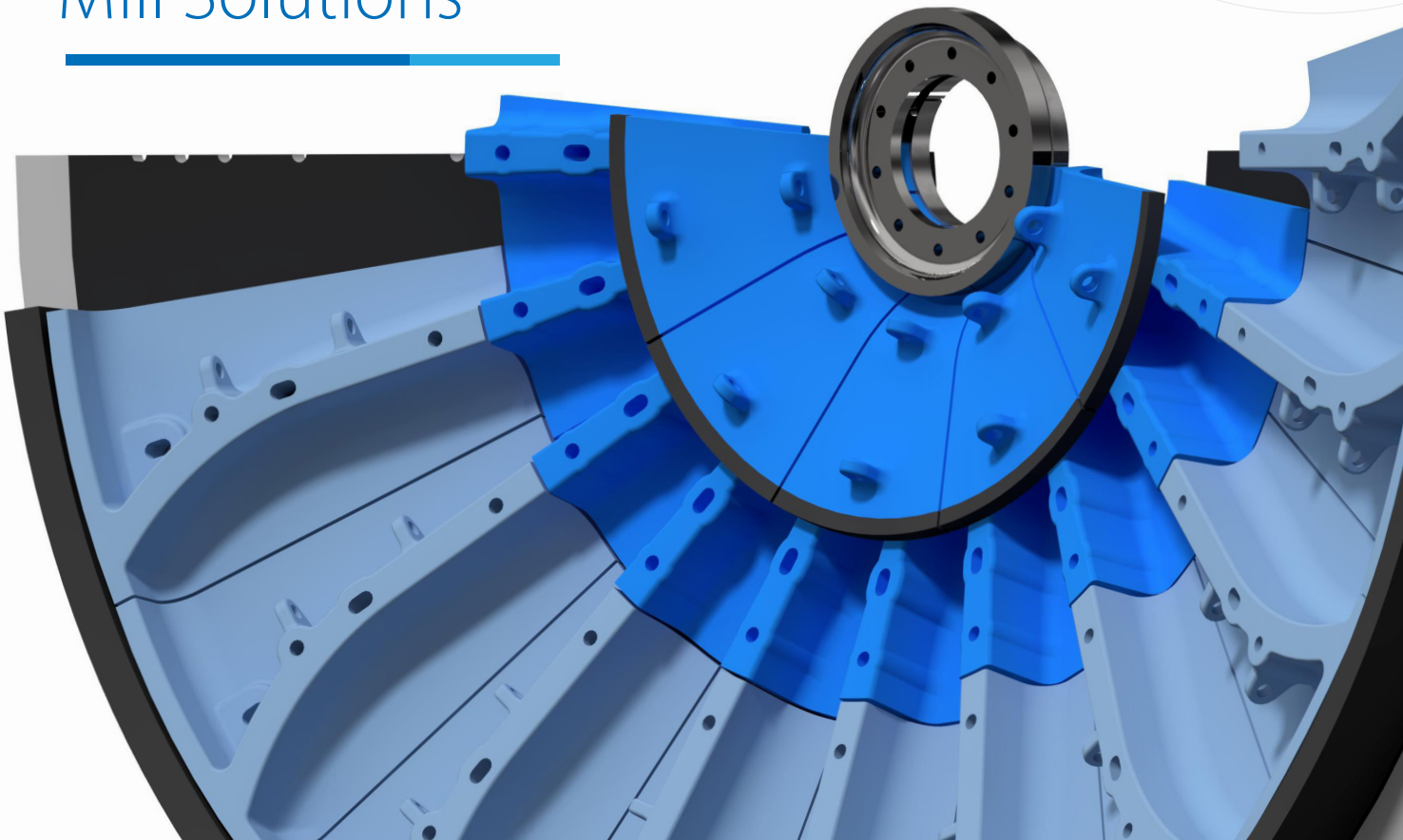




**ME FIT Grinding**  
ME elecmetal

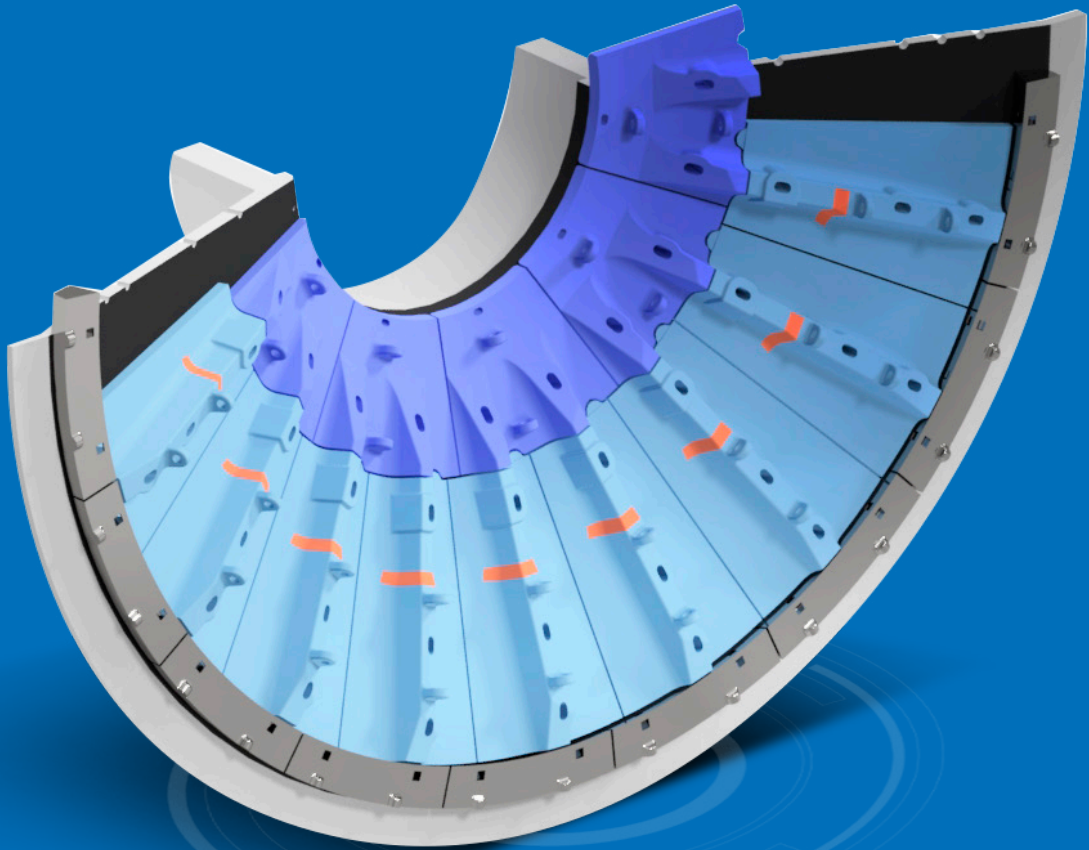
# SAG, AG and Ball Mill Solutions

---





# SAG / AG Mill Feed End Head Liners



# Throat Liner

The throat liner is located in the throat of the mill head and can be incorporated with the inner head liner. It receives the material from the feed chute and can withstand impacts and the wear and tear caused by the material entering the SAG / AG mill (ore, balls and water).

