



# ROMANI S.R.L.



INDUSTRIAL  
KNIVES



LINERS &  
WEAR PLATES



LINEAR  
GUIDEWAYS



BENDING  
TOOLS





## At a glance...

Founded in Milan in 1933

- Moved in 2008 into a NEW production unit in San Vito al Tagliamento between VENICE and UDINE in the NORTH EAST of ITALY
- 60 Employees
- Over 10 Mil Euro/year Turnover
- Exporting in over 50 countries
- Milling capacity up to 12 m in one piece
- Own Heat treating capacity up to 6,0 m on vertical furnace and 12 m in horizontal furnace
- Grinding capacity up to 7 m in one piece in length and 1500 mm diameter





## Liners and wear parts for rolling mills

Rolling Mills where liners are used

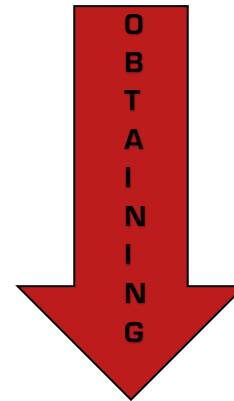
- Conventional Hot Rolling Mills
- Thin Slab Caster Mills (CSP)
- Plate Rolling Mills
- Steckel Mills
- Cold rolling mills

## Liners' requirements

- **Wear resistance**
- **Shocks and Vibrations absorption**
- **Corrosion resistance**
- **Flatness**

In order to meet all requirements we  
have developed the

## Surface Hardening Technology

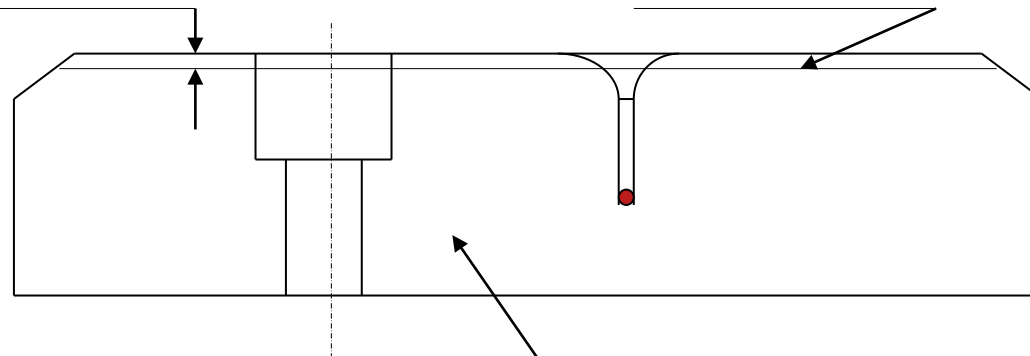


DUAL HARDNESS liners

**Option A : AR/38, *Standard Carbon Steel Surface Hardened Liners***

HRc 60+/-2  
Hardening Depth 3 - 5 mm

Induction Hardened Surface for high wear resistance and low friction.



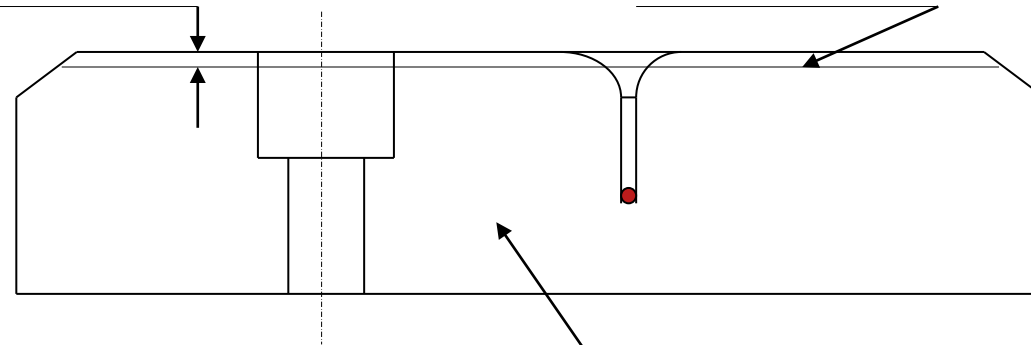
HIGH FLATNESS +/- 0,02 mm/m!!

