's product range includes wearing parts for crushers of various designs: overhung or suspended-spindle, one-, two-, and multiple-row lining rings and cones of various designs.

With decades of practical experience in repairing, operating and engineering tasks solving Element can offer more than just standard solutions.



KMD/KSD 1200, 1750, 2200, 3000  
SBS 38, 44, 52, 57, 68  
HCC12, HCC16, HCU7, HCU12  
F 210, G 150

We develop new products according to the requirements of the industry standards to improve the deployment and service life of the equipment.

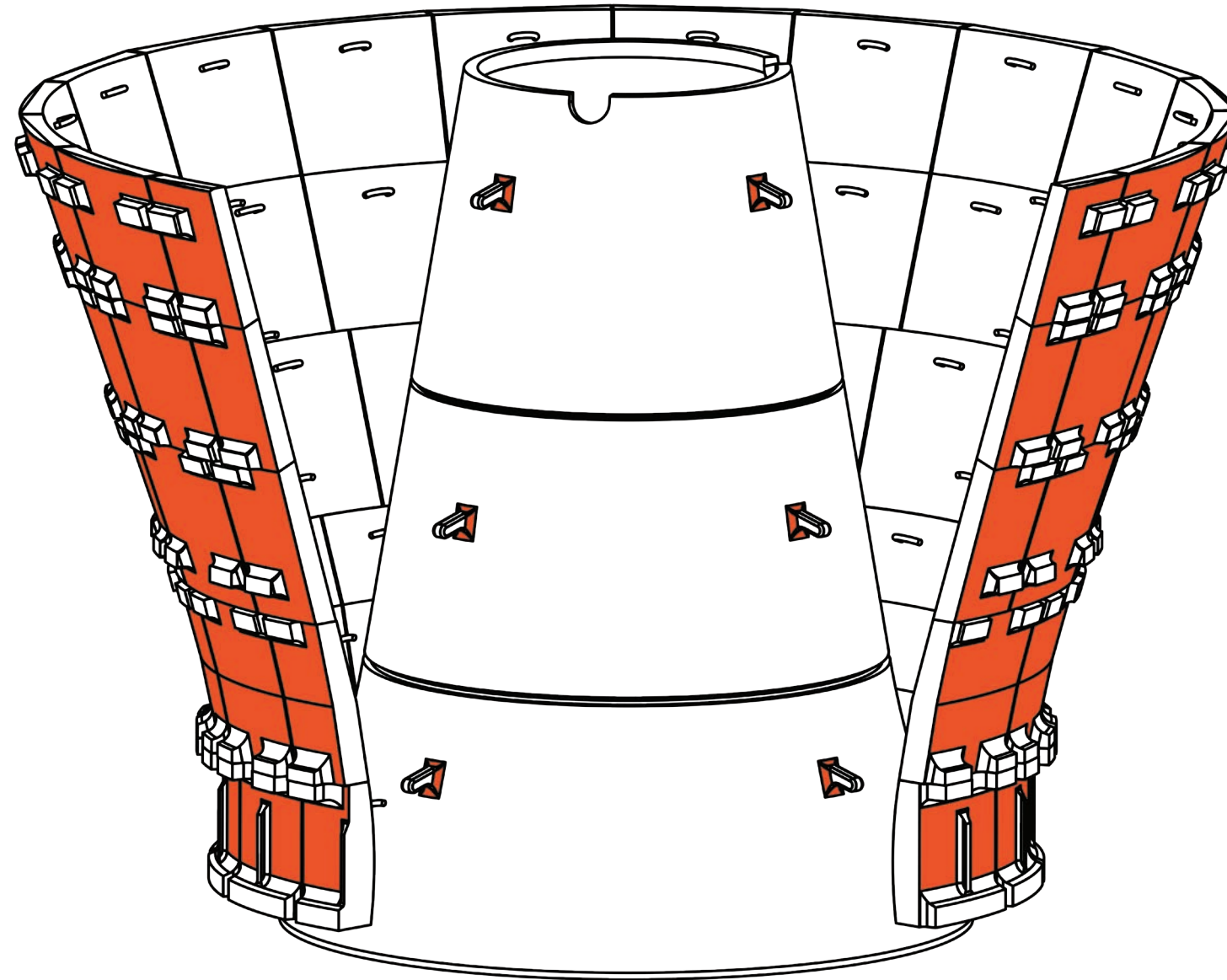
Being the integrated solutions supplier, Element offers full range of products for cone crushers – from crusher chamber linings to traverse protection and counter-drive shaft.