---

## **Steel:**

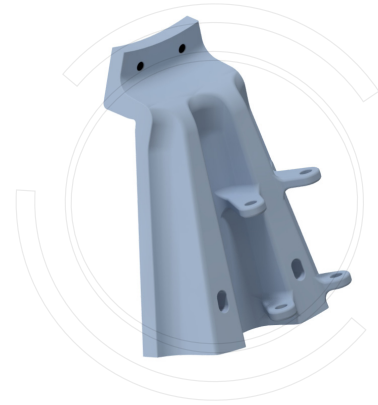
Pearlitic chrome-moly steel

Martensite steel

High-hardness white iron

## **ME PolyFIT®:**

Laminate + Rubber



# Inner Head Liner

The feed end inner head liner protects the inner ring of the mill feed head against ball and ore impacts, abrasion, etc. ME Elecmetal offers designs to reduce the number of parts in the feed head by integrating the middle and outer sectors into one single piece.

---

## **Steel:**

Pearlitic chrome-moly steel

Martensite steel

High-hardness white iron

## **ME PolyFIT®:**

Laminate + Rubber



# Outer Feed Head

The outer feed head liner protects the mill feed head against ball and ore impacts, abrasion, etc. ME Elecmetal offers designs to reduce the number of parts in the discharge head by integrating the middle and outer sectors into one single piece.

---

**Steel:**

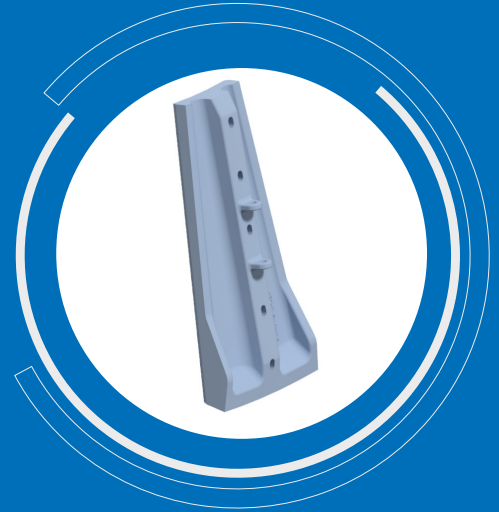
Pearlitic chrome-moly steel

Martensite steel

High-hardness white iron

**ME PolyFIT®:**

Laminate + Rubber



# Filler Ring

This part is located in the ring that joins the tops of the mill and the shell. ME Elecmetal offers this solution in many different materials.

---

**Steel:**

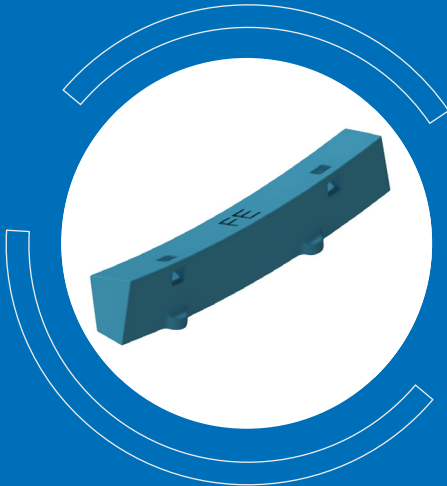
Pearlitic chrome-moly steel

Martensite steel

High-hardness white iron

**ME PolyFIT®:**

Laminate + Rubber





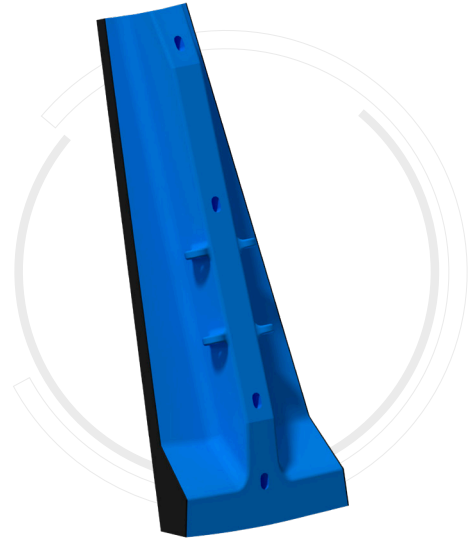
# Torchless Reline

Torchless reline is achieved through a hot vulcanized process which adheres the rubber to the liner. Eliminating the fusion between mill liners increases reline efficiency and safety. Its use is versatile for feed heads, shells, grates and intermediate shells in SAG / AG mills and ball mills.