**C45 Carbon Steel HB 200**

Option B : **AR/38 - S, QT TOOL Steel Surface Hardened**  
**Liners**

HRc 60+/-2  
Hardenings Depth 3 - 5 mm

Induction Hardened Surface for high wear  
resistance and low friction.



**QT tool steel HB 300!!!**

*Higher Mechanical Resistance for higher  
resistance to compression, pittings and  
pressure.*

***IDEAL FOR ROUGHING STANDS AND  
BOTTOM PLATES!!!***

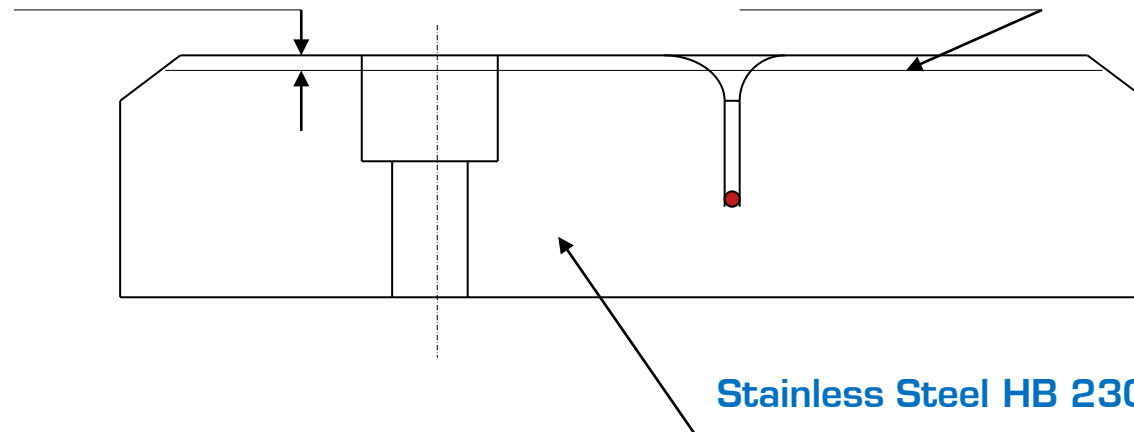
HIGH FLATNESS +/- 0,02 mm/m!!

**Option C : IX/43, *Anti Corrosion Stainless Surface Hardened Liners***

HRc 56+/-2

Hardenings Depth 3 - 5 mm

Induction Hardened Surface for high wear resistance and low friction.



**Stainless Steel HB 230**

HIGH FLATNESS +/- 0,03 mm/m!!



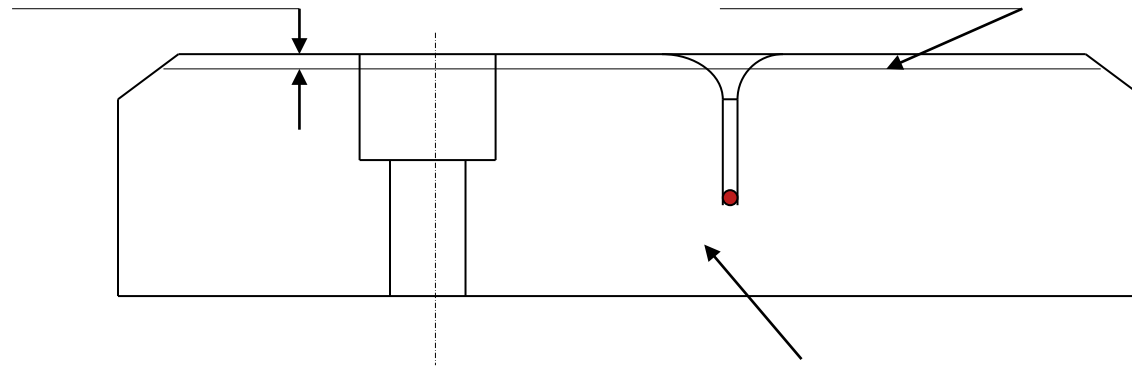


**Option D : IX/43 - S, QT *Anti Corrosion Stainless Surface Hardened Liners***

HRc 56+/-2

Hardenings Depth 3 – 5 mm

Induction Hardened Surface for high wear resistance and low friction.



