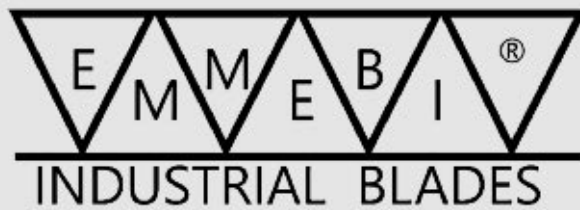


**Cutting Edge Technologies - World Class Products**



**Slitter Tooling & Shear Blades**

Emmebi offers complete range of high quality slitter tooling for the metal industry.

Several renowned customers worldwide place their trust in our products.

Manufactured with finest tool and special steels, heat treated in precisely monitored furnaces and precision ground to close tolerances, every product that bears the stamp of Emmebi tacks quality.

The tooling is manufactured in 2 grades of tolerances  
Precision, Extra Precision.

Extra Precision grade is ground as well as lapped  
with tolerances as close as  $\pm 0.001\text{mm}$ .



## Slitting Knives

**Our knives are capable to slit all kinds of applications:** Carbon Steels, Stainless Steels, Silicon Steel, Non-ferrous metals, hardened & tempered grades, high tensile grades, special alloys etc.

The most important parameters in a slitter knives are:

1. Maximum wear resistance
2. Dimensional Stability
3. Adequate toughness
4. Chipping resistance

It is our speciality to select the right material grade and hardness to suit the customer's application.

Cryogenic treated knives have good wear resistance, exceptional dimensional stability and excellent slit edge quality.

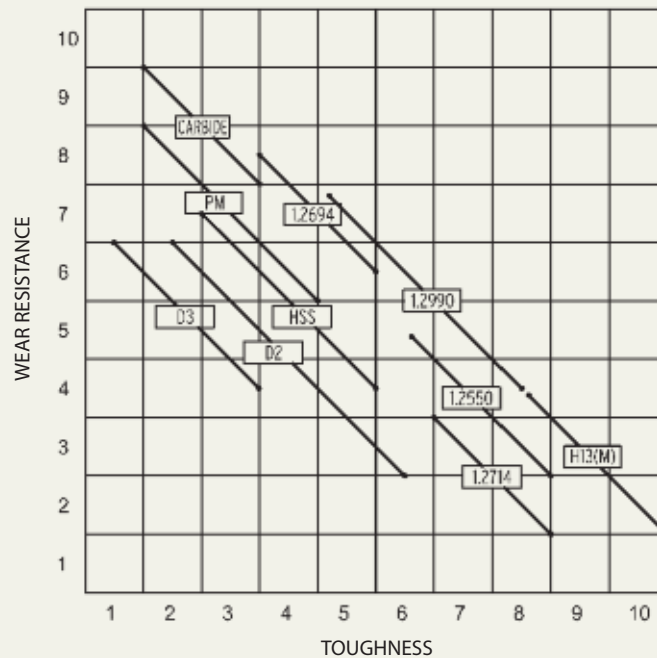
### Size Range

Emmebi offers knives upto  $\varnothing 1200\text{mm}$ . Knives upto  $\varnothing 420\text{mm}$  can be supplied in lapped condition with  $\pm 0.001\text{mm}$  thickness tolerance.

### Steel range for the construction of circular blades:

Types of steels	Application
AISI-D3/W-1.2080	Thin weights of ferrous and non-ferrous materials
AISI-D2/W-1.2379	Medium thicknesses of low carbon steel, fine thicknesses of stainless steel and hardened, CRNO, medium-high thicknesses of non-ferrous steels
AISI-H13/W-1.2344 W-1.2345	High thicknesses of stainless steel and low carbon, high strength structural steels
W-1.2990	Medium thicknesses of stainless steel and high strength up to 1600Mpa, hardened steels, high and low carbon, high thicknesses of non-ferrous steels
W-1.2714	Medium and high thicknesses of stainless steel and high carbon where maximum toughness is required
W-1.2694/HPS	Thin thicknesses of hardened steel, work hardened stainless steel, CRNO, and non-ferrous
AISI-M2W-1.3343 (H.S.S.)	Thin and extra thin thicknesses of hardened steel, CRGO, CRNO, where required maximum wear resistance combined with good toughness and resistance to breakage
PM ASP 2023	Same as M2 but with longer line life
Toungsten carbide	CRGO, thin and extra thin thicknesses where maximum wear resistance is required

Toughness Wear Resistance Graph



## Spacers

The tolerances on Spacers are equally important like knives. Spacers are made from 100Cr6 / SAE52100 / 1.2067 material which is a through hardening grade and gives more dimensional stability compared to carburizing steels.