CH 420, 430, 440, 660, 880, 890, 895  
H 2000, 2800, 3000, 3800, 4000, 4800, 6000, 6800, 7800, 8800  
CS 420, 430, 440, 660  
S 2000, 2800, 3000, 3800, 4000, 4800, 6000, 6800

# Gyratory crushers wear parts

Element manufactures and supplies wear parts and components for gyratory crushers\*. Its product range includes wear parts for multiple-row lining rings, cones of various designs and traverse protection

Gyratory crushers are traditionally regarded as leaders in the crushing cycle of metal mining enterprises due to their high performance. Thus even the slightest increase in the running of wearing components brings significant cost-benefit.



## Quality

Compliance to the production standards and quality management at every stage: from raw material procurement to the packaging of the finished product.

## Effectiveness

Maintaining stocks of important parts for timely integrated replacement, decreasing equipment downtime.

## Safety

Scrutinous choice of materials and technologies for the safety standards conformance.

To verify the high running of the wearing parts Element conducts industrial production trials under the supervision of the Company's technicians to examine the wear dynamics, improve operating characteristics and obtain the best results possible.

KKD 500/75, 900/140, 1200/150, 1350/160, 1500/180, 1500/230  
KRD 700/75, 700/100  
GG 810, 820, 850

# Materials Mill lining

## Austenitic manganese steel

Mn: 13% Cr: —

Specification: ME01-18

Analogs: A ASTM A128, 110G13L

GOST 21357-87,

GX120Mn13 ISO 13521:2015

Classic Hadfield steel. High structural strength, medium abrasion resistance. Significantly increases hardness by work hardening.

A

## Pearlite chromium-molybdenum steel

Cr: 2,0% Mo: <0,3%

Specification: none

Analogs: AS2074

High abrasion resistance state as received along with high strength characteristics. Increases hardness by work hardening.

L2C

C

## Austenitic manganese steel

Mn: 13% Cr: 2%

Specification: ME01-18

Analogs: C ASTM A128,

GX120MnCr13-2 ISO 13521:2015

Increased tensile strength and decreased lower impact strength parameters, improved abrasion resistance due to the increase in surface hardness prior to work hardening.

