Ammeraal Beltech
Innovation & Service in Belting

Rydell Beltech Pty Ltd

BEHAbelt®
Made in Germany

# Elastic monolithic conveyor belts

## Product overview, applications, features and accessories




FDA

USDA

“ Where the **advantage**
of the monolithic **elastic belt design**
will improve the **food safety**
and/or **customer handling,**
this will **influence**
actual and future **machinery designs**
and replace **continuously**
traditional **conveyor belts.** “

## CONTENT

# Elastic monolithic conveyor belts

BEHAbelt aims to offer innovative solutions in high quality to customers. There is already a huge variety of belting categories and design variations available on the market. However, the increasing automation of industrial production processes and machines requires ongoing evolution. Only if all components and their features keep pace, real improvements in terms of efficiency, capacity and safety can be achieved.

This is where the new elastic monolithic conveyor belts by BEHAbelt deliver an important contribution. These products enable longevity improvements and minimize risks like layer delamination or edge fraying versus conventional coated conveyor belts with fabric carcasses.

## ADVANTAGES

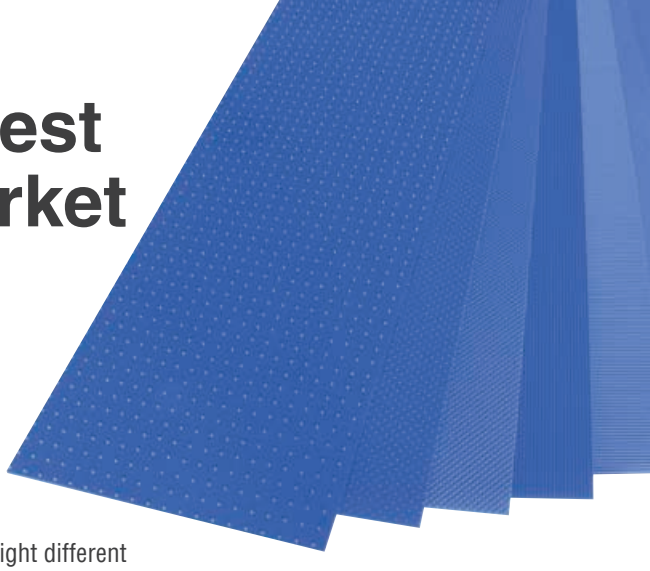
| PRODUCT DESIGN | HANDLING |
|---|---|
| No risk of contamination based on exposed belt fabrics or due to mechanical damage to belt edges | Easy installation of elastic belt versions due to elasticity |
| Part of a preventive hygienic machinery design concerning food safety | Softer belts allow even a hand mounted possibility with fixed centre to centre machinery designs without any take up |
| Excellent cleanability and microbial resistance | Butt-end weldings can be made with user-friendly tool, which ensures no loss of surface structure, homogeneity and elasticity in the joining |
| Homogeneously added product feature options: Metal detectable, X-ray detectable, UV-C resistant, antistatic discharging | Excellent welding/application of accessories like sidewalls, cleats and V-guides |

## INDUSTRIES AND APPLICATIONS

Elastic monolithic conveyor belts are especially beneficial for the various applications to convey unwrapped foodstuff. Furthermore, this design and the special features are opening up interesting opportunities way beyond that, for example in:

| INDUSTRIES | APPLICATIONS |
|---|---|
| Food (Fish, Meat, Poultry, Fruit & Vegetable, Confectionery and Bakery) | General conveying, Separation and Acceleration |
| Packaging (Food and Non-Food) | Weighing, Sorting, Portioning |
| Pharmacy | Feeding, Cutting, Detecting (metal detectors) |
| Logistics and Material Handling | and many more |

# BEHAbelt has the broadest product range in the market



We are keen to understand the challenges and applications of our customers, to provide support through our enhanced product portfolio and know-how. The variety of options to combine surface structures, material features and colours of monolithic conveyor belts, offered by BEHAbelt, are unmatched in the market.

## SURFACE STRUCTURES

All currently available surface structures can be found on page 8. We are offering eight different conveying side structures, which can be combined with three textures on the pulley side.

Four of these structures, nipples (NP), longitudinal grooved (LGB), inverted diamond (ID) and smooth matt (SM) are available with the unique MICRO*clean* surface finish.

## MATERIAL FEATURES

BEHAbelt elastic belts additionally offer several useful features, that enable them to cope even with demanding applications.

FDA EC USDA — FDA/EC conformity for structured surfaces
FDA/EC/USDA conformity for smooth surfaces

Antistatic conveyor belts to ensure electric... discharge in sensitive applications

METAL — Metal detectable belts for utmost food safety. These products are part of the PU SAFE product line

X-RAY — X-ray detectable belts for utmost food safety. These products are part of the PU SAFE product line

Hydrolysis resistant conveyor belts for optimal performance in warm, wet and humid environment

Microbial resistant materials

UV — Protection against UV-C waves generated by respective disinfection device

MICRO CLEAN — Unique surface finish for improved release of sticky goods and excellent cleanability

## COLOURS

The colour selection is in the majority of cases driven by the type and requirements of the application. In food processing nowadays blue colours are preferred, because of the contrast of this colour against most kind of food, hence products on conveyor belt surfaces are easier to detect.

BEHAbelt is offering a broad spectrum of possible and even individual color options.