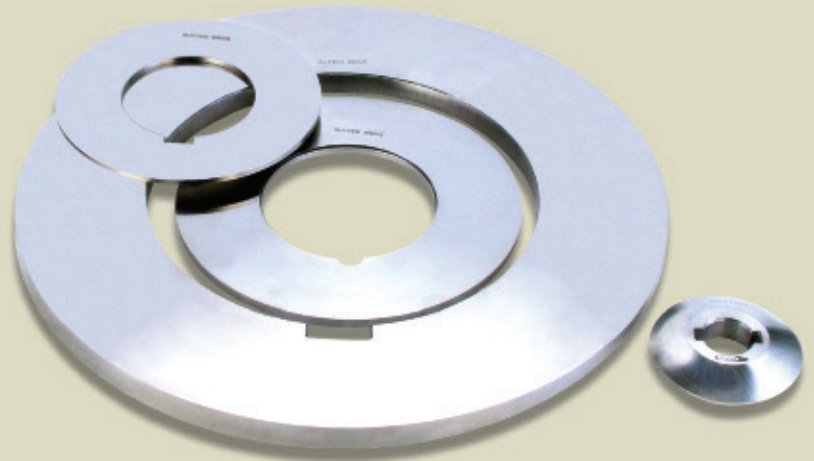


Table of dimensional tolerances of Circular Blades, Spacers and Rubber Spacers

D. External	Ground				Lapping or Micro-grinding		
	Thickness	Planarity			Thickness	Planarity	
in (mm)	Tolerance	T≤2	2<T≤5	T>5	Tolerance	2<T≤5	T>5
up to 255	±0.003	0.1	0.040	0.010	±0.001	0.020	0.002
255≤D≤365	±0.003	0.1	0.050	0.015	±0.001	0.030	0.002
365≤D≤420	±0.004	0.1	0.060	0.020	±0.001	0.040	0.004
over 420	±0.006	0.1	0.070	0.025	±0.004	0.050	0.010

Standard internal diameter tolerances: G6, G7, H7, F7, F8

Standard tolerances for circular blade external diameters: 0/-0.02mm.

\*Non-standard special tolerances can be made on request

\*\*All dimensions are in mm.

## Bonded Stripper Rings

The rubber rings are adequately bonded over the OD of the steel core. The core is made from 100Cr6/SAE52100/1.2067 through hardening steel and is precisely ground on lapped as per requirement. The selection of the rubber material and hardness is made as per application.

Commonly used qualities are Nitrile / Perbunan; Neoprene, Polyurethane.



## Loose Stripper Rings

These can be easily 'slipped-on' over the metal spacers. The common grades are Nitrile/Perbunan; Neoprene, Polyurethane.

Loose stripper rings can be supplied in different colours and in single or dual hardness design.



Material	Oil resistance	Temp.Max. of work	Acid resistance	Abrasion resistance
<b>Nitrile /BunaN/Perbunan</b>	√	Upto 100°C	X	X
Properties of Special Interest: Balance of low and high temperature applications, oil, fuel and solvent resistance, average abrasion resistance, less gas permeability, good thermal stability and strength.				
<b>Neoprene/Cycloprene/Skyprene</b>	√	Upto 125°C	√	X
Properties of Special Interest: Excellent acid resistant property, good mechanical and physical properties at high temperatures of 125°C and low thermal conductivity.				
<b>Polyurethane</b>	√	Upto 100°C	X	√
Properties of Special Interest: Excellent dampening property, excellent mechanical and physical properties at a temperature of 100°C, high abrasion resistance, low thermal conductivity and excellent strength.				

Note: Rubbers are available in various combination of colour, hardness (Shore-A) specific gravity, tensile strength, % elongation.