AR22

## High-chromium white cast iron

Cr: 22,0% Mo: <3,0%

Specification: ME03-18

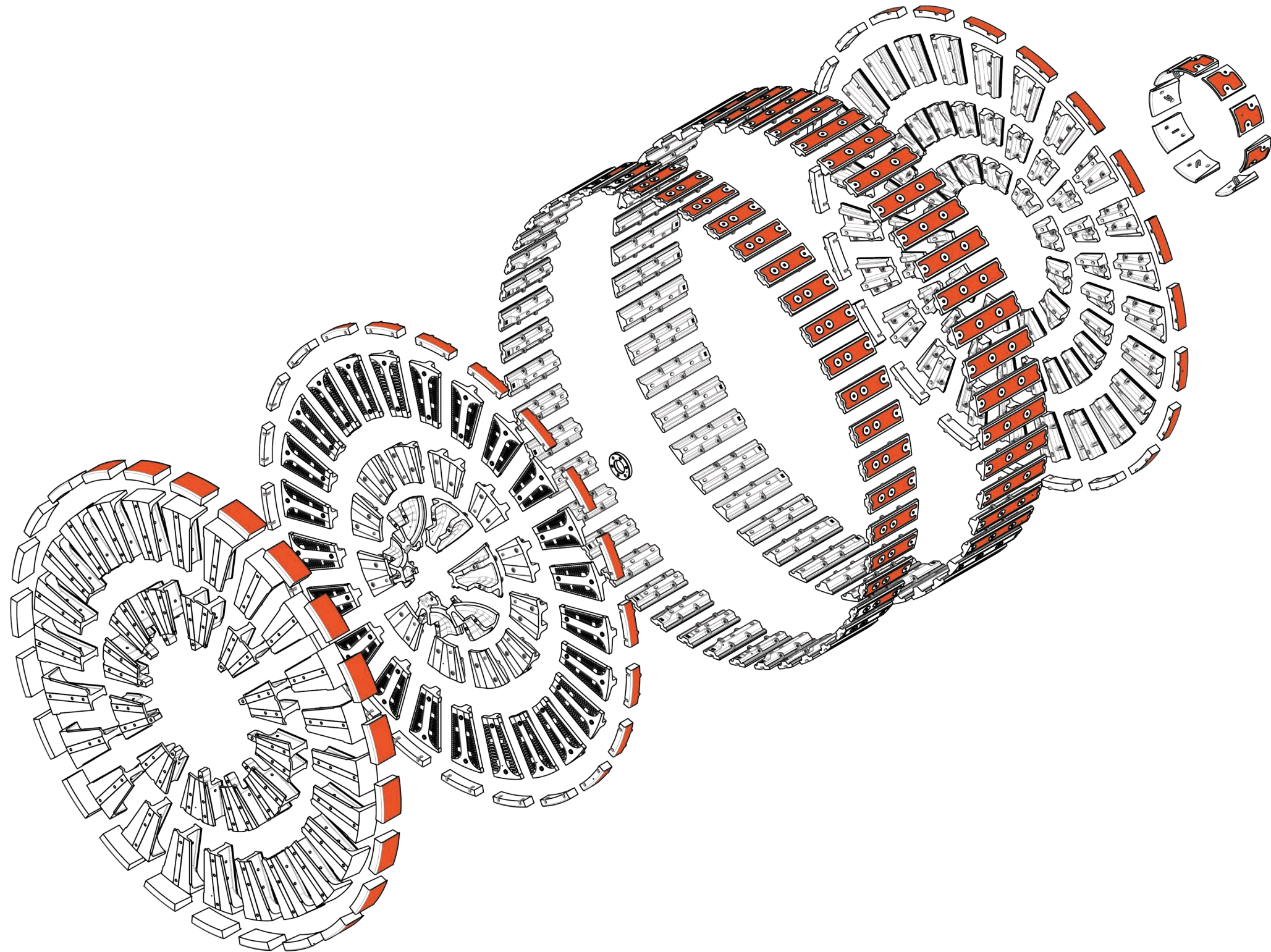
Analogs: Class IID ASTM A532

Highest abrasion resistance among mill lining materials. Easy lining removal.



# Mill lining

Element offers a wide range of technical solutions for the protection of grinding equipment from wear – liners for mills of all types and sizes made of advanced grades of steel, cast iron and rubber.



Element develops design documentation and manufactures liners and fasteners for:

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Autogenous grinding mills (AG)

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Semi-autogenous grinding mills (SAG)

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Ball mills

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Rod mills

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Exact formula of the lining alloy is selected by the Company's professionals specifically for each project. When selecting the chemical compound and thermal treatment requirements data on the current operation of the equipment is reviewed, as well as data on the component replacement periods, mill size, grinding type, grinding media used, design and thickness of lining components.

Our in-house Design department can rapidly develop 3D models and drawings from a part's sample or drawing. We perform a 3D assembly of mill lining prior to manufacture to avoid mismatching of elements and mill. We provide a full set of documentation for manufacture, inspection and on-site assembly.





# Jaw crusher spare parts

Element is a long-term partner in terms of sustaining Customer's enterprise operation activities, supplying high-quality, high-performance and safe spare parts at the best price.

Element is in constant development of the supplied parts technical parameters, using alloys and technologies allowing for the longest parts service life in their manufacturing process.

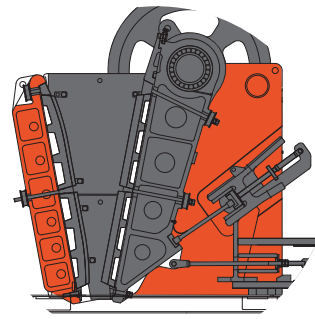
Element produces spare parts for jaw crushers of the following models\*:

CJ 409, 411, 412, 612, 613, 615, 815  
 JM 907, 1108, 1208, 1211, 1312, 1511, 1513  
 Telsmith 30x42, 36x48, 38x58, 44x48, 50x60, 55x66