## HARDNESS

BEHAbelt distinguish between two hardness ranges.

| | |
|---|---|
| **SOFT** | PU65A, PU75A, PU80A |
| **HART** | PU95A, TPE55D, TPE63D |

## THICKNESS

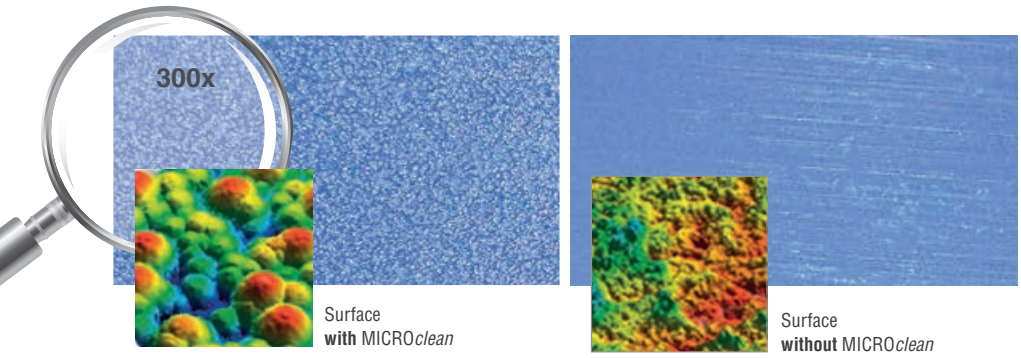
Conveyor belts are available in different thicknesses from 1 - 4 mm.

1 mm
1,2 mm
1,6 mm
2 mm
3 mm
4 mm

# Special features

## MICRO*clean* – UNIQUE SURFACE FINISH

The BEHAbelt MICROclean structure enables excellent release of product residues. This guarantees a reliable transfer of goods which would stick to traditional, smooth conveyor belt surfaces. Reduced soiling on food contact surfaces is a building block to efficient cleaning, hence supports the hygiene conditions in food processing.




Surface **with** MICRO*clean*

Surface **without** MICRO*clean*

Traditional conveyor belt surface smooth glossy (SG)

MICRO*clean* surface smooth matt (SM)

## MICRO*clean* HIGHLIGHTS

- Optimal release properties
- Efficient combination with scrapers
- Excellent cleanability thanks to special surface structure
- Improved hygiene conditions on conveyor belt
- Lower coefficient of friction on conveying side
- Various surface structures available

The MICROclean surface of BEHAbelt delivers major improvements to many conveying applications, especially in the food industry. Microscopically seen most smooth conveyor belts aren‘t totally even as visualized in the attached sketch. The special feature of MICROclean is the wavy surface finish.

## UV-C RESISTANCE

To support regular cleaning and keep bacteria counts on food contact surfaces under control, even during the production hours, more and more machines and conveyors are equipped with UV-C disinfection device. The UV-C rays that are emitted can attack unprotected synthetic materials, like conveyor belts. This results in brittleness and discolouration of surfaces, which bears a certain hygiene risk. Therefore, we provide UV-C protected belts to support longevity and food safety under such circumstances.

Contact us to evaluate options to use UV-C protected conveyor belts on your application.

## ANTISTATIC DISCHARGE

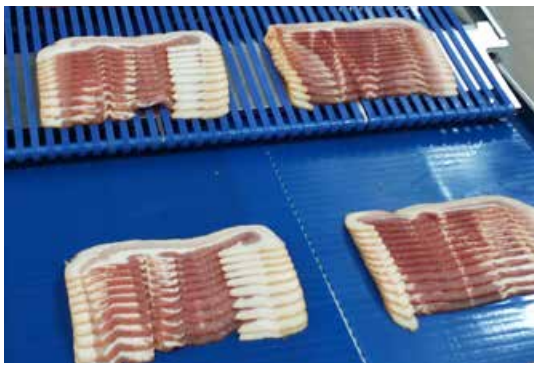
Some sensible applications or process elements (like measure or control units) could be affected by electrical charge that is build up on conveyor belt surfaces. Therefore, we can provide products that are specially equipped with antistatic discharge features to ensure smooth and trouble free performance.

Feel free to ask BEHAbelt, we will check if such products are suitable for your application.

# Requirements and solutions

As manifold as the design options and fabrication varieties for conveyor belts, as versatile are the special requirements in the various industries, processes and applications. Some important criteria and applicable BEHAbelt solutions are summarized in the following charts.

| INDUSTRY | REQUIREMENTS | BEHABELT SOLUTIONS AND FEATURES OF ELASTIC MONOLITHIC CONVEYOR BELTS |
|---|---|---|
| **FOOD** | Reliable product conveying, waste reduction | The specific selection of PU-Shore hardness and conveyor belt surface structures enable an optimal alignment with your goods in terms of grip, positioning and release properties. |
| | Food safety | Our elastic food conveyor belts are made of FDA/EC compliant materials. Especially for demanding applications in food processing, we can equip our belts with features like hydrolysis or UV-C resistance, detectable, antistatic or the unique MICROclean surface finish.<br>The monolithic product design and use of FDA/EC compliant materials support safety and HACCP in food processing. |
| | Cleanability and longevity | Wear resistant, durable and hydrolysis resistant raw materials guarantee longevity, even in a warm, wet and humid environment and if regular cleaning is applied. |
| **PACKAGING** | Precise positioning and grip of goods on belts, even at elevated speed | The choice of different surface structures enables a specific alignment between coefficient of friction, grip and release features of a conveyor belt. At the same time the selected belt design allows small pulleys, hence gentle transfer of goods. |

