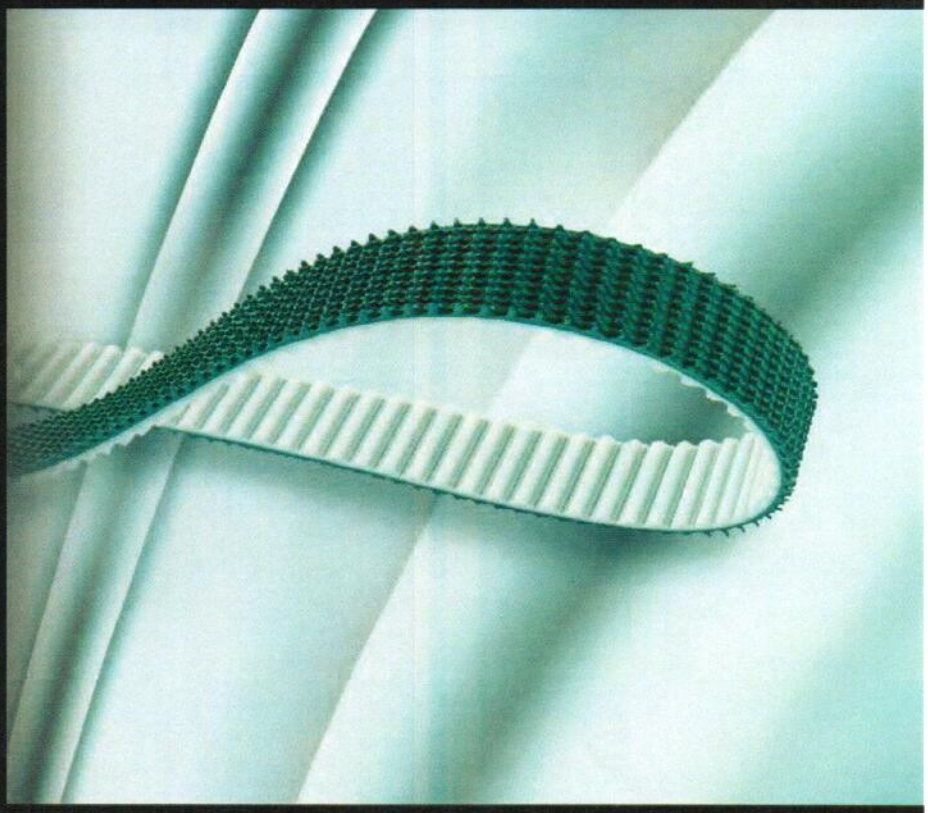
# ELATECH® Conveying Applications

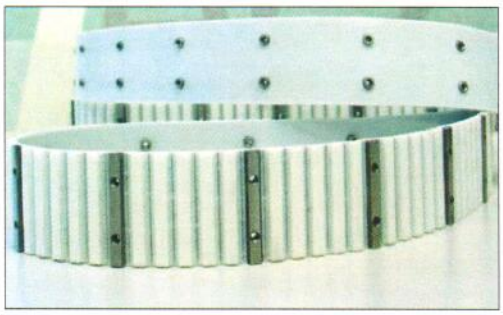


Elatech | Technology in Motion.

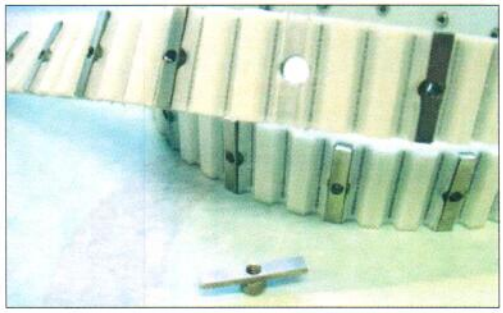
# ELATECH® EFT - False Tooth System

EFT is ELATECH's mechanical profile application system specially designed for fastening cleats that cannot be welded onto polyurethane timing belts.
Zinc-coated or stainless steel teeth are available, either with our embedded tooth or total tooth design. With the total tooth design, the EFT replaces the entire tooth of the belt and is safely secured by means of two threaded holes. The embedded tooth design prevents any metal-to-metal contact, ensuring more silent operation.

Total tooth design



Embedded tooth design



Many are the advantages offered by ELATECH® EFT:

• EFT allows to apply cleats that cannot be welded onto polyurethane timing belts because of their overall dimension and/or material (such as steel, stainless steel, plastic, urethane, wood etc.)