SM-741  
 SCHDP 1200x1500, 1500x2100, 900x1200  
 SMD 108A, 109A, 110A, 111, 111 A/B, 117, 117 A/B, 118, 118 A/B, 60A

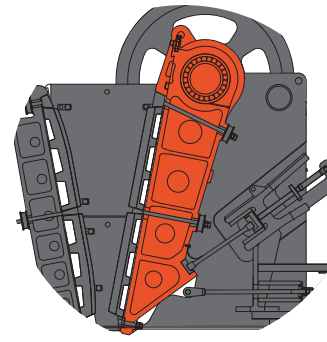
## Frame parts

- Frame Assembly
- Support Bar



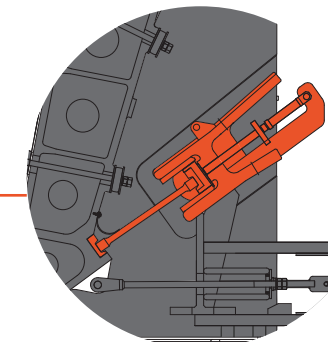
## Pitman Assembly

- Eccentric Shaft
- Bearing Housings
- Roller Bearings
- Labyrinth Seal
- Labyrinth End Cover



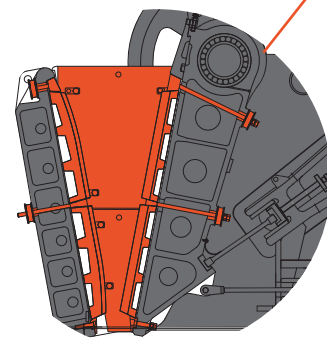
## Adjusting parts

- Toggle Plate
- Lock Ring and Lockwasher
- Side block and Toggle Seat Block
- Wedge Pairs and Pins
- Cylinder
- Piston Guide
- Cylinder Bracket



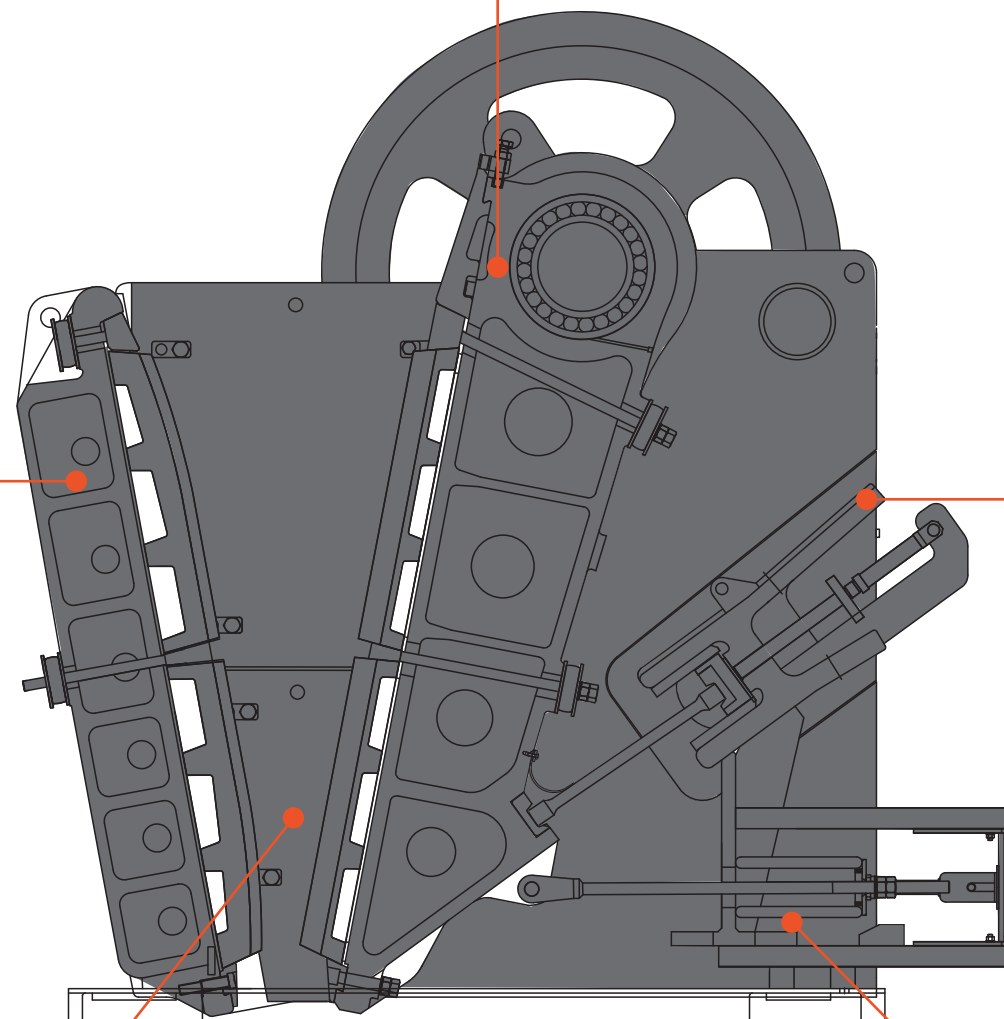
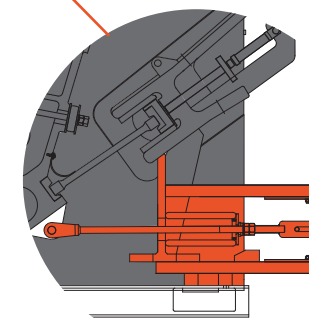
## Plates and Flywheels