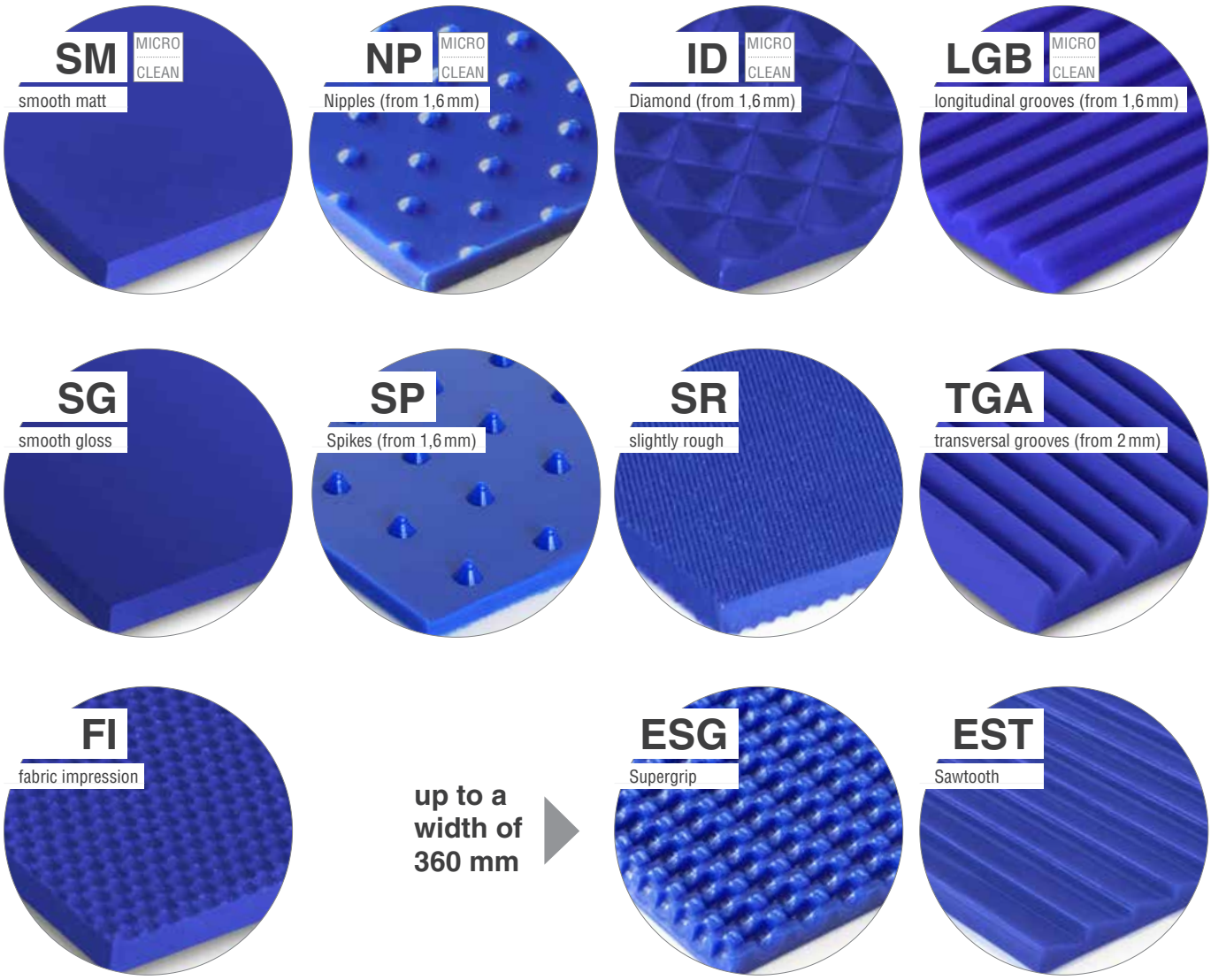


Besides all mentioned features in these charts, the BEHAbelt elastic monolithic belts are offered with the unique MICRO*clean* surface finish. Detailed information on that can be found on page 5.

| INDUSTRY | REQUIREMENTS | BEHABELT SOLUTIONS AND FEATURES OF ELASTIC MONOLITHIC CONVEYOR BELTS |
|---|---|---|
| **PHARMACY** | Ensure high process safety and hygiene conditions | The conformance with utmost hygiene standards is ensured by FDA/EC compliant materials and belts that are easy to clean. |
| **LOGISTICS** | Longevity and reliability | Wear resistant raw materials, antistatic features and the selection of a specific conveyor belt design are the basis for longevity and reliability of our products in your conveyor system. |
| **MATERIAL HAN-DLING** | Longevity, reliability and gentle handling of goods | BEHAbelt has many years of experience and well trained application engineers, to define the optimal combination of conveyor belt material, design and special features for each individual customer. |
| **ACROSS ALL INDUSTRIES** | Avoid downtime | BEHAbelt elastic monolithic belts can be supplied tailor made and fabricated to the final dimension or quick and easy installed onsite. This reduces downtime to an absolute minimum. |
| | Efficiency and process safety | Carefully selected and configured conveyor belts, made of durable, wear resistant materials, guarantee a reliable performance and minimal maintenance in your application, thus reduce your TCO's (Total Cost of Ownership). |
| | Optimized equipment design | Elastic belts are extremely easy to install. Therefore, complicated tensioning device can be avoided in many cases, which enables a more simple and user friendly conveyor design. |

# Overview belt structures / Features

The indicated surface and running side structures below can be optionally combined in a specific belt. In addition, there is the possibility for individual colouring and integration of product features like MICROclean finish, UV-C resistance, detectability or antistatic discharge




## MATERIAL FEATURES

- FDA EC USDA — FDA/EC/USDA conformity for smooth surfaces
- FDA EC — FDA/EC conformity for structured surfaces
- UV — Protection against UV-C waves
- Hydrolysis resistant
- X-RAY — X-ray detectable
- METAL — Metal detectable
- Microbial resistant materials
- MICRO CLEAN — Unique surface finish
- Antistatic conveyor belts

