MLT

Minet Lacing Technology

MADE IN FRANCE
PATENTED PRODUCT

# SUPER-SCREW® EVOLUTION

the Original since 1994

## MLT patented innovation

## The new generation of flexible splice to screw


**EASIER AND FASTER TO INSTALL**

**THINNER AND MORE RESISTANT**

**FULLY INTEGRATED INTO YOUR BELT**

The new SUPER-SCREW® EVOLUTION is currently available for belts strength up to EP630 (or 360PIW)


# MLT
# A Partner you can Trust

**Our products and solutions meet your needs**

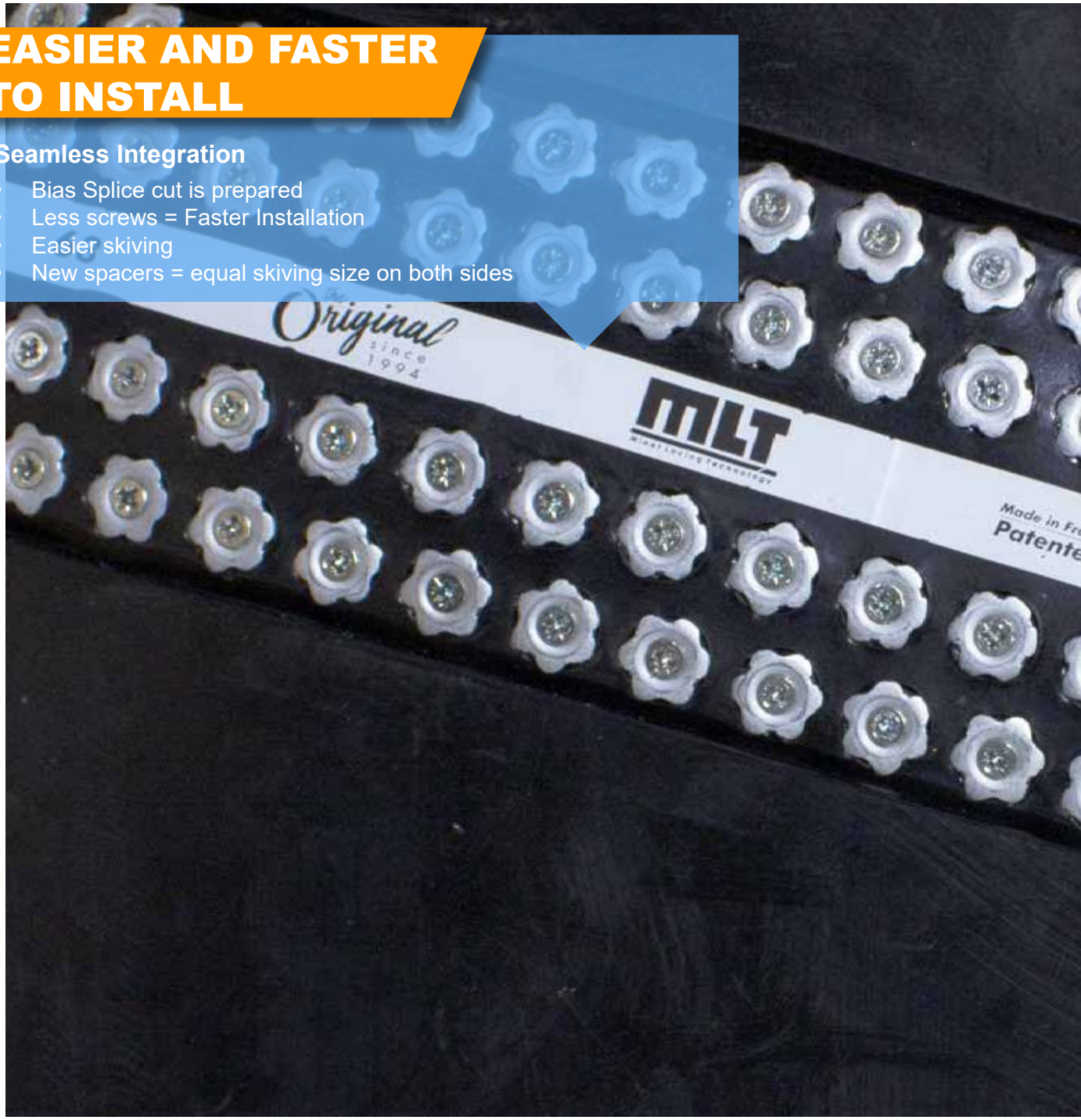
**70 years of experience and innovation for you**