• EFT is in stock in stainless suitable for food and pharmaceutical industry and humid environments

• EFT design has a self-centering effect on profile positioning, which makes it more precise than welded profiles

• EFT can handle much higher loads than welded profiles, making it a strong solution

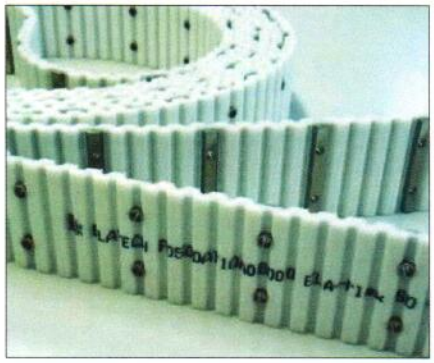
• EFT is the precise solution eliminating any welded profile positioning tolerances. The profile positioning tolerance for EFT mirrors the ELATECH® timing belt tooth pitch tolerance

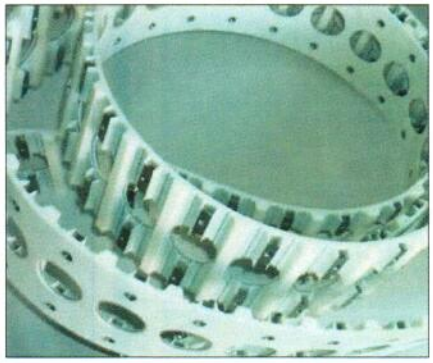
• EFT is flexible, allowing customers to reposition cleats for regularly scheduled application changes

• EFT is economical because customers can replace worn profiles without having to replace the entire belt.

• EFT is available in any of the following pitches:
AT10, AT20, H, XH with or without self-tracking guide.

• EFT allows to use basic belts in all their possible executions: Flex, welded, with PAZ or PAR, FDA PU, steel, aramid or stainless steel cord.

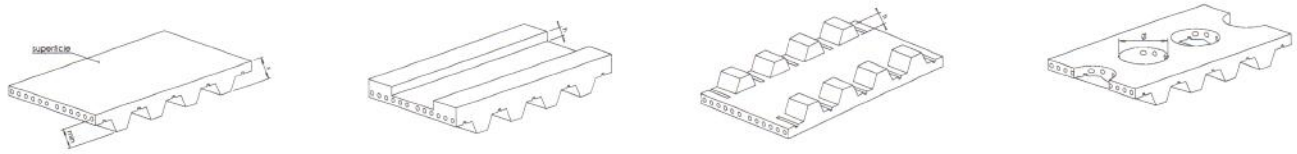




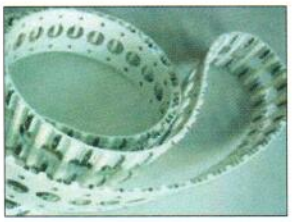
# Mechanical processing

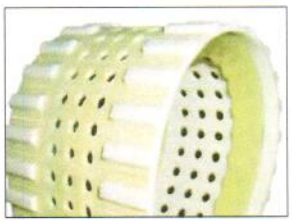
Thanks to top-quality, state-of-the-art machinery and techniques such as water jet cutting, ELATECH® timing belts can be mechanically processed to perform special and complex tasks. The extremely precise machining and finishing operations guarantee the respect of the strictest tolerance requirements and the maximum reliability of ELATECH® timing belts in all the most complex and demanding industrial applications.

Depending on the application requirements, mechanical processing may include longitudinal milling of the teeth and/or of the back, back and side grinding, teeth removal, belt surface perforation and/or engraving, as well as surface preparation for the application of special profiles.

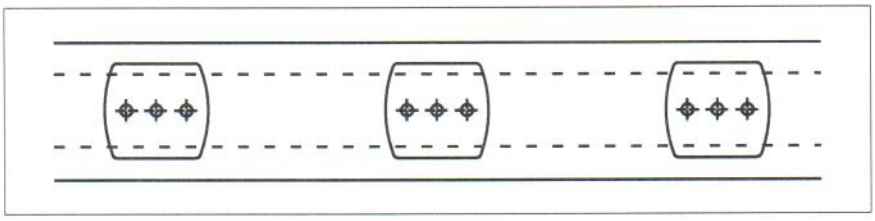



The great precision and the versatility of water jet cutting technology allow the creation of bores of any dimensions and shapes, from the smallest to the largest, from perfectly circular to oval or square.

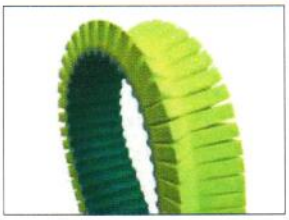




Special backings can also be machined to optimize the performance of the belts in special applications. A typical example is the hollow milling of the backing to create a "vacuum cup effect" and maximize the suction provided by water jet cut bores. In this case, perfect suction is also granted by the absence of any tension members within the vacuum areas.

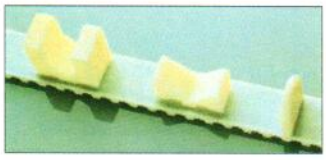


In another application, the thick V-shaped yellow PU backing on a belt used for transporting aluminium bars is slitted transversely to enhance the flexibility of the belt itself and to improve its revolution around smaller pulleys.



# ELATECH® polyurethane belts with profiles

It is possible to attach profiles on all ELATECH®, ELA-flex SD® and iSync® polyurethane belts for conveying, handling and positioning applications. The cleats are produced in the same material of the belts in order to guarantee the maximum strength. The belts with profiles allow a syncronised translation of the products at very high speeds and low noise.
A very wide range of profiles is available. If the required profile is not shown in the following pages, please contact our technical office.