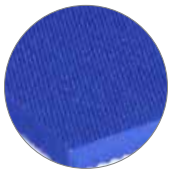
## COLORS

ultramarine blue · capri blue · sky blue · black · transparent · white

# Product overview conveyor belts 750

## BOTTOM SIDE: SMOOTH GLOSS (SG)

| Top side | Colour | Features | Quality | Hard-ness | Profile thickness | | Weight* per meter | Recommended Min. pulley ∅ | | Pull force for k1% pretension | | Standard roll | | Recommended pretension |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Shore | mm | inch | approx. kg | mm | inch | N/mm | lbs/inch | m | ft | |
| Diamond (ID) | | FDA EC USDA | PU80A | 84 A | 2,0 | 5/64 | 1,80 | 20 | 0,80 | 0,40 | 2,25 | 50 | 164 | 2-5% |
| Diamond (ID) | | FDA EC USDA, MICRO CLEAN | PU95A | 95 A | 2,0 | 5/64 | 1,80 | 35 | 1,40 | 1,00 | 5,60 | 50 | 164 | 0,5-3% |
| | | | | | 3,0 | 1/8 | 2,70 | 50 | 2,00 | 1,50 | 8,40 | 50 | 164 | 0,5-3% |
| Diamond (ID) | | FDA EC USDA, MICRO CLEAN | PU95A | 95 A | 2,0 | 5/64 | 1,80 | 35 | 1,40 | 1,00 | 5,60 | 50 | 164 | 0,5-3% |
| | | | | | 3,0 | 1/8 | 2,70 | 50 | 2,00 | 1,50 | 8,40 | 50 | 164 | 0,5-3% |
| Diamond (ID) | | FDA EC USDA | TPE55D | 55 D | 2,0 | 5/64 | 1,80 | 65 | 2,60 | 1,50 | 8,40 | 50 | 164 | 0,5-3% |
| smooth gloss (SG) | | FDA EC USDA | PU95A | 95 A | 2,0 | 5/64 | 1,80 | 35 | 1,40 | 1,00 | 5,60 | 50 | 164 | 0,5-3% |
| | | | | | 3,0 | 1/8 | 2,70 | 50 | 2,00 | 1,50 | 8,40 | 50 | 164 | 0,5-3% |
| smooth gloss (SG) | | FDA EC USDA | PU95A | 95 A | 2,0 | 5/64 | 1,80 | 35 | 1,40 | 1,00 | 5,60 | 50 | 164 | 0,5-3% |
| | | | | | 3,0 | 1/8 | 2,70 | 50 | 2,00 | 1,50 | 8,40 | 50 | 164 | 0,5-3% |

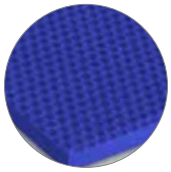


## BOTTOM SIDE: SLIGHTLY ROUGH (SR)

| Top side | Colour | Features | Quality | Hard-ness | Profile thickness | | Weight* per meter | Recommended Min. pulley ∅ | | Pull force for k1% pretension | | Standard roll | | Recommended pretension |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Shore | mm | inch | approx. kg | mm | inch | N/mm | lbs/inch | m | ft | |
| Diamond (ID) | | FDA EC | PU80A | 84 A | 1,2 | 3/64 | 1,00 | 10 | 0,40 | 0,25 | 1,20 | 50 | 164 | 2-5% |
| smooth gloss (SG) | | FDA EC | PU80A | 84 A | 1,6 | 1/16 | 1,40 | 15 | 0,60 | 0,32 | 1,80 | 50 | 164 | 2-5% |
| fabric impression (FI) | | FDA EC | PU80A | 84 A | 1,2 | 3/64 | 1,00 | 10 | 0,40 | 0,25 | 1,20 | 50 | 164 | 2-5% |
| | | | | | 1,6 | 1/16 | 1,40 | 15 | 0,60 | 0,32 | 1,80 | 50 | 164 | 2-5% |
| | | | | | 2,0 | 5/64 | 1,80 | 20 | 0,80 | 0,40 | 2,25 | 50 | 164 | 2-5% |
| fabric impression (FI) | | FDA EC | PU80A | 84 A | 1,2 | 3/64 | 1,00 | 10 | 0,40 | 0,25 | 1,20 | 50 | 164 | 2-5% |
| | | | | | 1,6 | 1/64 | 1,40 | 15 | 0,60 | 0,32 | 1,80 | 50 | 164 | 2-5% |
| fabric impression (FI) | | FDA EC | PU80A | 84 A | 1,2 | 3/64 | 1,00 | 10 | 0,40 | 0,25 | 1,20 | 50 | 164 | 2-5% |
| | | | | | 1,6 | 1/64 | 1,40 | 15 | 0,60 | 0,32 | 1,80 | 50 | 164 | 2-5% |