## SOLUTIONS FOR HEAVY AND LIGHT-DUTY BELTS, MANUFACTURER OF TECHNICAL BELTS, TOOLS, VULCANIZING PRESSES

# SUMMARY

# Advantages and benefits of the New

## This brand new patented splice has evolved to b




### EASIER AND FASTER TO INSTALL

**Seamless Integration**

- Bias Splice cut is prepared
- Less screws = Faster Installation
- Easier skiving
- New spacers = equal skiving size on both sides

THE NEW SUPER-SCREW® EVOLUTION IS CURRENTLY AVAILABLE FOR BELTS STRENGTH UP TO EP630 (OR 360PIW)

# Generation of Flexible Splice

## ring you fundamental improvements


### THINNER AND MORE RESISTANT

**New, stronger fabric**

- Seamless integration into the belt
- Improved breaking strength
- Higher abrasion resistance
- More flexible splice

### FULLY INTEGRATED INTO YOUR BELT

- Smaller pulley requirement
- More compatible with scrapers


# What is the SUPER-SCREW® EVOLUTION the Original since 1994 ?

## The new generation of flexible splice to screw

### Splice your belt simply with screws !

**SUPER-SCREW® EVOLUTION is the latest addition to the SUPER-SCREW® range. THE fast and innovative solution to splice your conveyor belts.**

When on-site, you are exposed to field based issues : do you need to reduce the number of breakdowns, do you have difficult installation access, is your site prone to harsh weather conditions, do you have limited number of staff and training ?

These comments from our customers drove the MLT teams to think about future improvements with these issues in mind. The result is we are able to offer highly innovative solutions, designed around our customer's feedback. Thus, MLT teams have developed the new generation of SUPER-SCREW®, unique and innovative solution to splice your conveyor belt : **the SUPER-SCREW® EVOLUTION.**

**SUPER-SCREW® EVOLUTION**, just like the previous generation of SUPER-SCREW®, reduces downtime. It supports operating tensions up to 63N/mm (failure stress belt up to 630N/mm). It is available in several grades of rubber and is offered with stainless steel or steel screws and inserts.

The simplicity of screws allows you to install the SUPER-SCREW® EVOLUTION no matter:
- The configuration of the conveyor,
- The conditions of access,
- Weather conditions,
- Temperature -30°C (-22°F) to 200°C (392°F) peak.

As before, the screws specifically designed for being both self-drilling and self-tapping : they separate the belt fibers without cutting it. Sizes remain unchanged.

**The SUPER-SCREW® EVOLUTION :**
**Performance, Innovation, Easy to install !**

**Advantages :**

- Compatible with all types of scrapers
- Compatible with small pulley diameter
- Optimizes your productivity
- Easy to install
- Waterproof
- Highly flexible
- Any weather condition
- High tensile strength

**Application fields :**

- **Heavy industries**
- **Mines**
- **Cement plants**
- **Quarries**
- **And more.**

**Two types of steel for screws and inserts available :**

**Steel screws and inserts**

Highly resistant, the ideal choice in most situations.

**Quarry, Cement factory, mine etc.**

**Stainless steel screws and inserts**

Resistant to corrosive and saline environments.