---

## **ME PolyFIT®:**

Rubber



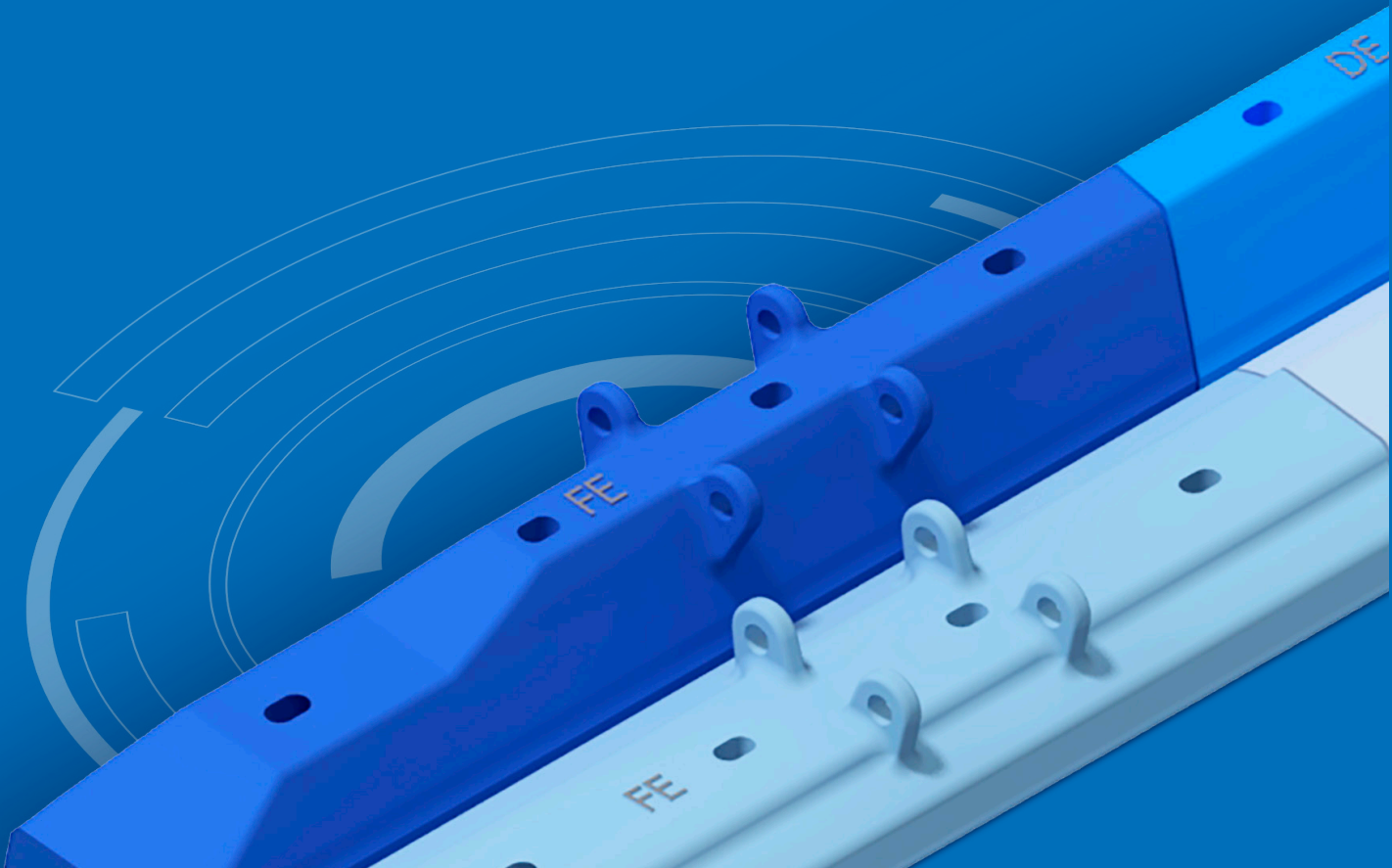
# Exterior Bolting

The primary objective of this solution is to reduce the exposure of people inside the mill during relines. Additionally, the fastening system is not exposed to vibrations and impact energy because there is no direct contact between the bolt and the impact zone of the liner.

---



# SAG / AG Mill Shell Liners



# Lifter Plate

A traditional solution with a lifter beyond the plate, which provides protection to the shell of the mill, as well as the ability to lift the load. ME Elecmetal's ability to simulate and iterate designs makes it possible to adjust this liner solution to the specific requirements of each customer.

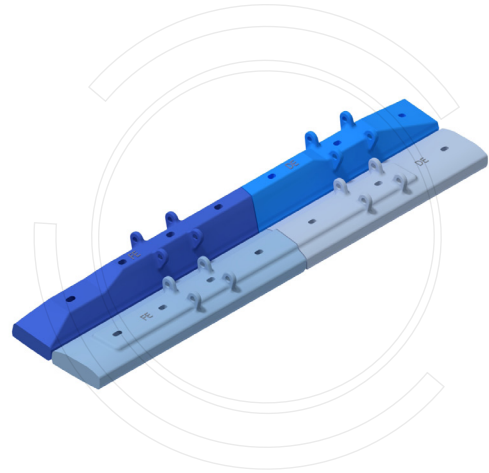
---

## **Steel:**

Pearlitic chrome-moly steel  
High-hardness white iron

## **ME PolyFIT®:**

Laminate + Rubber



# SMX Lifter

The SMX lifter came about through the need to reduce the number of parts in the mill. This design eliminates the plates, providing a lifter with two extended wings.

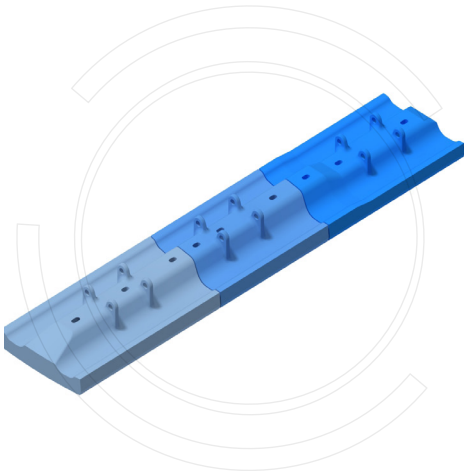
---

## **Steel:**

Pearlitic chrome-moly steel  
Martensite steel  
High-hardness white iron

## **ME PolyFIT®:**

Laminate + Rubber



# Light Lifter

The Light Lifter solution incorporates weight-saving measures on the fit side of the liner which can reduce weight up to 10%, thereby optimizing the grinding process by increasing mill load, and thus its processing capacity.

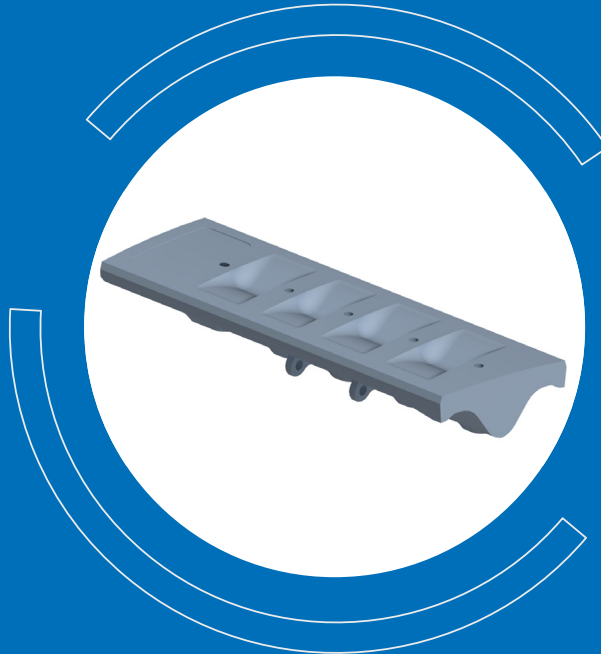
---

## **Steel:**

Pearlitic chrome-moly steel  
High-hardness white iron

## **ME PolyFIT®:**

Laminate + Rubber



# Torchless Reline

Torchless reline is achieved through a hot vulcanized process which adheres the rubber to the liner. Eliminating the fusion between mill liners increases reline efficiency and safety. Its use is versatile for feed heads, shells, grates and intermediate shells in SAG / AG mills and ball mills.