* Belt width 750 mm

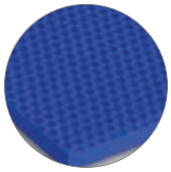
# Product overview conveyor belts 750



## BOTTOM SIDE: FABRIC IMPRESSION (FI)

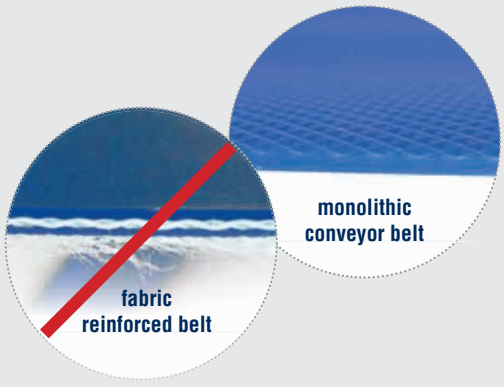
| Top side | Colour | Features | Quality | Hard-ness | Profile thickness | | Weight* per meter | Recommended Min. pulley ∅ | | Pull force for k1% pretension | | Standard roll | | Recommended pretension |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Shore | mm | inch | approx. kg | mm | inch | N/mm | lbs/inch | m | ft | |
|  smooth gloss (SG) | | FDA EC | PU65A | 72 A | 2,0 | 5/64 | 1,80 | 12 | 0,50 | 0,16 | 0,90 | 50 | 164 | 2-5% |
|  smooth gloss (SG) | | FDA EC MICRO CLEAN | PU75A | 80 A | 1,6 | 1/16 | 1,40 | 15 | 0,60 | 0,24 | 1,30 | 50 | 164 | 2-5% |
| | | | | | 2,0 | 5/64 | 1,80 | 20 | 0,80 | 0,30 | 1,70 | 50 | 164 | 2-5% |
|  smooth matt (SM) | | FDA EC MICRO CLEAN | PU75A | 80 A | 1,0 | 2/50 | 0,90 | 10 | 0,40 | 0,15 | 0,85 | 50 | 164 | 2-5% |
| | | | | | 1,6 | 1/16 | 1,40 | 15 | 0,60 | 0,24 | 1,30 | 50 | 164 | 2-5% |
| | | | | | 2,0 | 5/64 | 1,80 | 20 | 0,80 | 0,30 | 1,70 | 50 | 164 | 2-5% |
| | | | | | 3,0 | 1/8 | 2,70 | 30 | 1,20 | 0,45 | 2,50 | 50 | 164 | 2-5% |
|  smooth matt (SM) | | FDA EC MICRO CLEAN | PU75A | 80 A | 1,0 | 2/50 | 0,90 | 10 | 0,40 | 0,15 | 0,85 | 50 | 164 | 2-5% |
| | | | | | 2,0 | 5/64 | 1,80 | 20 | 0,80 | 0,30 | 1,70 | 50 | 164 | 2-5% |
|  smooth matt (SM) | | FDA EC MICRO CLEAN | PU80A | 84 A | 1,0 | 2/50 | 0,90 | 10 | 0,40 | 0,20 | 1,10 | 50 | 164 | 2-5% |
| | | | | | 1,6 | 1/16 | 1,40 | 15 | 0,60 | 0,32 | 1,80 | 50 | 164 | 2-5% |
| | | | | | 2,0 | 5/64 | 1,80 | 20 | 0,80 | 0,40 | 2,25 | 50 | 164 | 2-5% |
|  smooth matt (SM) | | FDA EC MICRO CLEAN METAL X-RAY | PU80A SAFE | 84 A | 1,6 | 1/64 | 1,40 | 15 | 0,60 | 0,29 | 1,60 | 50 | 164 | 2-5% |
| | | | | | 2,0 | 5/64 | 1,80 | 20 | 0,80 | 0,36 | 2,00 | 50 | 164 | 2-5% |
| | | | | | 3,0 | 1/8 | 2,70 | 30 | 1,20 | 0,54 | 3,00 | 50 | 164 | 2-5% |
|  smooth matt (SM) | | FDA EC MICRO CLEAN | PU95A | 95 A | 1,6 | 1/64 | 1,40 | 25 | 1,00 | 0,80 | 4,50 | 50 | 164 | 0,5-3% |
| | | | | | 2,0 | 5/64 | 1,80 | 35 | 1,40 | 1,00 | 5,60 | 50 | 164 | 0,5-3% |
| | | | | | 3,0 | 1/8 | 2,70 | 50 | 2,00 | 1,50 | 8,40 | 50 | 164 | 0,5-3% |
| | | | | | 4,0 | 5/32 | 3,60 | 75 | 3,00 | 2,00 | 11,20 | 50 | 164 | 0,5-3% |
|  smooth matt (SM) | | FDA EC MICRO CLEAN | PU95A | 95 A | 1,6 | 1/64 | 1,40 | 25 | 1,00 | 0,80 | 4,50 | 50 | 164 | 0,5-3% |
| | | | | | 2,0 | 5/64 | 1,80 | 35 | 1,40 | 1,00 | 5,60 | 50 | 164 | 0,5-3% |
| | | | | | 3,0 | 1/8 | 2,70 | 50 | 2,00 | 1,50 | 8,40 | 50 | 164 | 0,5-3% |