**CHEMICAL ANALYSIS**

Typical values (weight%)

C	S max.	P max.	Si	Mn	Cr	Mo
.4	.070	.030	.350	.80	16	0.9

**MECHANICAL PROPERTIES**

The grade is delivered quenched and tempered to 280 - 325 HB (29 - 33 HRC).

Hardness	Rp 0.2 Yield Strength		Rm Tensile strength		Elongation	Reduction of area	Elastic modulus	
	MPa	ksi	MPa	ksi			GPa	ksi
300	860	125	1045	152	10	21	207	30023

Typical values

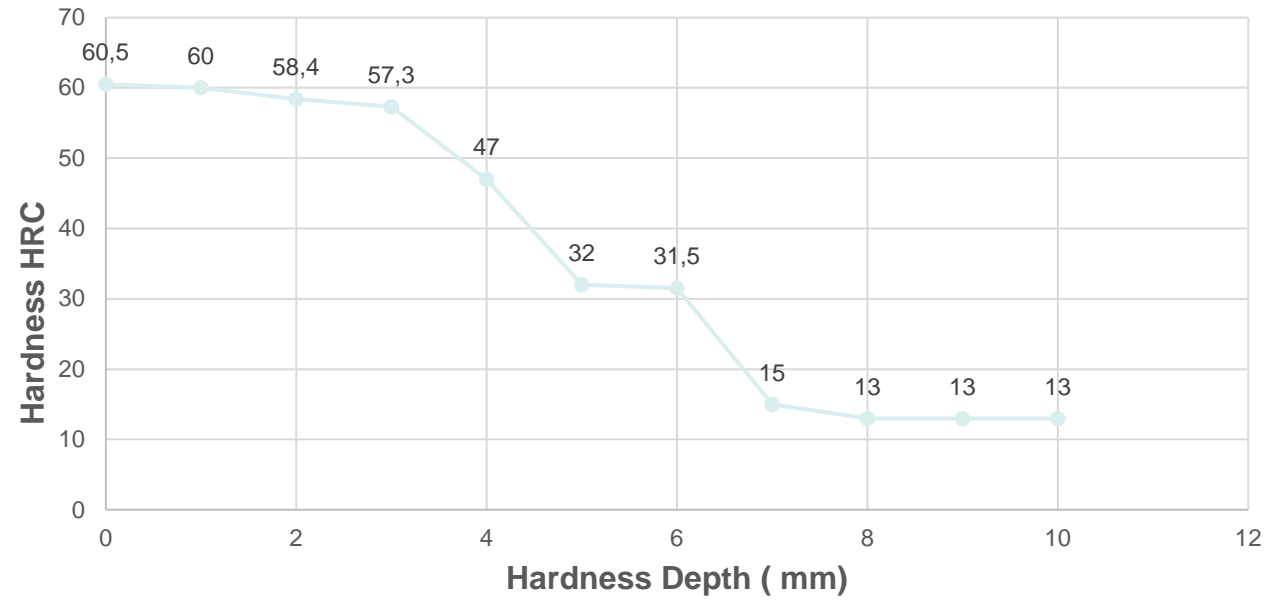
Higher hardness (340HB) available on demand.