## Light Weight Spacers

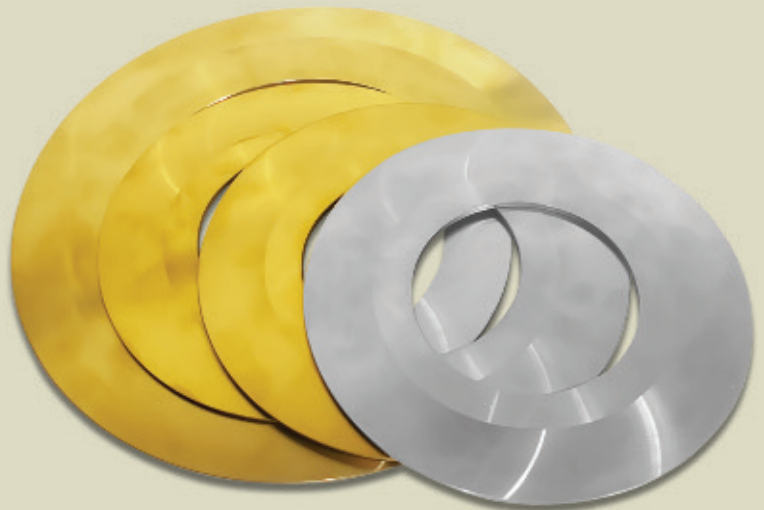
These are specially designed to reduce the weight of particularly large dia spacers for easy handling and to reduce fatigue. The weight reduction can be upto 40%. It is achieved by having a maximum recessed inner diameter and making holes on the diameter throughout the periphery. Material and tolerances are similar to normal steel spacers.



## Separator Discs

The discs are subject o heavy wear & impact, hence the raw material should be wear & shock resistant. Also they should not be so hard or they damage coils edges. A right combination of material grade& hardness is therefore very important.

Most common grades are CrV Alloy Steel, SAE4340/EN24, 1.2379/D2. The separator discs can be supplied with TiN coating or chrome plating to improve their wear resistance.



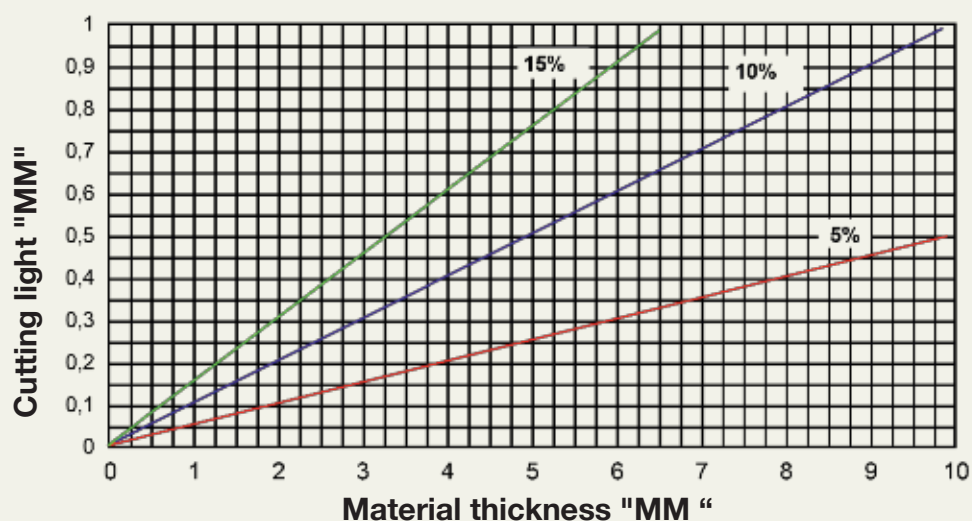
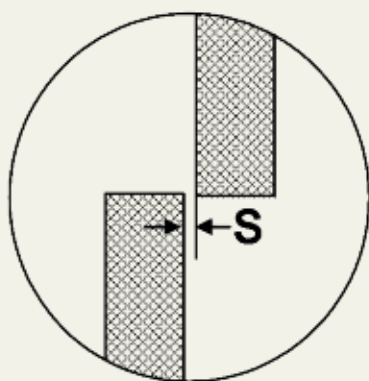
## Nylon Spacers

Are generally made from alloy steels. To reduce weight, these spacers can also be made from Polyamide. Rubber bonded steel spacers are made for soft & surface sensitive coils.