- Cheek Plate
- Stationary Jaw Plate
- Flywheels
- Counterweights



## Parts of spring retraction arrangement

- Springs
- Cylinder and Bracket
- Pins and End Covers
- Retraction Assembly Frame
- Pusher Plate
- Dust Collar



# Cone crusher spare parts

Parts quality influences the equipment reliability and effectiveness directly, increases its performance, decreases its downtimes and maintenance costs, which is why Element carefully approaches the selection of material and manufacturing technology of spare parts.

Element produces spare parts for jaw crushers of the following models\*:

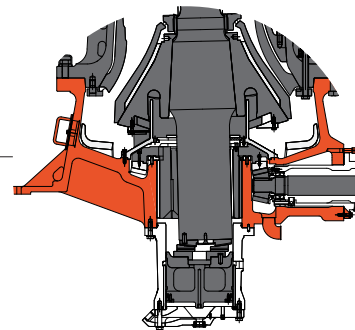
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SBS 38, 44, 52, 57, 68  
HCC12, HCC16, HCU7, HCU12  
F 210, G 150

CH 420, 430, 440, 660, 880, 890, 895  
H 2000, 2800, 3000, 3800, 4000, 4800, 6000, 6800, 7800, 8800  
CS 420, 430, 440, 660  
S 2000, 2800, 3000, 3800, 4000, 4800, 6000, 6800