---

## **ME PolyFIT®:**

Rubber



# Filler Strip

This solution is made of an EPDM rubber compound composition, which is manufactured under design and quality standards that ensure proper assembly. The filler strip provides sealing of the joint areas of metallic liners, good performance, protection against wear and tear and the reduction of parts. The filler strip is part of the ME PolyFIT® family of composite solutions.

---

## **ME PolyFIT®:**

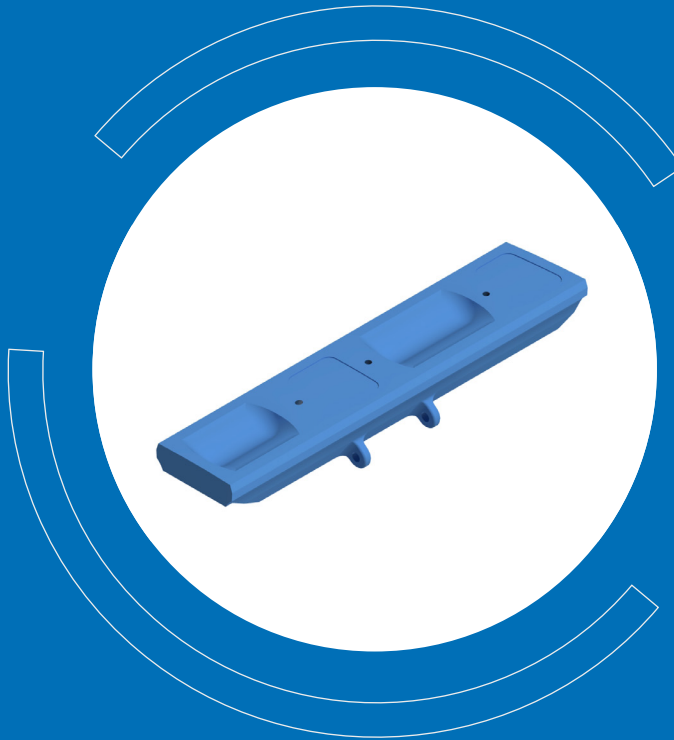
EPDM Rubber



# Exterior Bolting

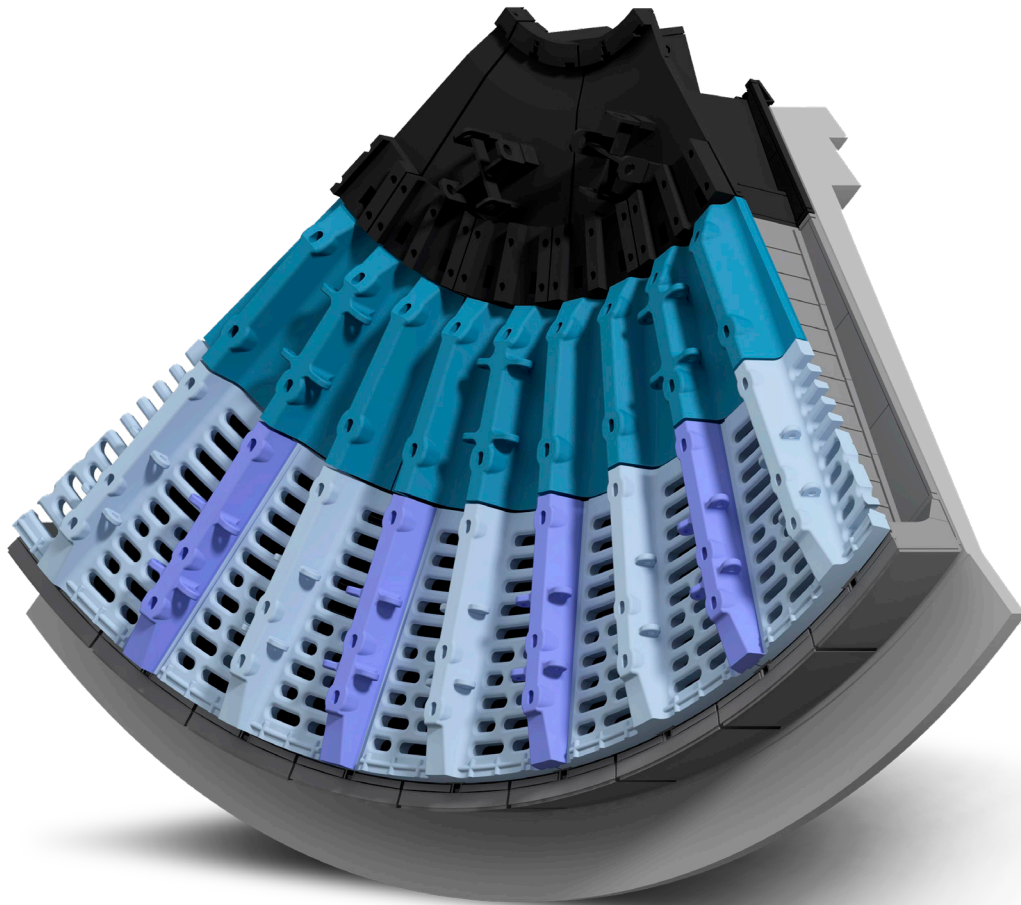
The primary objective of this solution is to reduce the exposure of people inside the mill during relines. Additionally, the fastening system is not exposed to vibrations and impact energy because there is no direct contact between the bolt and the impact zone of the liner.

---



SAG Mill

Discharge Head Liners





# S1 Grate

This grate offers a solution for simple row racks, but with built-in lifters, which reduces the number of parts in the lifter/grate assembly by half. These types of grates are larger in the trough area and can provide a larger open slot area.