**Gold mines, Phosphate mines, Sorting center, Fertilizer plant, Recycling facilities and salt handling.**

# Rubber grades available

SUPER-SCREW® EVOLUTION allows you to splice your own conveyor belts, whatever your activity and your needs.
SUPER-SCREW® EVOLUTION is available in different materials :

## Abrasion resistant

SUPER-SCREW® Evolution answers the majority of applications, since it is fabricated with a high quality of rubber abrasion resistant 50mm³. **This is one of the most resistant compounds available today.**

## Heat retardant

SUPER-SCREW® Evolution can be installed on your heat retardant belt and can **be able to withstand temperatures between 170°C and 200°C.**

## Fire resistant

SUPER-SCREW® Evolution, fabricated with fire resistant surface ISO 340 and ISO 284, **ensures your security of silos and underground mines.**

## Heat resistant

SUPER-SCREW® Evolution can be installed on your heat resistant belt and can be able **to withstand temperatures between 150°C and 170°C.**

## Oil resistant

SUPER-SCREW® Evolution is also available for oil resistant surface **which resists oil and solvent.**

## Very low temperature

SUPER-SCREW® Evolution resists even at **low temperatures until -30°C** (-50°C on demand).

## Sliding bed / friction bottom

Our SUPER-SCREW® Evolution is specially manufactured for sliding bed / friction bottom conveyor belts and made with abrasion resistant or oil resistant rubber with steel inserts. It is available in the SUPER-SCREW® Evolution 35 and 63 in either 5 ML or 25 ML rolls.

# Selection charts to help you select your SUPER-SCREW® EVOLUTION the Original since 1994

To determine the suitable SUPER-SCREW® EVOLUTION, screws and skiving blades, please refer to the chart.

**For your belts from EP250 to EP630 (200PIW to 360PIW), please refer to the SUPER-SCREW® EVOLUTION range below.**
**For technical data exceeding those above, please refer to the SUPER-SCREW® The Original range.**

| Belt thickness before skiving | | mm | 3 + 1 | 4 +1,5 | 5 + 1,5 | 4 + 2 | 5 + 3 | 6 + 2 | 6 + 3 | 8 + 3 |
|---|---|---|---|---|---|---|---|---|---|---|
| | | inch | 1/8" + 1/32" | 5/32" + 1/16" | 3/16" + 1/16" | 5/32" + 1/16" | 3/16" + 1/8" | 1/4" + 1/16" | 1/4" + 1/8" | 5/16" + 1/8" |
| Skiving blades (mm) | | | 3,5 | 4,5 | 4,5 | 4,5 / 2,5 | 4,5 / 3,5 | 6,5 / 2,5 | 6,5 / 3,5 | 8,5 / 3,5 |

| SUPER-SCREW® EVOLUTION | EP or PP belt* N/mm | | PIW | Spacer | Screws dimensions |
|---|---|---|---|---|---|
| SUPER-SCREW EVOLUTION 35 | 250/2 | 250/3 | 200 | One size spacer SUPER-SCREW® EVOLUTION | 5x10 ; 5x12 |
| | 315/2 | 315/3 | | | |
| SUPER-SCREW EVOLUTION 40 | 400/2 | 400/3 | 228 | | |
| SUPER-SCREW EVOLUTION 63 | 500/3 | 500/4 | 360 | | 5x12 ; 5x14 |
| | 630/2 | 630/3 | | | |
| | 630/4 | 630/5 | | | |
| SUPER-SCREW EVOLUTION 65 | 500/3 | 500/4 | 360 | | 5x14 ; 5x16 |
| | 630/2 | 630/3 | | | |
| | 630/4 | 630/5 | | | |

*Template can be used with EP or PP (PN or NN) multiply belt*

## Choose your SUPER-SCREW® EVOLUTION in 3 steps

**1 Choose your type of SUPER-SCREW® from the EVOLUTION range :**
Depending on your type of belt (EP or PP) determine which SUPER-SCREW® EVOLUTION to use.

**2 Select your screw size :**
Once your SUPER-SCREW® EVOLUTION has been selected, identify the required screw size depending on your belt thickness.

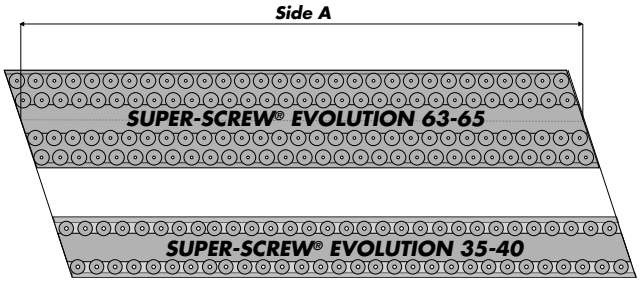
**3 Select your skiving blades :**
Depending on your belt thickness before skiving, easily determine which blades to use to skive.