KKD 500/75, 900/140, 1200/150, 1350/160, 1500/180, 1500/230  
KRD 700/75, 700/100  
GG 810, 820, 850

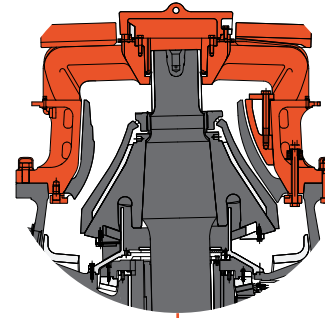
## Bottom Shell parts

- Bottom Shell
- Bottom Shell Bushing



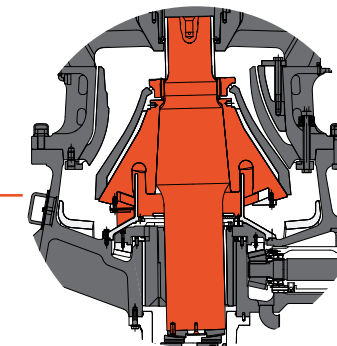
## Upper Frame parts

- Top Bearing
- Spidercap and Arm Guard
- Spacer ring and Lockwasher



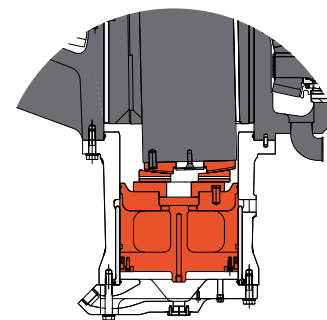
## Main Shaft Assembly

- Main Shaft Bushing
- Head Nut and Burning Ring
- Head
- Protection plate



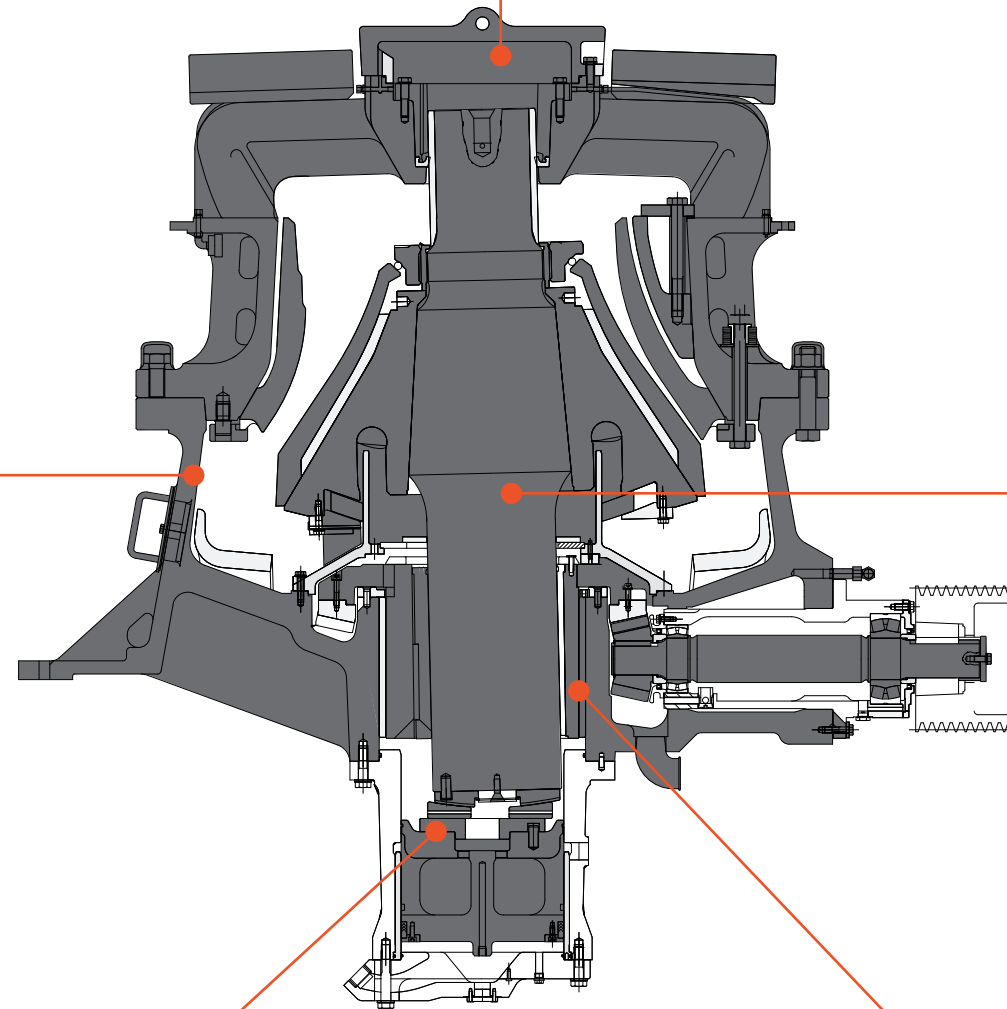
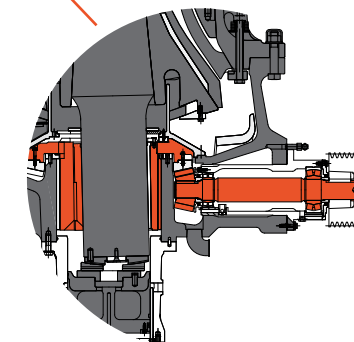
## Hydraulic piping arrangement

- Thrust Bearing
- Socket
- Piston
- Piston Wear Plate



## Shaft Gear and Eccentric parts

- Gear and Pinion set
- Pinion Shaft
- Pinion Shaft Housing
- Roller Bearing
- Eccentric Bushings
- Hub
- Eccentric Wear Plate





# Fasteners

Fasteners quality has direct influence on the equipment reliability and performance. Use of low-quality fasteners may have the most adverse impact, therefore Element takes serious efforts on quality management of the supplied fasteners.