* Belt width 750 mm



## BOTTOM SIDE: FABRIC IMPRESSION (FI)

| Top side | Colour | Features | Quality | Hard-ness | Profile thickness | | Weight* per meter | Recommended Min. pulley ∅ | | Pull force for k1% pretension | | Standard roll | | Recommended pretension |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Shore | mm | inch | approx. kg | mm | inch | N/mm | lbs/inch | m | ft | |
| slightly rough (SR) | | FDA EC | PU80A | 84 A | 1,2 | 3/64 | 1,00 | 10 | 0,40 | 0,25 | 1,20 | 50 | 164 | 2-5% |
| | | | | | 1,6 | 1/16 | 1,40 | 15 | 0,60 | 0,32 | 1,80 | 50 | 164 | 2-5% |
| | | | | | 2,0 | 5/64 | 1,80 | 20 | 0,80 | 0,40 | 2,25 | 50 | 164 | 2-5% |
| slightly rough (SR) | | FDA EC | PU80A | 84 A | 1,2 | 3/64 | 1,00 | 10 | 0,40 | 0,25 | 1,20 | 50 | 164 | 2-5% |
| | | | | | 1,6 | 1/64 | 1,40 | 15 | 0,60 | 0,32 | 1,80 | 50 | 164 | 2-5% |
| slightly rough (SR) | | FDA EC | PU80A | 84 A | 1,2 | 3/64 | 1,00 | 10 | 0,40 | 0,25 | 1,20 | 50 | 164 | 2-5% |
| | | | | | 1,6 | 1/64 | 1,40 | 15 | 0,60 | 0,32 | 1,80 | 50 | 164 | 2-5% |
| Spikes (SP) | | FDA EC | PU80A | 84 A | 2,0 | 5/64 | 2,00 | 25 | 1,00 | 0,40 | 2,25 | 50 | 164 | 2-5% |
| | | | | | 3,0 | 1/8 | 2,90 | 35 | 1,40 | 0,60 | 3,35 | 50 | 164 | 2-5% |
| Nipples (NP) | | FDA EC MICRO CLEAN | PU80A | 84 A | 1,6 | 1/16 | 1,35 | 15 | 0,60 | 0,32 | 1,80 | 50 | 164 | 2-5% |
| | | | | | 2,0 | 5/64 | 1,80 | 20 | 0,80 | 0,40 | 2,25 | 50 | 164 | 2-5% |
| Nipples (NP) | | FDA EC MICRO CLEAN | PU95A | 95 A | 2,0 | 5/64 | 2,00 | 40 | 1,60 | 0,40 | 2,25 | 50 | 164 | 0,5-3% |
| Diamond (ID) | | FDA EC MICRO CLEAN | PU80A | 84 A | 1,6 | 1/16 | 1,40 | 15 | 0,60 | 0,32 | 1,80 | 50 | 164 | 2-5% |
| | | | | | 2,0 | 5/64 | 1,70 | 20 | 0,80 | 0,40 | 2,25 | 50 | 164 | 2-5% |
| Longitudinal grooves (LGB) | | FDA EC USDA MICRO CLEAN | PU80A | 84 A | 1,6 | 1/16 | 1,30 | 15 | 0,60 | 0,30 | 1,70 | 50 | 164 | 2-5% |
| Transversal grooves (TGA) | | FDA EC USDA | PU80A | 84 A | 2,5 | 1/10 | 1,80 | 20 | 0,80 | 0,40 | 2,25 | 30 | 100 | 2-5% |



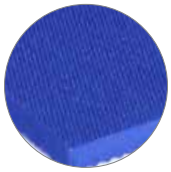

## DESIGN CHANGE TO MONOLITHIC BELTS

Especially for short centre to centre distances and small loads a retrofit from a traditional fabric reinforced to a monolithic design is in general quite easy.

Anyhow, we recommend to check the following design parameters and/or check with the BEHAbelt experts. Ask also about the technical inquiry sheet, which is also available on our website.

actual belt type and size | pulley diameter | centre to centre distance | belt load | belt speed | available pretension distances

# Product overview conveyor belts 360



## BOTTOM SIDE: SLIGHTLY ROUGH (SR)

| Top side | Color | Features | Quality | Hard-ness | Profile thickness | | Weight* per meter | Recommended Min. pulley ∅ | | Pull force for k1% pretenstion | | Standard roll | | Recommended pretension |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Shore | mm | inch | approx. kg | mm | inch | N/mm | lbs/inch | m | ft | |
|  Sawtooth (EST) | | FDA EC | PU75A | 80 A | 3,0 | 1/8 | 1,80 | 25 | 1,00 | 0,30 | 1,70 | 25 | 82 | 2-5% |
| | | | | | 4,0 | 5/32 | 2,70 | 35 | 1,40 | 0,45 | 2,50 | 25 | 82 | 2-5% |
|  Supergrip (ESG) | | FDA EC | PU75A | 80 A | 4,0 | 5/32 | 2,70 | 35 | 1,40 | 0,45 | 2,50 | 25 | 82 | 2-5% |
|  Supergrip (ESG) | | FDA EC | PU95A | 95 A | 4,0 | 5/32 | 2,70 | 60 | 2,40 | 1,50 | 8,40 | 25 | 82 | 0,5-3% |

* Belt width 360 mm

# Technical advice

## STRUCTURED APPROACH TO SOLUTIONS

Due to many years of experience in various industry segments and applications in context with belting, we know which materials and surfaces achieve optimal results. There are literally unlimited possible design combinations and application requirements for conveyor belts in practice. Therefore, BEHAbelt offers a huge variety of surface structures, which can be aligned with the belt design and material quality to handle the specific goods to be conveyed and respective application requirements. The matrix below refers to frequent conveyor belt requirements and gives advice on suitable surface structures. This enables a very good pre-selection, however, in case of demanding applications we recommend to consult an application specialist.

| | TOP SIDE | | | BOTTOM SIDE | |
|---|---|---|---|---|---|
| Quality | Cleanability | Release property | Grip | Cleanability | Sliding |
| **SM** (smooth matt) | ●●●● | ●●●● | ●● | ●●●● | ●● |
| **SG** (smooth gloss) | ●● | ●● | ●●● | ●● | ● |
| **SR** (slightly rough) | ●● | ●● | ●● | ●● | ●● |
| **ID** (Diamond) | ●●● | ●●● | ●● | ●●● | ●●● |
| **SP** (Spike) | ●●●● | ●●● | ●●● | n/a | n/a |
| **LGB** (Longitudinal grooves) | ●● | ●● | ●●●◖ | ●● | ●● |
| **TGA** (Transversal grooves) | ●● | ●● | ●●●◖ | n/a | n/a |
| **FI** (fabric impression) | ● | ●●◖ | ●● | ● | ●●●● |

● limited ●● good ●●● very good ●●●● excellent

## COEFFICIENT OF FRICTION μ FLAT BELT SURFACES ON STEEL

| Quality | smooth gloss (SG) | smooth matt (SM) | fabric impression (FI) | Diamond (ID) | slightly rough (SR) |
|---|---|---|---|---|---|
| PU65A | 0,85 | 0,80 | 0,65 | 0,65 | 0,65 |
| PU75A | 0,70 | 0,65 | 0,55 | 0,55 | 0,55 |
| PU80A | 0,65 | 0,60 | 0,45 | 0,45 | 0,45 |
| PU95A | 0,45 | 0,40 | 0,25 | 0,25 | 0,25 |
| TPE55D | 0,35 | 0,30 | 0,20 | 0,20 | n/a |