**Stainless Steel HB 300!!**

*Higher Mechanical Resistance for higher resistance to compression, pittings and pressure.*

***IDEAL FOR ROUGHING STANDS AND BOTTOM PLATES!!!***

## Surface hardening HRC depth analysis



## SURFACE HARDENED Steel



### ADVANTAGES

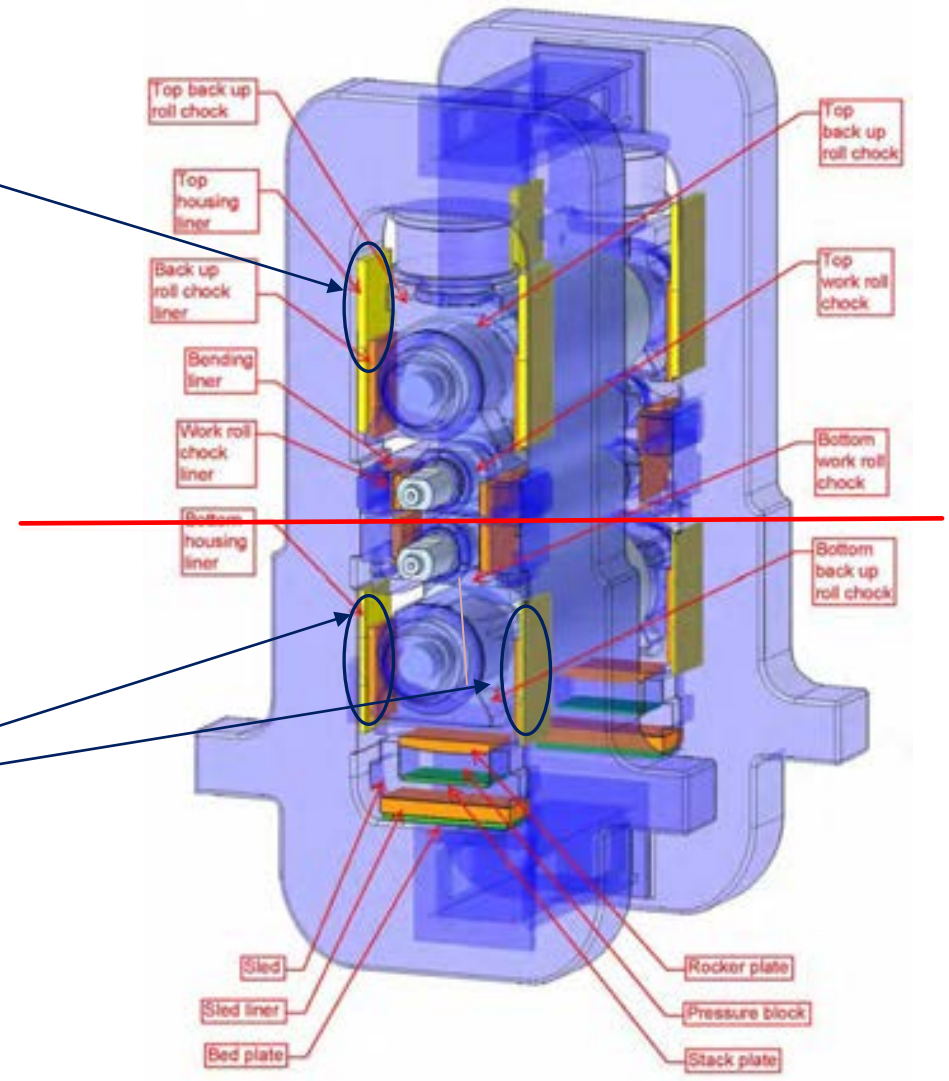
- **ABSORPTION** of Loads and vibrations thanks to soft bottom side
- **HIGH WEAR RESISTANCE** thanks to HARD top side
- **FULL ANTICORROSION, THE WHOLE PLATE IS STAINLESS,** no Risk of Failure
- Soft Stress Free Bottom allows **thickness adjustment** on Site
- **HIGH FLATNESS** in the range of 0,03 mm

**TOP SIDE**

**Top Side**  
**Standard Material AR/38** is sufficient since there's limited corrosion as most of the cooling water goes toward the bottom

**Strip pass line**

**Bottom Side**  
**Stainless steel material IX/43** recommended since there's higher risk of corrosion compared to top because of high q.ty of water coming to bottom, mostly the **HOUSING LINERS** need to be preserved.