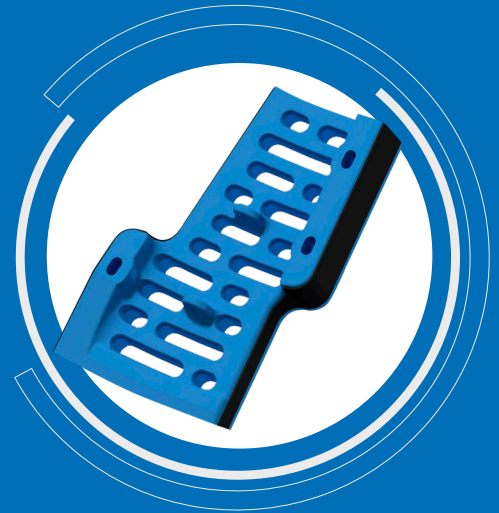
---

**Steel:**

Pearlitic chrome-moly steel

Martensite steel

High-hardness white iron



# S2 Grate

This grate solution reduces the number of parts inside the mill. Its design features two or three liner rows and a built-in closing lifter, allowing for a reduction in the weight of parts and the number of parts by half, or more. Additionally, it benefits the open-slot area (because it is double), by allowing better distribution of the slots without putting the structural resistance at risk.

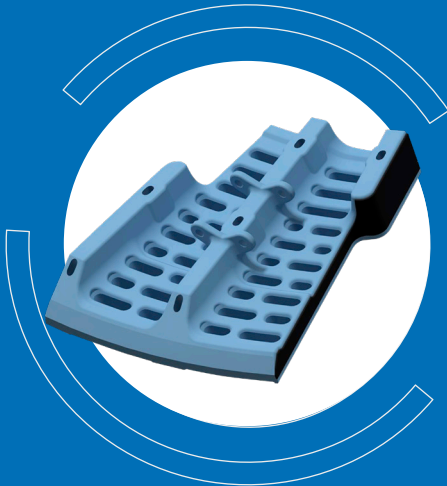
---

**Steel:**

Pearlitic chrome-moly steel

Martensite steel

High-hardness white iron



# Grate with Closing Lifter

This is a traditional grate design with additional single lifter at grate joints. It can be manufactured in single or double rows. It provides greater safety under severe operating conditions.

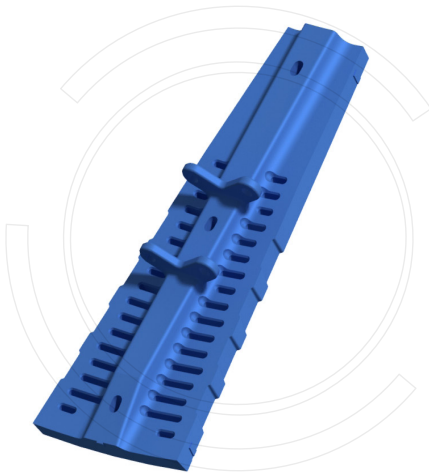
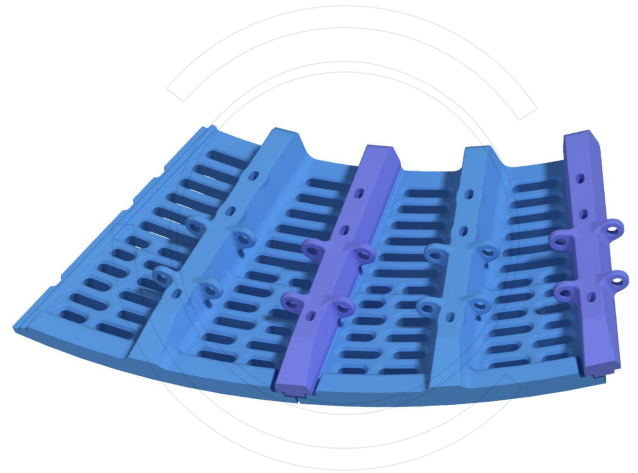
---

## Steel:

Pearlitic chrome-moly steel

Martensite steel

High-hardness white iron



# Simple Grate

Traditional type of grate with cantilevered wings. First grate concept.

---

## Steel:

Pearlitic chrome-moly steel

Martensite steel

High-hardness white iron

# Spiral and Hockey Stick Grates

ME Elecmetal's spiral and hockey stick grate designs offer grid solutions for unidirectional mills.

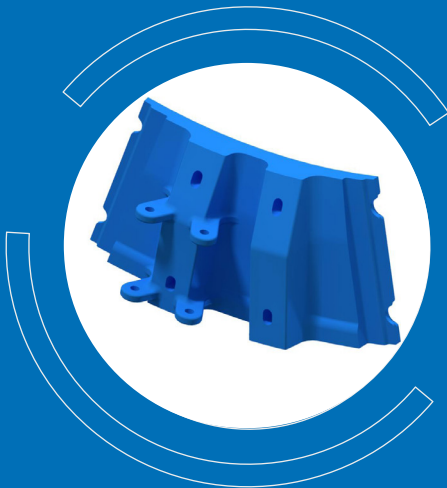
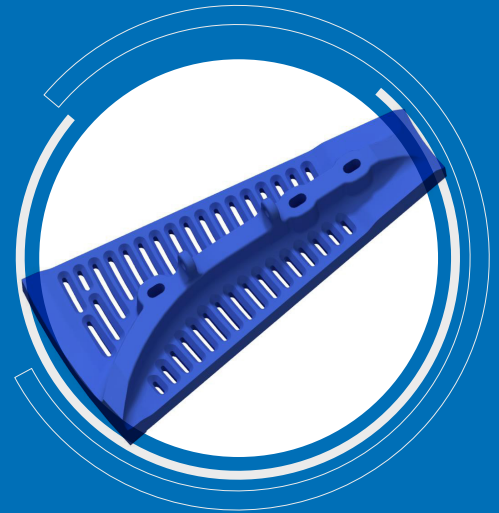
---

**Steel:**

Pearlitic chrome-moly steel

Martensite steel

High-hardness white iron



## Middle Liner

Solution located beyond the grates in the inner zone. Its function is to generate the closure between the grate and the discharge cone. The most important parameters to consider when choosing middle liners are: box geometry, discharge cone geometry, and resistance to abrasive attrition.