*For EP or PP belts above 630N/mm (360PIW), please refer to the SUPER-SCREW® brochure.

## SUPER-SCREW® EVOLUTION required length for your belt :

| Metric values | SIDE A (mm) | Number of screws | Number of spacers | SIDE A (mm) | Number of screws | Number of spacers |
|---|---|---|---|---|---|---|
| Belt width (mm) | SUPER-SCREW® EVOLUTION 35 - 40 | | | SUPER-SCREW® EVOLUTION 63 - 65 | | |
| 500 | 517 | 46 | 2 | 517 | 92 | 2 |
| 600 | 630 | 56 | 3 | 630 | 112 | 3 |
| 650 | 675 | 60 | 3 | 675 | 120 | 3 |
| 800 | 832 | 74 | 3 | 832 | 148 | 3 |
| 900 | 945 | 84 | 4 | 945 | 168 | 4 |
| 1000 | 1035 | 92 | 4 | 1035 | 184 | 4 |
| 1200 | 1260 | 112 | 4 | 1260 | 224 | 4 |
| 1300 | 1350 | 120 | 5 | 1350 | 240 | 5 |
| 1400 | 1462 | 130 | 5 | 1462 | 260 | 5 |
| 1500 | 1575 | 140 | 5 | 1575 | 280 | 5 |
| 1600 | 1665 | 148 | 6 | 1665 | 296 | 6 |
| 1800 | 1890 | 168 | 6 | 1890 | 336 | 6 |
| 2000 | 2092 | 186 | 7 | 2092 | 372 | 7 |

| Imperial values | SIDE A (inch) | Number of screws | Number of spacers | SIDE A (inch) | Number of screws | Number of spacers |
|---|---|---|---|---|---|---|
| Belt width (inch) | SUPER-SCREW® EVOLUTION 35 - 40 | | | SUPER-SCREW® EVOLUTION 63 - 65 | | |
| 18 | $20^{23/64}$ | 46 | 2 | $20^{23/64}$ | 92 | 2 |
| 24 | $24^{51/64}$ | 56 | 3 | $24^{51/64}$ | 112 | 3 |
| 30 | $26^{37/64}$ | 60 | 3 | $26^{37/64}$ | 120 | 3 |
| 36 | $32^{3/4}$ | 74 | 3 | $32^{3/4}$ | 148 | 3 |
| 36 | $37^{13/64}$ | 84 | 4 | $37^{13/64}$ | 168 | 4 |
| 42 | $40^{3/4}$ | 92 | 4 | $40^{3/4}$ | 184 | 4 |
| 42 | $49^{39/64}$ | 112 | 4 | $49^{39/64}$ | 224 | 4 |
| 48 | $53^{5/32}$ | 120 | 5 | $53^{5/32}$ | 240 | 5 |
| 48 | $57^{9/16}$ | 130 | 5 | $57^{9/16}$ | 260 | 5 |
| 54 | $62^{1/64}$ | 140 | 5 | $62^{1/64}$ | 280 | 5 |
| 54 | $65^{35/64}$ | 148 | 6 | $65^{35/64}$ | 296 | 6 |
| 60 | $74^{13/32}$ | 168 | 6 | $74^{13/32}$ | 336 | 6 |
| 72 | $82^{23/64}$ | 186 | 7 | $82^{23/64}$ | 372 | 7 |



# Packaging :

## In kit or in roll depending on your needs

### SUPER-SCREW® EVOLUTION packaging :

#### READY-TO-USE KIT (CUT LENGTHS)

SUPER-SCREW® EVOLUTION

Depending on your belt type and width
(available in some grades and models of SUPER-SCREW® EVOLUTION)

**The ready-to-install kit contains :**

- SUPER-SCREW® EVOLUTION, cut to length, pre-assembled by MLT *(complete with spacers)*
- 2 screw sizes
- 1 packet of PZ bits
- 1 installation kit :
  - 1 SUPER-SCREW® EVOLUTION installation guide
  - Installation template
  - 1 installation tool