# DIAGRAM OF CUTTING LIGHTS AND BLADE INTERSECTION



15%

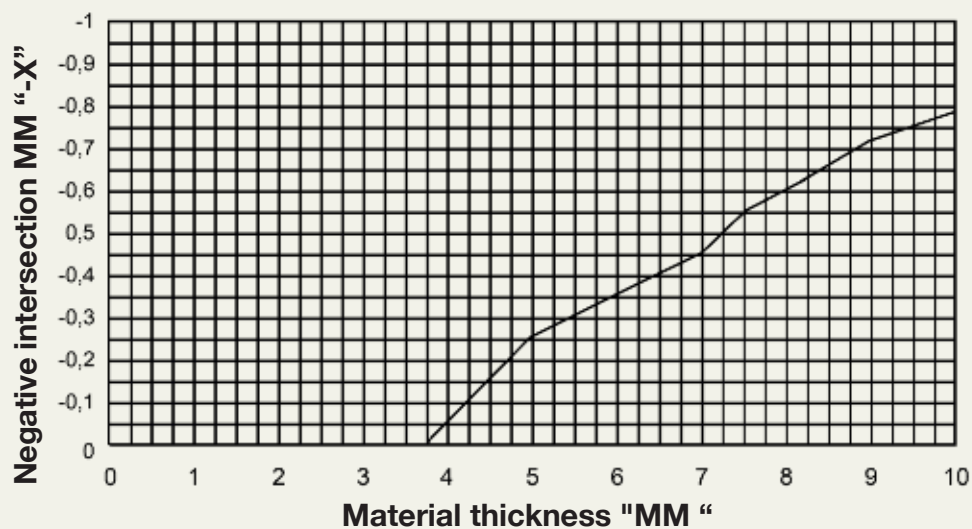
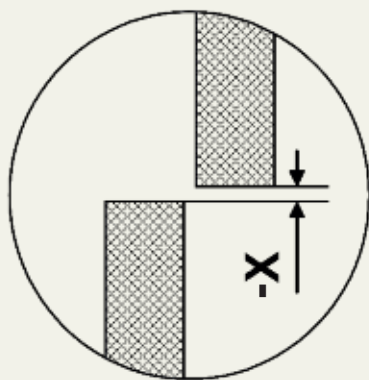
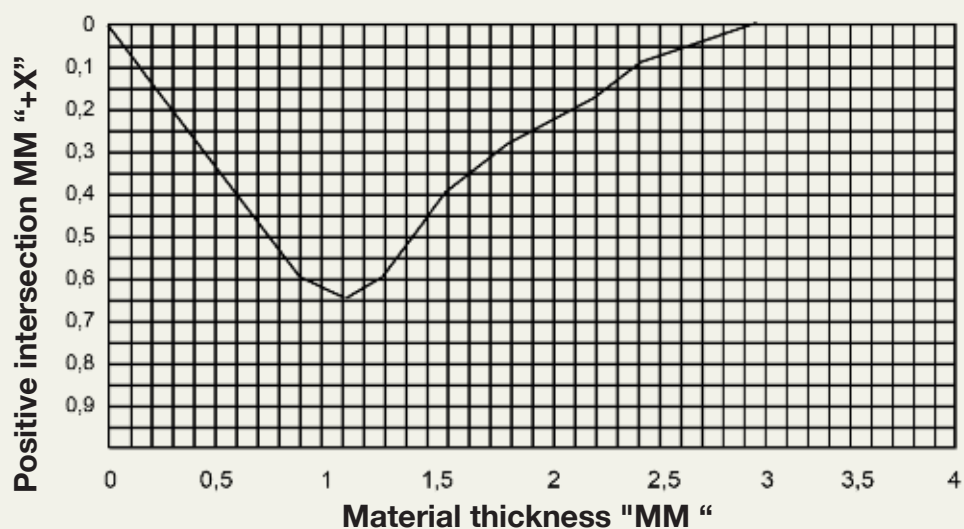
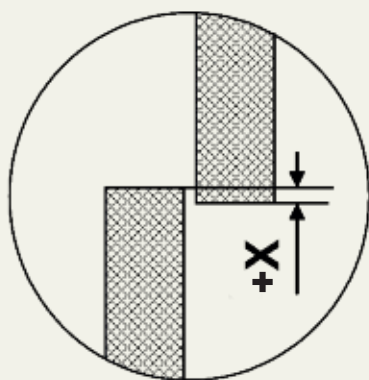
**HIGH STRENGTH  
UP TO 1600 MPa**