---

**Steel:**

Pearlitic chrome-moly steel

Martensite steel

High-hardness white iron

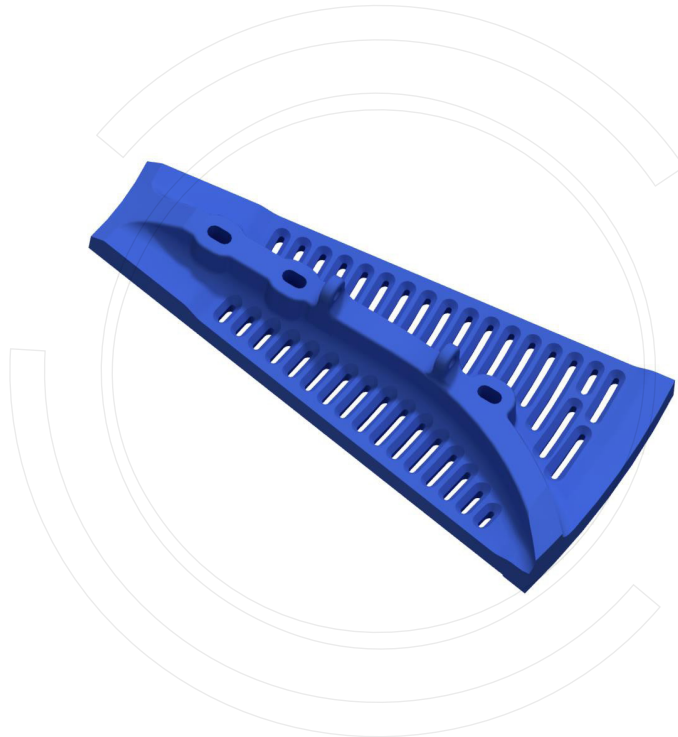
# Torchless Reline

Torchless reline is achieved through a hot vulcanized process which adheres the rubber to the liner. Eliminating the fusion between mill liners increases reline efficiency and safety. Its use is versatile for feed heads, shells, grates and intermediate shells in SAG / AG mills and ball mills.

---

## **ME PolyFIT®:**

Rubber





# SAG / AG Mill Discharge System



# Outer Pulp Lifter

The objective of pulp lifter is to capture the classified pulp from the grates and direct it to the discharge, located in the discharge cone. It is the most peripheral part of the mill on the discharge head. It can be radial or helical.

---

## **Steel:**

Pearlitic chrome-moly steel

Martensite steel

High-hardness white iron

## **ME PolyFIT®:**

Laminate + Rubber



# Inner Pulp Lifter

Similar to the outer pulp lifter, the inner pulp lifter drives the classified pulp from the grates towards the discharge area. It corresponds to a section that normally goes under the intermediate shell and between the outer pulp lifter and the discharge cone. This section is subjected to pure abrasion, due to the movement of the pulp from the outer to the discharge area.

---

## **Steel:**

Pearlitic chrome-moly steel

Martensite steel

High-hardness white iron

## **ME PolyFIT®:**

Laminate + Rubber



# Discharge Cone

The discharge cone is responsible for discharging the pulp from the mill as received from the pulp lifters. This section is subjected to pure abrasion, due to the movement of the pulp exiting the mill.

---

## **Steel:**

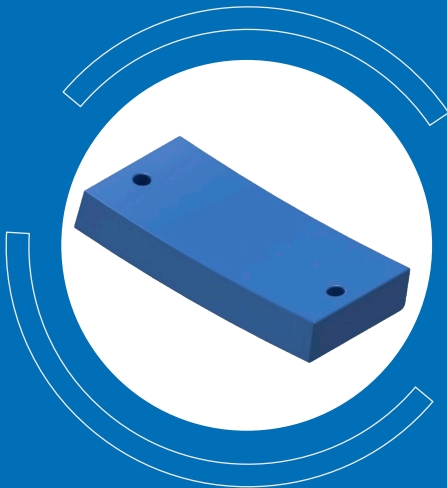
Pearlitic chrome-moly steel

Martensite steel

High-hardness white iron

## **ME PolyFIT®:**

Laminate + Rubber



# Filler Block

The filler strip goes in the back area of the outer pulp lifter. It fits between the cylinder shell area and the head shell.

---

## **ME PolyFIT®:**

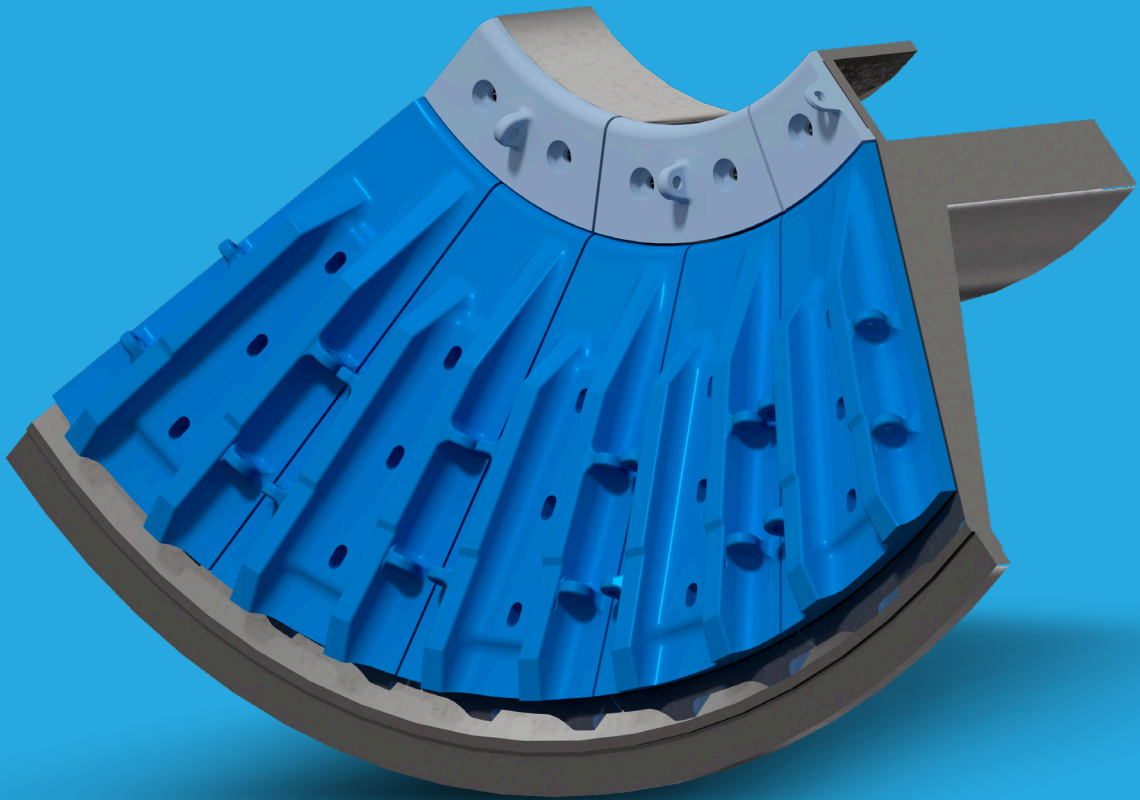
Laminate + Rubber





Ball Mill

**Feed End Head Liners**



# Feed End Head Liner

The feed end head liner protects the mill feed head against ball and ore impacts, abrasion, etc. ME Elecmetal offers designs to reduce the number of parts in the feed head by integrating the middle and outer sectors into one single piece.