#### KIT IN ROLLS

SUPER-SCREW® EVOLUTION

*(available in some grades and models of SUPER-SCREW® EVOLUTION)*

**The roll kit includes :**

- One roll of SUPER-SCREW® EVOLUTION to assemble yourself (screws to be ordered separately)
- 1 installation kit :
  - 1 SUPER-SCREW® installation guide
  - spacers, PZ bits, one installation template
  - 1 installation tool

SUPER-SCREW® EVOLUTION from 35 to 65 are available in rolls of 3,5,10 and 25 meters with stainless steel or steel inserts depending on the range. You simply have to select your screw size (refer to the selection chart below)

### Technical data :

| Metric | SUPER-SCREW® EVOLUTION | | | |
|---|---|---|---|---|
| | 35 | 40 | 63 | 65 |
| Maximum belt tension | 315 N/mm | 400 N/mm | 630 N/mm | 630 N/mm |
| Min pulley diameter | 200 mm | 250 mm | 300 mm | 300 mm |
| Thickness Top Cover | 3,5 mm | 3,5 mm | 4 mm | 6 mm |
| Thickness Bottom Cover | 3 mm | 3 mm | 3 mm | 3 mm |

| Imperial | SUPER-SCREW® EVOLUTION | | | |
|---|---|---|---|---|
| | 35 | 40 | 63 | 65 |
| Maximum belt tension | 200 PIW | 228 PIW | 360 PIW | 360 PIW |
| Min pulley diameter | $7^{7/8}$'' | $9^{27/32}$'' | $11^{13/16}$'' | $11^{13/16}$'' |
| Thickness Top Cover | 9/64" | 5/32" | 5/32" | 15/64" |
| Thickness Bottom Cover | 1/8" | 1/8" | 1/8" | 1/8" |

### Quantity required :

| | SUPER-SCREW® EVOLUTION 35 - 40 | | | | | SUPER-SCREW® EVOLUTION 63 - 65 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1 m | 1 x 3m roll | 1 x 5m roll | 1 x 10m roll | 1 x 25m roll | 1 m | 1 x 3m roll | 1 x 5m roll | 1 x 10m roll | 1 x 25m roll |
| Screws | 92 | 276 | 460 | 920 | 2300 | 184 | 552 | 920 | 1840 | 4600 |
| Spacers | 4 | 12 | 20 | 40 | 100 | 4 | 12 | 20 | 40 | 100 |
| PZ2 bits | 1 | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 2 | 2 |

# Installation tools :
# For a fast and easy installation

## Cutting tool

To assist you in the preparation of the SUPER-SCREW® EVOLUTION, MLT has developed a cutting aid. It consists of two distinct components:
- The cutting press itself
- Hydro-pneumatic pump

This press has interchangeable elements, to cut all MLT rubber products: SUPER-SCREW®, SUPER-SCREW® EVOLUTION, FIX'N GO®.

This cutting press is available as an option.


## Cordless Tool kit with skiver and driver

This pack provides the tools to install most MLT products, including the new SUPER-SCREW® EVOLUTION. It is comprised of
- Cordless belt skiver and accessories
- Cordless powered driver and accessories
- PPE

With a total of 17 elements included in the pack, you will be able to complete your installations easily and efficiently.

## SUPER-SCREW® EVOLUTION installation tools, allow you to easily complete your splicing :

- The SUPER-SCREW® EVOLUTION chart will help easily select which type best suits your belt and which blades you will need.
- The installation tool will help you, quickly select which screw to use.
- The SUPER-SCREW® installation template will guide you and help you find the perfect angle for your SUPER-SCREW® EVOLUTION to be installed.

These charts are supplied with each SUPER-SCREW® EVOLUTION package, be it in rolls or ready to use cut lengths.