### Pitch
It is recommended to choose the pitch of the profile corresponding to the belt profile or multiple. This allows to minimize the effects of the belt overall length tolerance on profile spacing.

### Position
Profile position may be over the tooth or not over the tooth. Belt Flexibility is maximized when the profiles are applied over the tooth.

Fig. 1

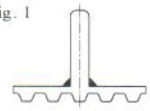
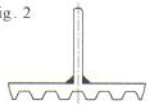
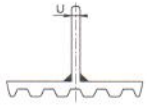
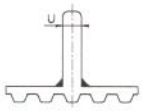


Fig. 2



### Arc of contact
It is to be noted that the belt's arc of contact may be restricted by the jointed profile. It is therefore recommended to select profiles with the minimum allowable thickness "U".




### Tolerances
The tolerance of position of the profiles is +/- 0,5 mm. If required it is possible to reduce the tolerance down to +/- 0,2 mm with an extra machining. During the welding process a bead of polyurethane of about 0,5-1 mm develops at the meeting point between the profile and the belt. Should it be necessary for the application, it is possible to remove the bead with mechanical machining.

| Belt type | Profile thickness "U" [mm] | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2 | | 3 | | 5 | | 6 | | 8 | | 10 | | 12 | | 14 | | 16 | | 20 | | 25 | | 30 | |
| | Recommended minimum pulley number of teeth z | | | | | | | | | | | | | | | | | | | | | | | |
| T5 | 14 | 20 | 14 | 30 | 20 | 45 | 25 | 50 | 40 | 60 | 60 | 100 | 80 | - | 100 | - | - | - | - | - | - | - | - | - |
| T10 | 16 | 20 | 16 | 20 | 16 | 30 | 16 | 40 | 20 | 50 | 25 | 50 | 35 | 60 | 50 | 70 | 80 | 80 | 100 | 100 | 120 | 120 | - | - |
| T20 | 20 | 20 | 18 | 20 | 18 | 25 | 18 | 40 | 18 | 50 | 20 | 50 | 25 | 50 | 30 | 60 | 40 | 60 | 50 | 60 | 70 | 80 | - | - |
| AT5 | 12 | 20 | 12 | 30 | 20 | 45 | 25 | 50 | 40 | 60 | 60 | 100 | - | - | 100 | - | - | - | - | - | - | - | - | - |
| AT10 | 18 | 20 | 18 | 20 | 18 | 30 | 18 | 40 | 20 | 50 | 25 | 50 | 35 | 60 | 50 | 70 | 80 | 80 | 100 | 100 | 120 | 120 | - | - |
| AT20 | 20 | 20 | 20 | 20 | 20 | 25 | 20 | 40 | 20 | 50 | 20 | 50 | 25 | 50 | 40 | 40 | 50 | 50 | 50 | 60 | 70 | 80 | 100 | 100 |
| XL | 10 | 20 | 10 | 30 | 20 | 45 | 25 | 50 | 40 | 60 | 50 | 100 | 60 | 100 | - | - | - | - | - | - | - | - | - | - |
| L | 12 | 16 | 12 | 20 | 12 | 40 | 20 | 50 | 30 | 60 | 40 | 60 | 50 | 70 | 60 | 80 | 100 | 100 | - | - | - | - | - | - |
| H | 14 | 16 | 14 | 16 | 14 | 25 | 14 | 30 | 20 | 50 | 25 | 50 | 40 | 60 | 50 | 70 | 80 | 80 | 100 | 100 | 120 | 120 | - | - |
| XH | 18 | 18 | 18 | 20 | 18 | 20 | 18 | 30 | 18 | 40 | 20 | 50 | 20 | 50 | 25 | 55 | 35 | 60 | 50 | 60 | 70 | 80 | - | - |
| HTD5M | 12 | 20 | 12 | 30 | 20 | 45 | 25 | 50 | 40 | 60 | 60 | 100 | 80 | - | 100 | - | - | - | - | - | - | - | - | - |
| HTD8M | 18 | 18 | 18 | 18 | 18 | 24 | 18 | 32 | 18 | 40 | 20 | 40 | 28 | 48 | 40 | 56 | 64 | 64 | 80 | 80 | 100 | 100 | - | - |
| HTD14M | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 40 | 28 | 50 | 28 | 50 | 28 | 50 | 30 | 60 | 40 | 50 | 50 | 60 | 100 | 100 | 110 | 110 |
| STD5M | 12 | 20 | 12 | 30 | 20 | 45 | 25 | 50 | 40 | 60 | 60 | 100 | 80 | - | 100 | - | - | - | - | - | - | - | - | - |
| STD8M | 18 | 18 | 18 | 18 | 18 | 24 | 18 | 32 | 18 | 40 | 20 | 40 | 28 | 48 | 40 | 56 | 64 | 64 | 80 | 80 | 100 | 100 | - | - |

Minimum number of teeth when the profile is welded on tooth gap (fig. 2)
Minimum number of teeth when the profile is welded on tooth (fig. 1)

### Ordering
When ordering it is necessary to indicate: type of belt (width, profile, pitch, length), the belt length in number of teeth, the belt and profile drawing with the number and the pitch of the requested profiles