---

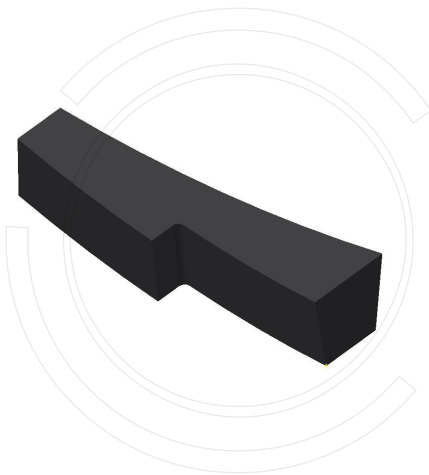
## **Steel:**

Pearlitic chrome-moly steel

High-hardness white iron

## **ME PolyFIT®:**

Laminate + Cast + Rubber



# Filler Ring

This part is located in the ring that joins the tops of the mill and the shell. ME Elecmetal offers this solution in many different materials.

---

## **Steel:**

Steel

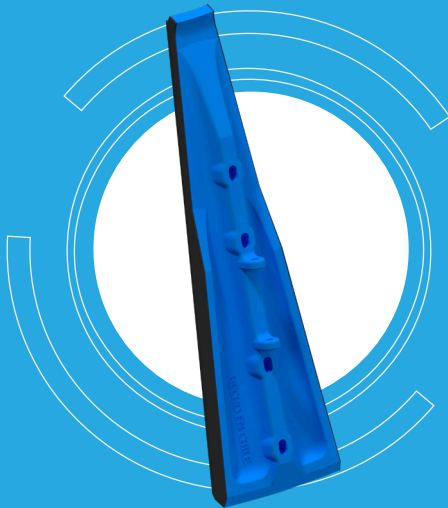
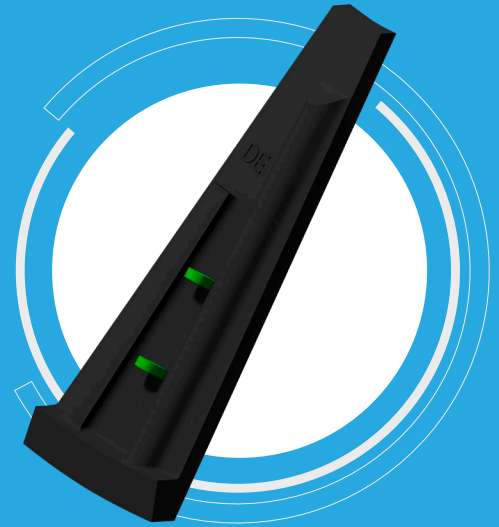
## **ME PolyFIT®:**

Laminate + Rubber

# Exterior Bolting

The primary objective of this solution is to reduce the exposure of people inside the mill during relines. Additionally, the fastening system is not exposed to vibrations and impact energy because there is no direct contact between the bolt and the impact zone of the liner.