# Required equipment

For the installation of your SUPER-SCREW® EVOLUTION the Original since 1994


**THE SUPER-SCREW® EVOLUTION SPLICE**

**SCREWS WITH WASHERS**

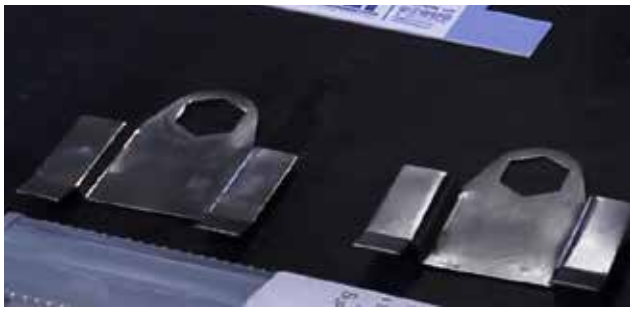
**MLT SPACERS**


**INSTALLATION TEMPLATE**

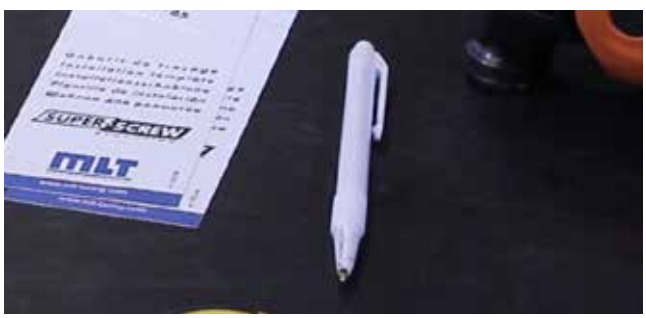

**THE INSTALLATION TOOL**

**A POWERED DRIVER**

**A BELT SKIVER**



**BLADES FOR BELT SKIVER**




**A PENCIL**

**A RULER**

# SUPER-SCREW® EVOLUTION Installation method recommended by MLT:


1| Prepare your belt ends by cutting to the required angle (refer to the chart p.9)

2| Position the installation template on the row closest to the edge of the splice. Depending on the length of the splice, you can add more templates in the center.

3| Arrange the spacers on the lower part of the junction at equal distances. They must be placed on the central row of nuts located on the same side as the templates. The number of spacers depends on the length of the splice (see table p.9). The two spacers at the ends must be placed on the 4th nut from the end.

**SUPER-SCREW®**
**EVOLUTION 35 - 40**

4| Position the top of the splice over the spacers aligning the holes.

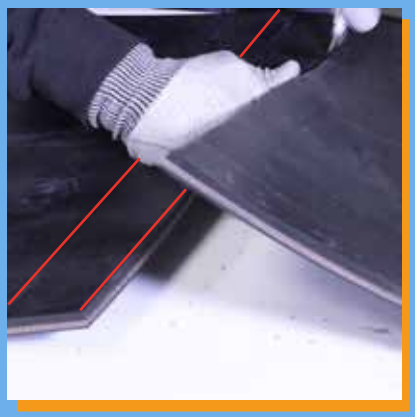
5| Assemble the upper and lower parts of the splice by installing the screws with the washers at the locations of the spacers.

6| Mark the center line of the belt on both ends of the splice.

7| Place the splice on the belt, centering it across the width. The templates should be parallel to the sides of the belt. The templates should not be near the end of the belt to be spliced.


8| Mark the belt where the end of the splice sits with a line. Also mark the corresponding line in the cut out on the template. In this example 63.

9| Set aside the splice and complete these lines across the width of the belt using a ruler.



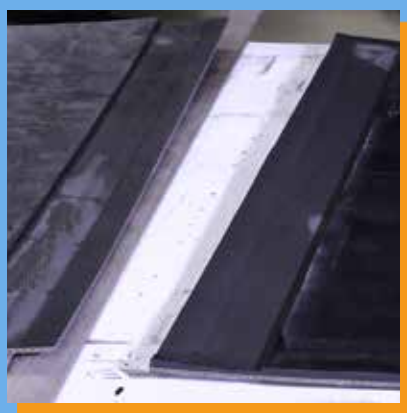
10| Cut the belt along the first line nearest to the edge. The second line will be used as the skiving edge mark.

11| Extend the skiving line to the bottom cover by marking the belt edges and using a ruler to mark the skiving line. Using a knife cut along the line to provide the edge of the skiving. Do not cut into the plies of the belt. Using a skiving tool, remove the bottom cover. Again making sure not to cut the belt ply.