## INSTALLATION, PULLEY DIAMETER, CENTRE DISTANCE RELATED TO SHORE HARDNESS

| Minimum pulley diameter range | |
|---|---|
| Shore 72A / 80A / 85A | 10...30 mm |
| Shore 95A | 35...80 mm |

| General belt hardness choice based on centre to centre design | |
|---|---|
| Shore 72A / 80A / 85A | max. 3m |
| Shore 95A | 3...10 m |

- On conveyors with fixed centre distance between the pulleys, belts with lower shore hardness can be installed manually.
- Harder materials require tension device to install the belts
- Attention: The actual pre-tension may require a verification of the maximal possible load on the belt and the admissible bearing load to avoid overstress on pulleys and bearings.

**Please contact us for the optimal belt design.**

## DRIVE PULLEY DESIGN

Length of cylindrical area **$b_C$**

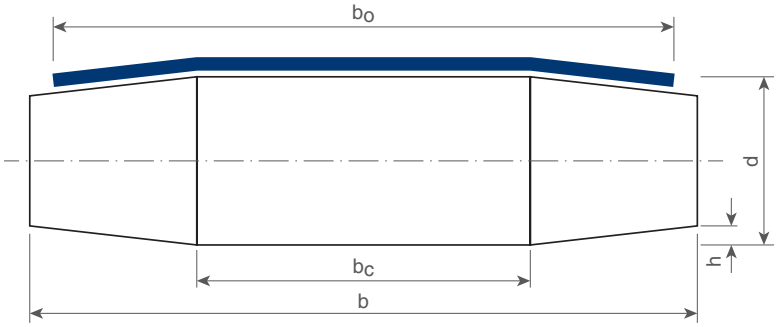
$b_C = b_O / 2$

Pulley width **b**

$b = b_O \times 1{,}1$

Crown bow **h**

$h = (d + 100) / 450$ mm




## CALCULATION FORMULAS FOR MAX. LOADS OF FLAT BELTS

**max. load capacity (N) =**

Tension k1% (N/mm) x Belt width (mm) x applied pretension (%)

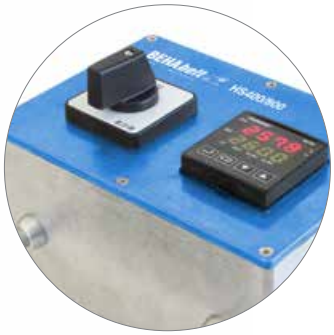
**Pre-tension / bearing force (N) =**

Tension k1% (N/mm) x Belt width (mm) x applied pretension (%) x 2

# Welding tools for conveyor belts

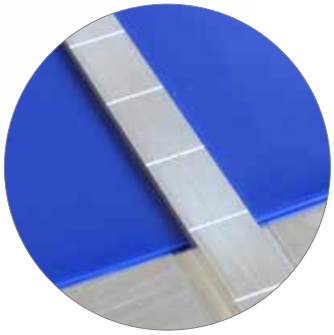
BEHAbelt developed two special tools for the butt-end welding of elastic monolithic belts, **HS400** and **HS800**. To optimize the design of our welding tools, we intensively studied the operational procedures to ensure best repeatability and welding quality.

## HS400 & HS800

Robust and user-friendly control unit for temperature regulation

Stopper for precise, repeatable welding

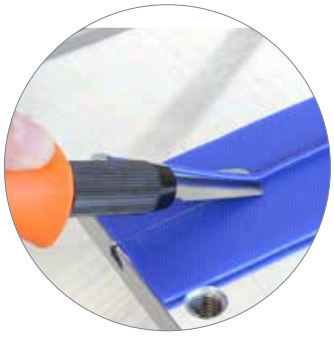


Angled stop for proper alignment of belts

## WELDING TOOL FOR BUTT WELDING OF CONVEYOR BELTS

- HS400 for welding up to 400mm belt width
- HS800 for welding up to 800mm belt width
- Sophisticated design best repeatability of welding results
- Clamping lever with fixing
- Robust and handy finish of individual tool components
- Precise temperature regulation through control unit
- Teflon coated welding paddle to avoid adhesion of PU or TPE material
- Coated heating-paddle is easy to clean with a cotton cloth
- Welding tool delivered in solid trolley box for easy transportation

Beveled clamping bar for optimal forming of welding bulge



Easy removing of welding bulge with dedicated cutting tool (included)

# Welding tools for flat belt stripes

Works. Simple. Safe. The first welding tool specifically developed for joining of flat belt stripes made from PU and TPE. Designed with practicable use in mind. The operation is self-explanatory and the EErgo is easy to use.