10%

**MEDIUM STRENGTH  
UP TO 500 MPa**

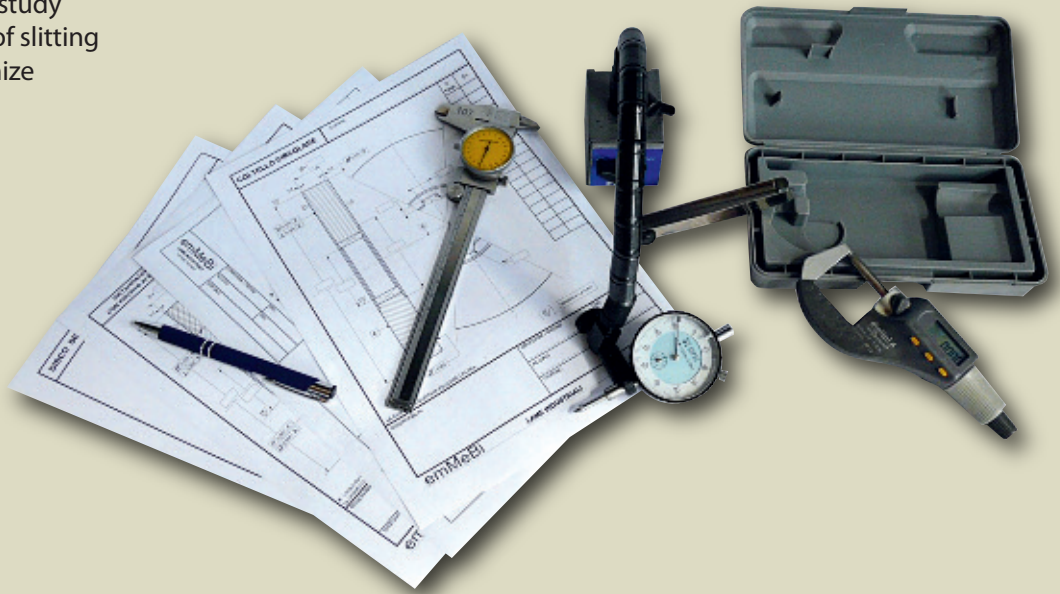
5%

**LOW STRENGTH  
UP TO 300 MPa**



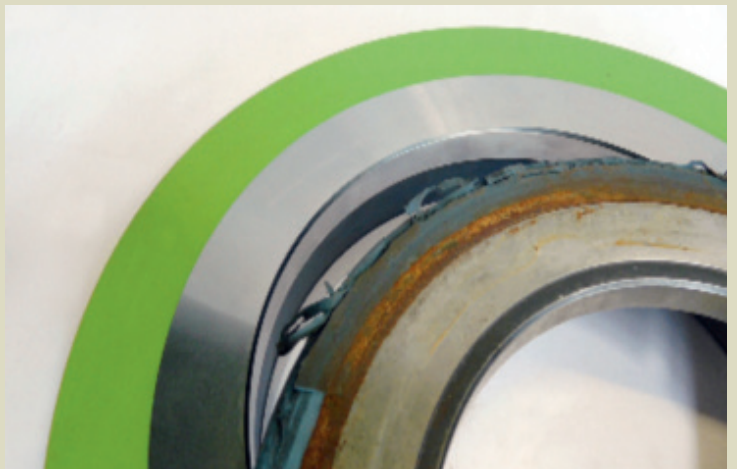
## SERVICES

- 1 Line health check-up
- 2 Our engineers help in study of critical parameters of slitting line & tooling to optimize the performance



## RE-RUBBERIZATION

We also undertake re-rubberization of the bonded stripper rings. The worn out rubber is properly removed from the metal core & new rubber is properly bonded on the original core. This helps to reduce cost.



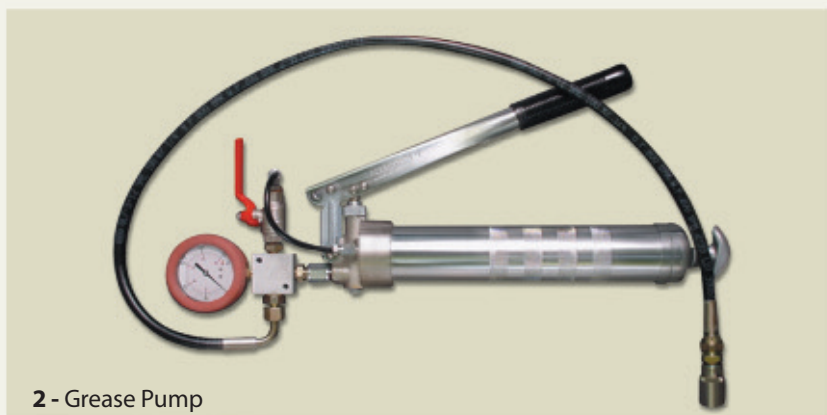
## REGRINDING

We provide quick re-grinding services for the knives. High accuracy grinders help to maintain close tolerances.