---



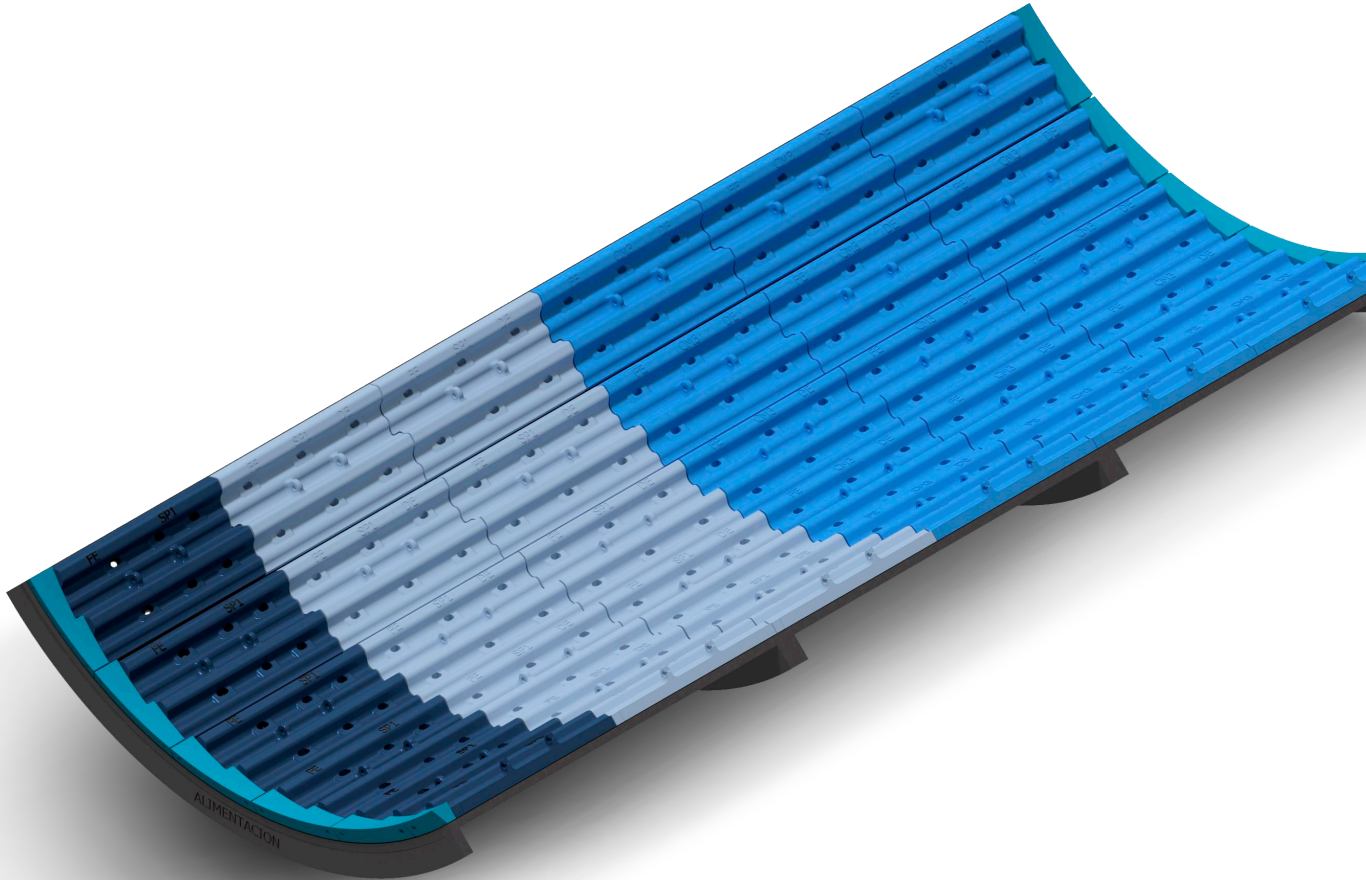
# Torchless Reline

Torchless reline is achieved through a hot vulcanized process which adheres the rubber to the liner. Eliminating the fusion between mill liners increases reline efficiency and safety. Its use is versatile for feed heads, shells, grates and intermediate shells in SAG / AG mills and ball mills.

---

**ME PolyFIT®:**  
Rubber

# Ball Mill Shell Liner



# Shell Liner

ME Elecmetal offers optimized ball mill shell liner designs based on individual customer needs. In order to do this, we have a team of professionals that specialize in optimizing liner and alloy designs through tools such as DEM simulations. The objectives are to get better performance during mill operation, increase equipment availability and reduce the total number of parts inside the mill.

---

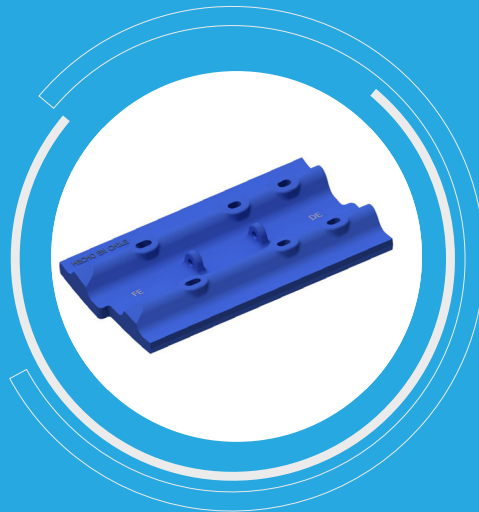
## **Steel:**

Pearlitic chrome-moly steel

High-hardness white iron

## **ME PolyFIT®:**

Laminate + Cast + Rubber

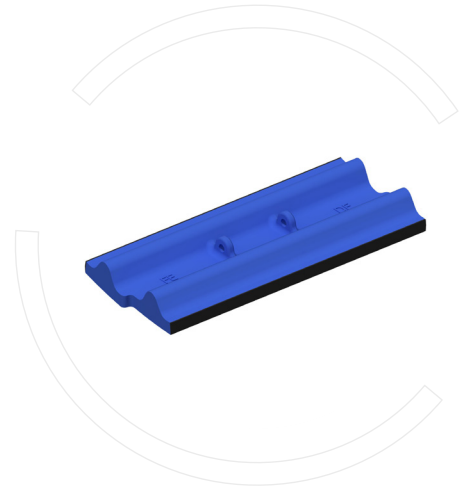




# Exterior Bolting

The primary objective of this solution is to reduce the exposure of people inside the mill during relines. Additionally, the fastening system is not exposed to vibrations and impact energy because there is no direct contact between the bolt and the impact zone of the liner.

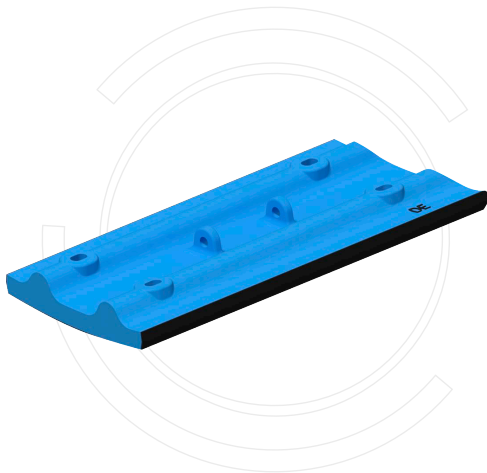
---



# Torchless Reline

Torchless reline is achieved through a hot vulcanized process which adheres the rubber to the liner. Eliminating the fusion between mill liners increases reline efficiency and safety. Its use is versatile for feed heads, shells, grates and intermediate shells in SAG / AG mills and ball mills.

---



**ME PolyFIT®:**

Rubber



# Discharge Head Liner

The discharge head liner protects the mill discharge head against ball and ore impacts, abrasion, etc. ME Elecmetal offers designs to reduce the number of parts in the discharge head by integrating the middle and outer sectors into one single piece.

---

**Steel:**

Pearlitic chrome-moly steel  
High-hardness white iron

**ME PolyFIT®:**

Laminated + Cast + Rubber



# Filler Ring

This part is located in the ring that joins the tops of the mill and the shell. ME Elecmetal offers this solution in many different materials.

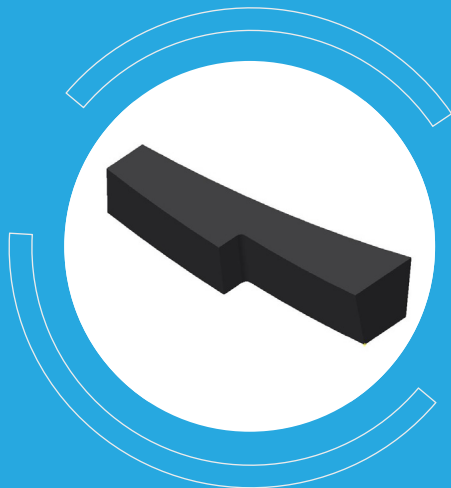
---

**Steel:**

Steel

**ME PolyFIT®:**

Laminate + Rubber







**ME FIT Grinding**  
**ME** *elecmetal*