**BOTTOM SIDE**



**ROMANI can produce any kind of liner or wear plate used in a rolling mill as:**

- Mill Housing Liners
- BUR and WR Chock Liners
- Miscellaneous lower Liners
- Bronze and Brass Alloy Liners

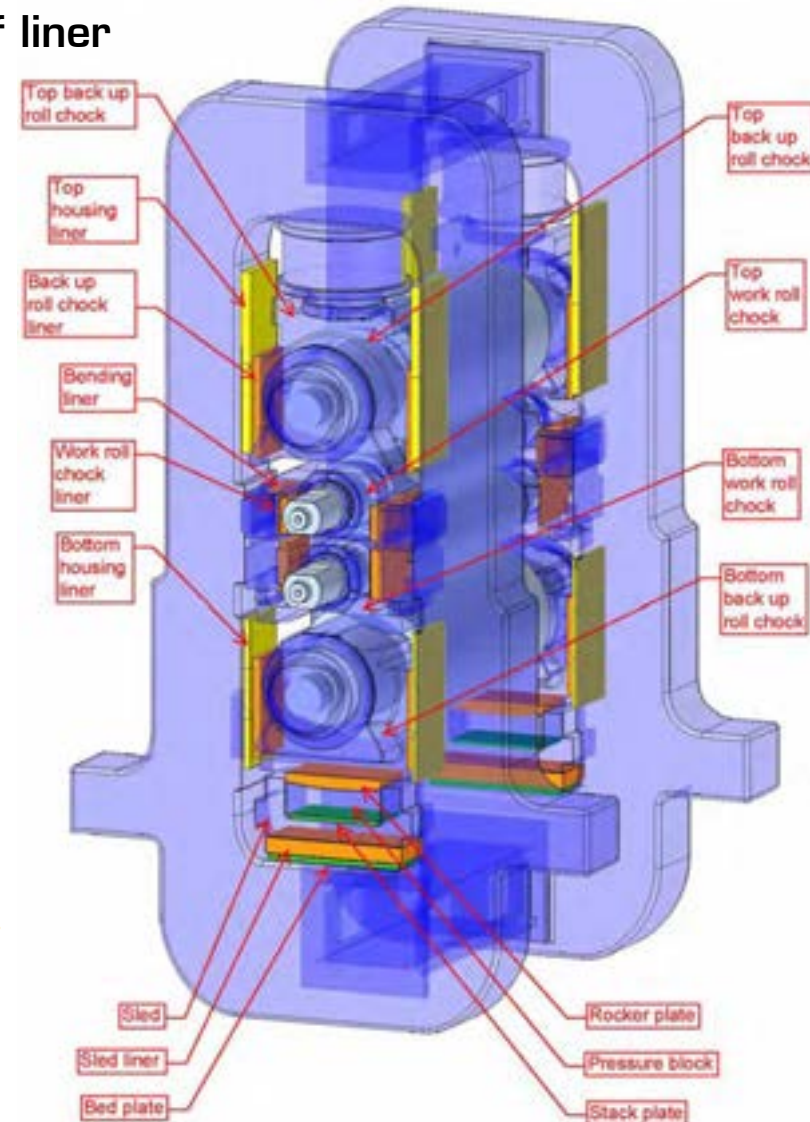
Rocker Plates

Stack Plates

Sled Liners

Bending Liners

LINERS &  
WEAR PLATES





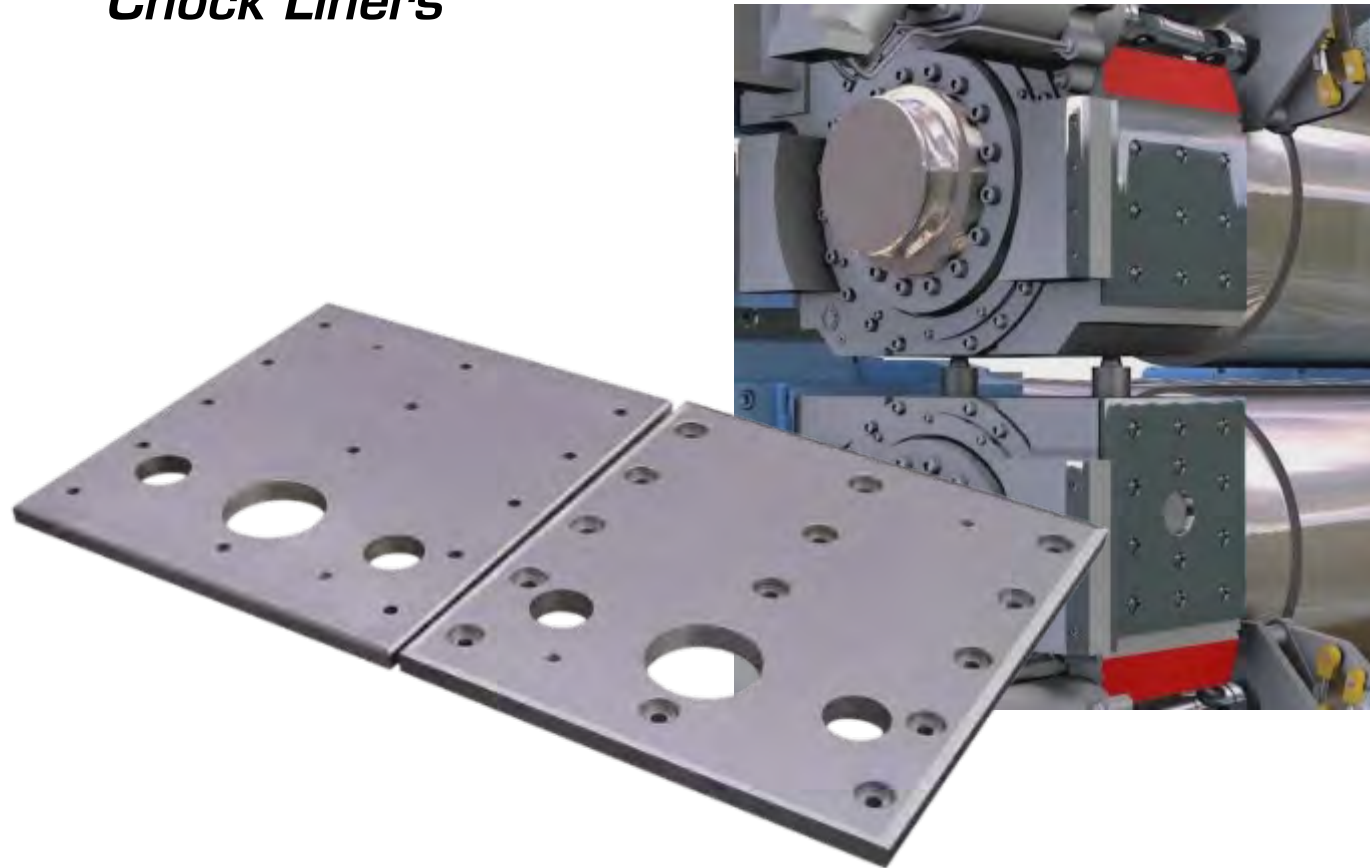
## Liners and Wear Parts for Rolling Mills