12| For belts with a carcass thickness greater than 6 mm, make a chamfer on the top and bottom cover of the belt end. This chamfer is to be made on both ends of the belt after skiving.

13| Using the prepared end as a guide, rest this on top of the unprepared belt end, aligning the centre line marking and belt edges. Mark the cut line and skiving line using the side of the belt. Set aside the prepared end and cut the end as marked.

MLT Safety Note – For wide or heavy belts where overlapping is not physically possible or safe, we recommend performing Steps 7 to 12 (Belt Skiving and Cutting) on the other end.

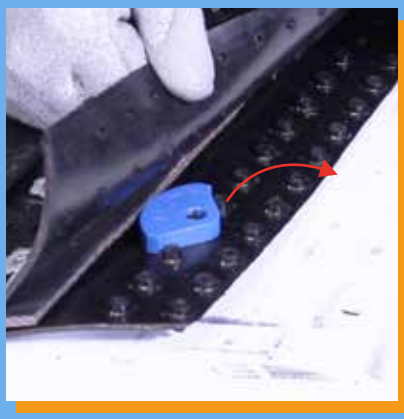


14| Using a ruler complete the skiving lines and skive top and bottom covers. Ensure the chamfer on this side if necessary.

15| Measure the thickness of the skived belt to determine the correct screw size, referring to the installation guide.

16| Remove the templates and place the spacers against the end of the belt, whilst centering the splice on the belt.

17| Begin installing screws from the edge working in.



⚠
18| Remove the spacers held by screws.

19| Place the second end of the belt into the splice, make sure it butts up against the opposite side that was previously marked and align the two sides of the belt using the bias. The two ends of the belt should connect.

20| Repeat this process on the other belt end.

21| Continue installing the screws in an opposing manner ( one on the left, then on the right, and repeat).

# Check points :

## To ensure you have a successful splice

Skive the belt leaving a thin rubber layer.

Install the SUPER-SCREW® EVOLUTION with a corresponding screw size.


The SUPER-SCREW® EVOLUTION splice should be installed on a bias, fully recessed into the belt.

The installation of the SUPER-SCREW® EVOLUTION should be performed on a flat and rigid surface (e.g. a wooden board)

**The belt ends should connect.**
**Ensure you remove all spacers.**

# Stay tuned !

## To follow all MLT news, don't forget to subscribe to our social media networks!

Like

**@mltlacing**

Subscribe

**@minetlacing**

Access to all of the MLT product installation tutorials in one click!

+ Follow

**MLT Minet Lacing Technology**

Follow

**@mltlacing**

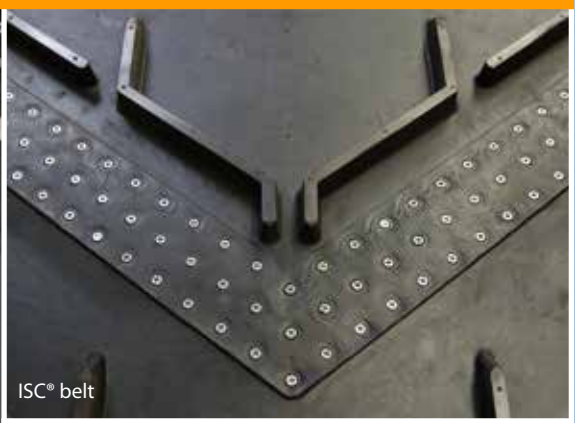
Follow

**@mltlacing**

MLT
Minet Lacing Technology

## MLT – it's also metallic fasteners, flexible splices, tools, endless and spliceless technical belts

Super-Screw®


ISC® belt


MS®

FIX'N GO®

**Innovative products, easy to install !**


Self-Lock®


Clip'N Lock®


Technical belt
**Endless spliceless belts**

MLT
Minet Lacing Technology

# Innovation for 70 years.

MLT, it's solutions for heavy and light duty belts, tools, technical belts, etc.

Celebrating 70 YEARS
GOODYEAR
RUBBER PRODUCTS, INC.

Call Toll Free: 1-866-711-4673

WebSales@GoodyearRubberProducts.com

We Ship World Wide

MLT 2019 - 10/2019 -ENG-