## EERGO 90


Intuitive operation
with only 2 buttons

Suitable guide clamp for welding flat belt stripes up to a width of 80mm

## WELDING PADDLE FOR BUTT WELDING OF FLAT BELT STRIPES AND PROFILES

- EErgo 90 for welding flat belt stripes up to a width of 80 mm
- Very fast heating time of approx. 3 minutes
- Strong, fiberglass-reinforced ergonomic housing
- Easy to use temperature selector regulates correct temperature to weld PU or TPE profiles
- Constant welding temperature at different ambient temperature
- No adhesion of PU and TPE materials, thanks to Teflon-coated welding paddle
- Easy cleaning with cloth

Magnetic stand suitable
for EErgo 90

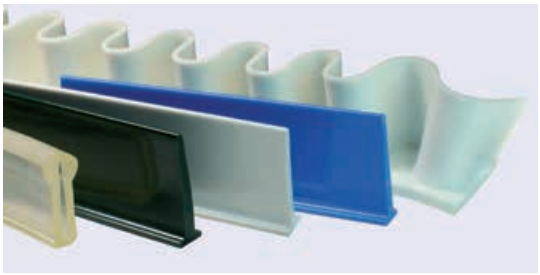
# Weldable accessories for conveyor belts

Synthetic conveyor belts are used in manifold applications. Depending on the industry, conveyed goods and the machinery design, conveyor belts aren't only tailored to specific dimensions (length and width) but also equipped with cleats, sidewalls or guiding profiles. For this purpose, BEHAbelt offers a broad spectrum of extruded belt accessories, made of homogeneous PU in various shore hardness. Our belt accessories are composed of the same raw materials than the belts, to ensure an optimal weldability and longevity in the final application.

All accessories can be supplied in FDA/EC/USDA compliant design and on request equipped with special features like detectable, UV-C or hydrolysis resistant.

## THE BEHABELT FLAT BELT ACCESSORY PORTFOLIO CONTAINS:

- Cleats with foot
- Cleats without foot (sheet materials)
- V-guides and guiding profiles
- Sidewalls (with and without foot)
- Belt edges
- Customized profiles



## INDUSTRIES AND APPLICATIONS

Synthetic conveyor belts are often fabricated with accessories. Such special customization is often an important basis for a reliable performance in the target application. Tailored conveyor belts with cleats, sidewalls or guiding profiles are used to for example used to move light- and medium weighed goods in the food industry, logistics and material handling. In this context, weldable accessories are key elements to ensure the functionality of the belts.

| CONVEYOR BELT ACCESSORIES | FIELD OF APPLICATION |
|---|---|
| Cleats | To hold and move bulk or light-/medium weight goods on inclined or declined conveyors. |
| Corrugated sidewalls | Are often combined with cleats to avoid that conveyed goods are falling down. |
| V-guides and guiding profiles | Can be applied on the conveying side instead of sidewalls to avoid that goods are falling down. Often used as guiding profile on the running side to support belt tracking or compensate lateral forces if goods are loaded on the belt from the side, usually handed over from another conveyor. |
| Belt edges | Enable tailored fabrication and optimal guiding of powerturn/curve belts. |

# Belt profiles and coatings

BEHAbelt is a German company based in the heart of Europe. We extrude a complete line of the highest quality Polyurethane and Polyester profiles and conveyor belts for transport and drive applications. True to the motto “smart conveying”, we have been supplying innovative drive and conveying technology products since 1974.

## WELDABLE PROFILES MADE OF PU AND TPE

BEHAbelt offers a broad spectrum of belting profiles made of PU and TPE. Our products are available in various shore-hardness grades to ensure optimal performance and longevity in power transmission and conveying applications.

At BEHAbelt you get extruded Round belts, V-belts and special profiles with smooth or rough surfaces as following:

- PU – from 65° to 95° Shore A
- TPE – from 40° to 63° Shore D
- different color variants - e.g. white, various blue colors, red, orange, green, beige, transparent and many more
- Round belts - from 2mm to 20mm diameter
- V-profiles - from 6x4mm to 32x20mm
- Special profiles like ridge top- or parallel V-belts, Profiles in U- or Rectangular shape and much more
- Profiles re-inforced with Polyester, Aramide, Steel and weldable glass fiber

### AVAILABLE FEATURES


Antistatic Discharge | Hydrolysis resistance (HY) | Temperature flexibility | Reduced elongation | UV-C Resistance | Food Safety | metal detectable | X-ray detectable | Color selection

## COVERS FOR TIMING BELTS OR V-BELTS

Our portfolio contains various cover materials that can be applied to timing belts or V-belts. Depending on the material selection, hardness and surface structure, specific belt features can be achieved like high grip, accumulation or improved release of goods. High grade TPU covers ensure excellent weldability with the base belt.

The BEHAbelt monolithic belts can also be fabricated and considered as cover material.

# Welding tools for PU and TPE

A belt is only as good as it's fabricated to the final dimension. Therefore, BEHAbelt develops specific tools for the precise joining of PU and TPE profiles and belts. Depending on individual needs and products to be welded, customers can select between traditional or temperature regulated paddle welding tools, the unique BEHAbelt Friction welding machines, hot presses for overlap or butt-end welding and a broad range of accessories and spare parts.

## HOT PRESS

### BEHAbelt HP01

- Controller guided hotpress for perfect butt and overlap weldings of PU and TPE profiles as well as flat belts and timing belts up to a width of 50mm.

## FRICTION WELDING

### BEHAbelt RS02 and RS02 AKKU

- Thanks to its exchangeable jaws RS02 models are suitable for splicing many different profiles.
- No long heating-up and set-up times, spliced within seconds.
- Precise pressure and automatical 0-positioning prevents uneven welds and premature failure.

## GUIDE CLAMP FZ02/3

### BEHAbelt FZ02/3

- Robust and accurate guide clamp for V-belts up to profile 32 and round belts from ∅ 8 mm.
- Adjustment of the guide clamp FZ02 / 3 for special profile geometries according to your specifications possible.

## GUIDE CLAMP FZ01 VARIO

### BEHAbelt FZ01 Vario

- Guide clamp FZ01 Vario with quick clamping device for inserting profiles in exchangeable jaws.
- Automatic unlocking starts off lateral pressure.
- Precise welding thanks to constant pressure.

## GET YOUR SAMPLES

We are happy to provide you with samples of your required products free of charge. We are looking forward to your message.

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