### *Housing Liners*



## Liners and Wear Parts for Rolling Mills

### *Chock Liners*



## Liners and Wear Parts for Rolling Mills

### *Back-Up Roll Chock Liners*





## Liners and Wear Parts for Rolling Mills

### *Rocker Plates*



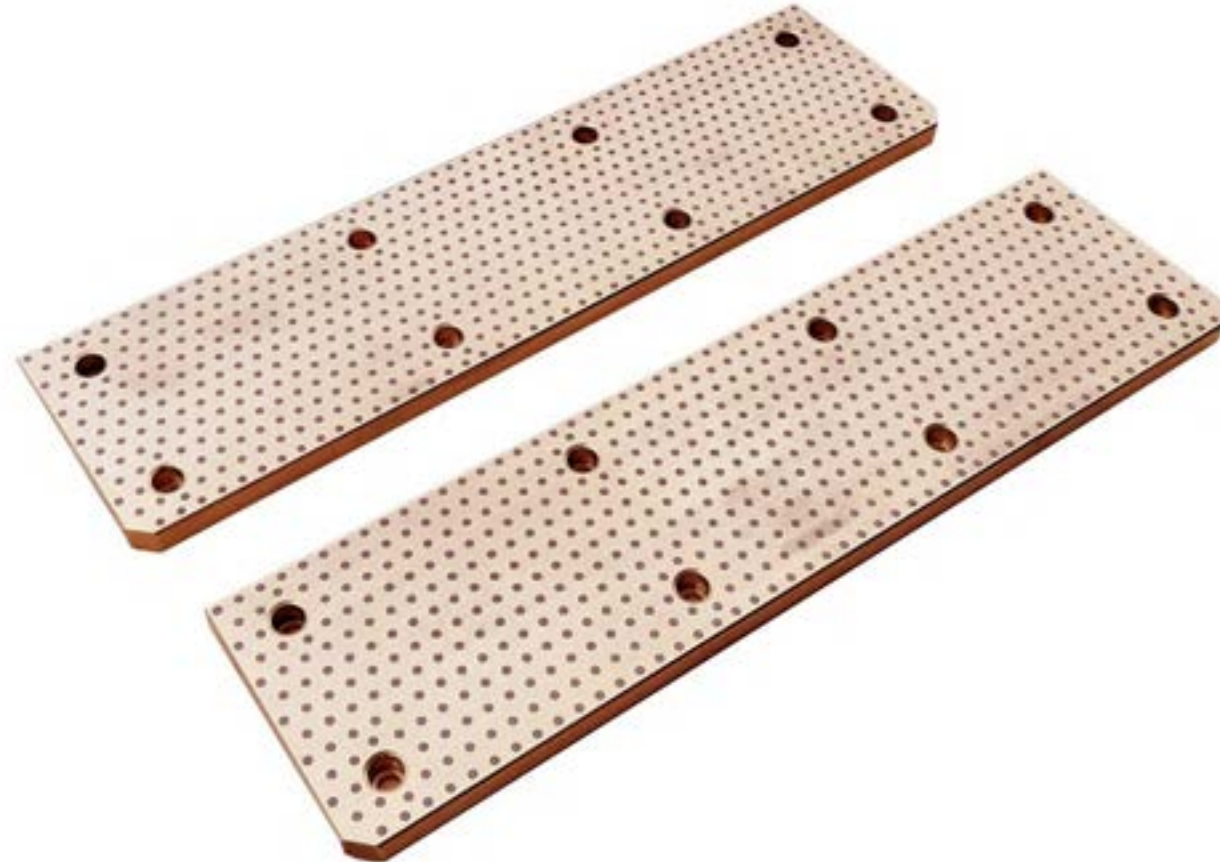
## Liners and Wear Parts for Rolling Mills