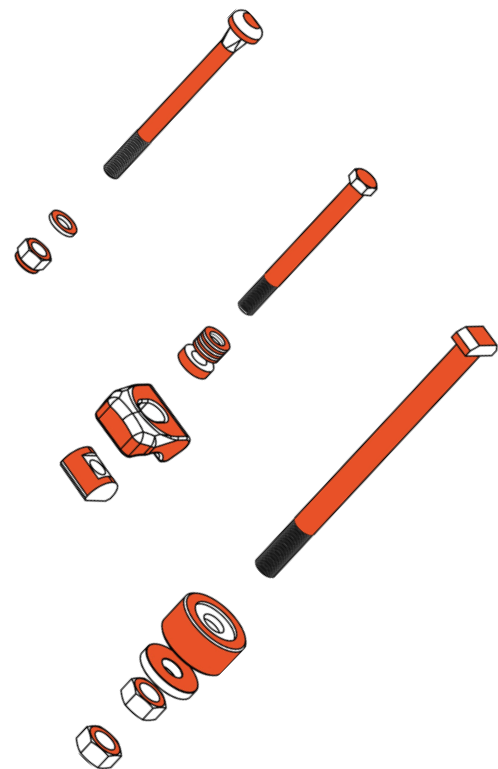
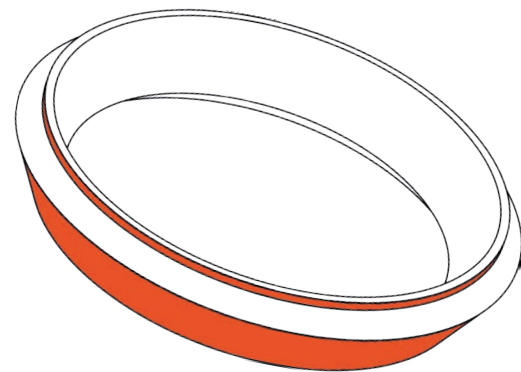
Element offers the full range of standard and special fasteners used for assembling crusher liners of all types:

Bolts, nuts and washers

Wedges

Torch rings

Mill lining bolts, sealers, cup washers and nuts



The supplied fasteners are a direct replacement for original and aftermarket equipment. They are produced in accordance with DIN, ISO and GOST standards. The quality of the fasteners is ensured by the observance of manufacturing technologies and is also confirmed by test results, certificates and the successful operation by our partners. For example, bolts having threads up to and including M48 are manufactured using the thread rolling method, which provides the superior thread quality and bolt strength.

In addition to standard fasteners, Element produces and supplies special and non-standard fasteners. Depending on the requirements and conditions of use, the company's specialists are ready to develop and offer the best solution.

Integrity in details







## Element's quality control system

Design and manufacturing processes are being managed to ensure uncompromised quality of Element parts.

End-to-end quality control is an integral part of Element's production process, allowing to comply with the stated technical requirements.

End-to-end control possibility is one of the certified manufacturing partners selection criteria.

### Certified partners-manufacturers

Element reviews manufacturers available and assesses their quality management, production and technology capabilities with complex audit program. We thoroughly inspect our Partner's quality management system to integrate it with our QMS.

### Mass production orders

Element can execute orders in small and medium series according to its production documents. Prior to production our engineering team verifies manufacturer's technology solutions before purchasing or production of required tooling (patterns, coreboxes, die-molds, etc.)

### Technical documentation

We do reverse engineering and count on design improvements of our parts based on usage data in order to develop a full range of design and inspection documentation. A set of documents provided by Element ensures proper production and inspection of a part. We run a dedicated IT system for reliable storage and handling of documentation.

### Warranty

Element supplies spare and wear parts under its own trademark and provides warranty as well as product improvements based on operation experience, and end-customer technical support, product improvements on the grounds of its operational experience implementation and informational support on the operating conditions of the products to the end consumer.

### Quality control plan

Element develops specific quality control plan for every product type, defining important process stages and control methods for designing, manufacturing, delivery from the supplier and stocking acceptance. Control may be conducted for the whole batch of products or randomly.

### Resources

For execution of quality control plan Element cooperates with the following services: in-house production, design and maintenance departments, our own representative at manufacturing plants, quality engineers as well as 3rd party acceptance inspectors and independent test labs.



# Element Group of Companies

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