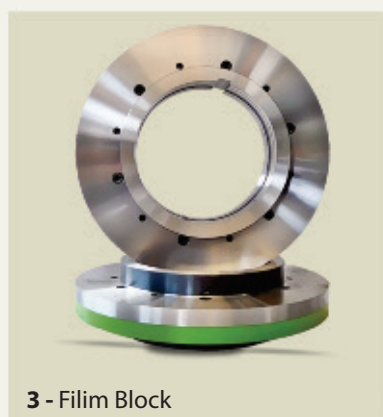




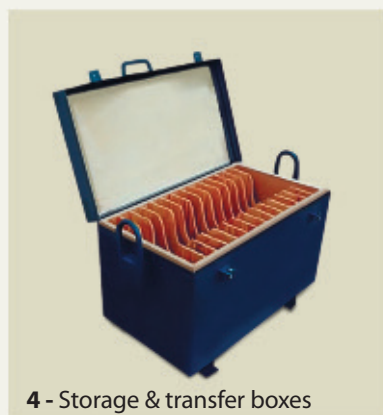
1 - Hydraulic Lock Nuts



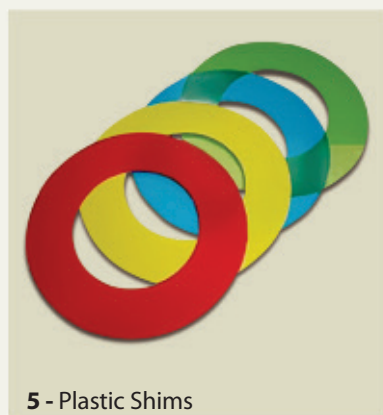
2 - Grease Pump



3 - Filim Block



4 - Storage & transfer boxes



5 - Plastic Shims

## Accessories

### 1 Hydraulic Lock Nuts

Our specially designed hydraulic nuts help to achieve a uniform clamping pressure on the tooling. This results in:

- Reduced setup time.
- Improved tooling setup accuracy
- Decrease in vibration.

These nuts can be generally used in all slitting lines.

### 2 Grease Pump

Robust design, low maintenance, very easy to use.  
Maximum pressure 400 bar, with pressure gauge.

### 3 Filim Block

Made of hardened alloy steels. These are very useful where few cuts have to be performed. Pre-equipped with the knife & rubber spacer, it can easily be mechanically locked to the shaft. The ready-to-use and easy design allow a quick change of slit widths without affecting the accuracy of cut.

### 4 Storage & transfer boxes

These are customized as per the requirement of customers. Made from wood/metal, these help in protection of tooling from damage & ease of handling.

### 5 Plastic Shims





## Shear Blades & Scrap Chopper Knives

Emmebi manufactures variety of Shear Blades & Scrap Choppers from high quality tool & alloy steels for both hot & cold applications.

**Following parameters are of first importance in shear blades:**

- Wear resistance
- Compression strength
- Shock resistance
- Toughness
- Close tolerances
- Hardness
- Long cutting life

Special care is taken for the proper selection of raw material & hardness suiting to the application.

**Commonly used grades are:**

- DIN 1.2080 / AISI D3
- DIN 1.2379 / AISI D2
- DIN 1.2344 / AISI H13

Blades from other special grades like 1.2767, 1.2746, 1.2550 etc. can be manufactured on special request.

**OUR WORLD WIDE PRESENCE SPEAKS IN ITSELF OF OUR  
SATISFIED CUSTOMERS**





**Contact details**

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*Emmebi has been building cutting equipment for over 60 years with high quality for Slitter and Cut-To-Length cutting lines offering its customers the latest technology present on the market today.*

*We collaborate with the most important European Oem's and our consolidated presence in the world market, has allowed our company to become a solid and reliable point for our customers.*

*The steels used come from the most important European producers.*

*The production process, combined with a heat treatment vacuum-packet, using the latest generation ovens and the process with highly technological equipment, have allowed us to reach tolerances in the order of a micron. Every products bearing the Emmebi brand speaks of precision and quality.*

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