*Bronze and Brass alloy liners*



## Liners and Wear Parts for Rolling Mills

*Bronze with graphite pins*



## Liners and Wear Parts for Rolling Mills

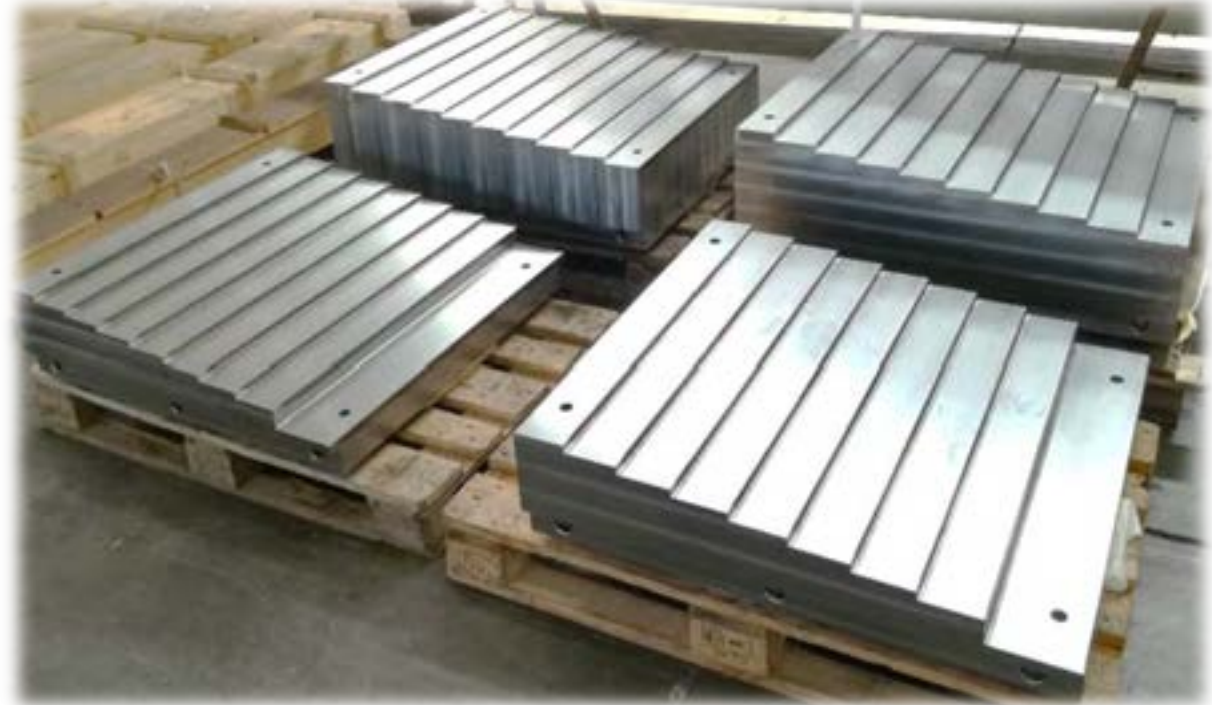
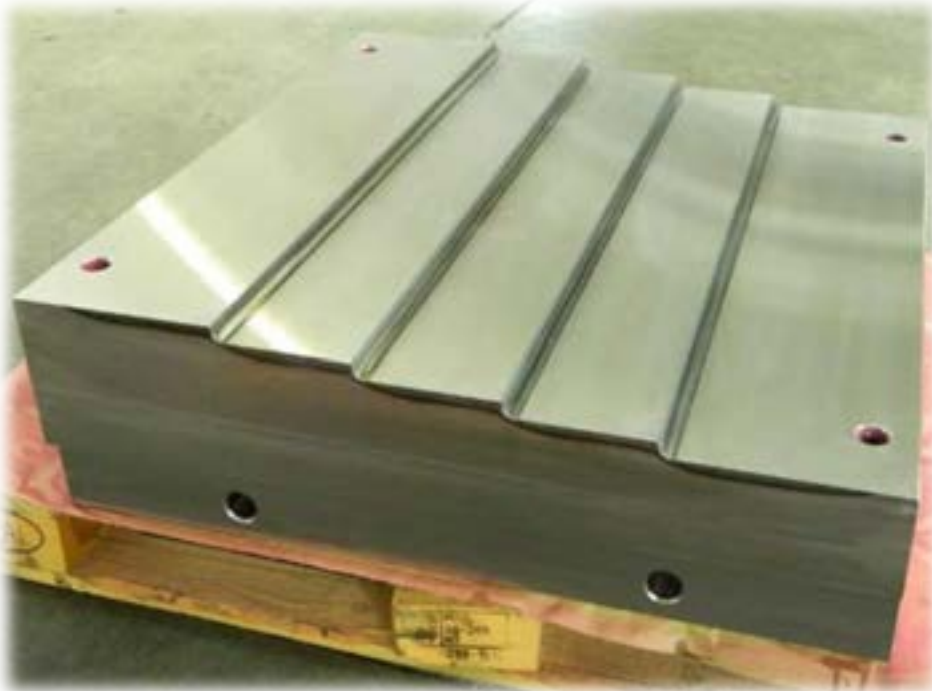
*Bronze alloy sliding plates*





## Liners and Wear Parts for Rolling Mills

### *Step Liners*



## Liners and Wear Parts for Rolling Mills

### *Shifting Blocks*



## Liners and Wear Parts for Rolling Mills

### *Bending blocks*





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