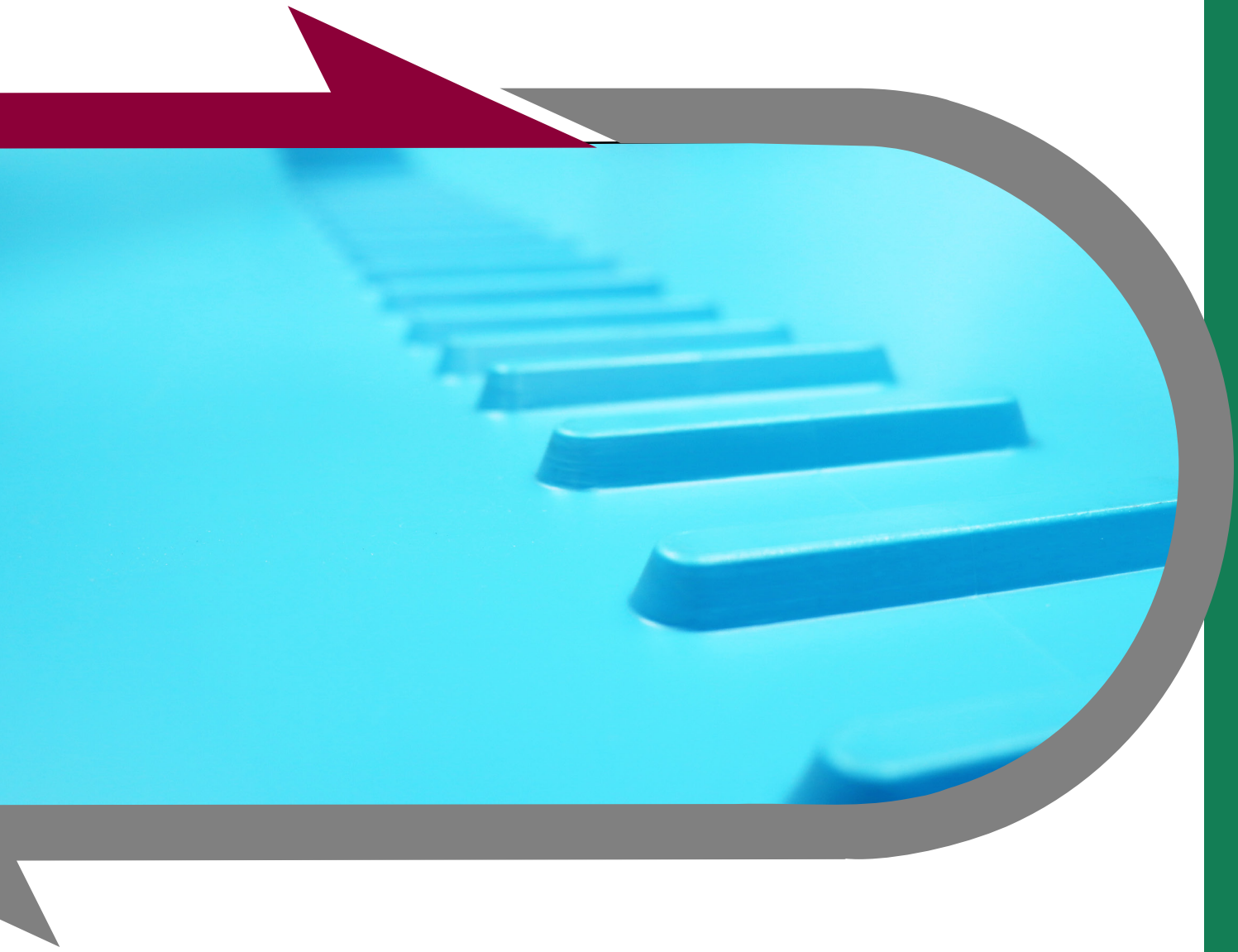
How to make your processing line more Hygienic

Volume 1: Let's talk conveyor belts



ENE Conveyor Belting | Article

How to make your food processing line more hygienic: Let's talk conveyor belts

According to the Food Standards Agency, there are around 2.4 million cases of foodborne illnesses per year in the UK. The World Health Organisation has estimated that foodborne diarrhoeal diseases cause around 550 million cases and 230,000 deaths per year globally. These statistics are staggering. Ensuring that food is processed and manufactured in hygienic and safe environments is an important part of the solution and so the food processing industry has seen the regulations around food safety become tighter and tighter. Covid is expected to put even more emphasis on this important issue.

Innovative design of food processing equipment can help processors not only meet and exceed the increasing regulations but also improve efficiencies. This has been a focus for ENE Group for some years, not only in the design of the conveyor systems but also in the materials used.

Within food production lines in particular, conveyor suppliers have been looking at using more hygienic materials for their conveyor belts. Currently, the industry standard is to use materials such as plastic or monolithic urethane, however Kevlar integrated into a urethane conveyor belt makes it much more hygienic than typical plastic modular belting.

Let's take a look at some of the hygiene advantages of Kevlar reinforced over plastic modular belting:

- A Kevlar reinforced, positive drive urethane conveyor belt provides 43% less surface area to clean. With less surface area to clean comes less risk of leaving contaminants behind which is an obvious benefit.
- Plastic modular belting tends to have crevices where contaminants can be housed, Kevlar reinforced belts don't have such crevices therefore eradicating this potential hazard.
- Kevlar reinforced belts don't contain pins or hinges, therefore eliminating the risk of contamination from broken components.

What is Kevlar and why use it in belting?

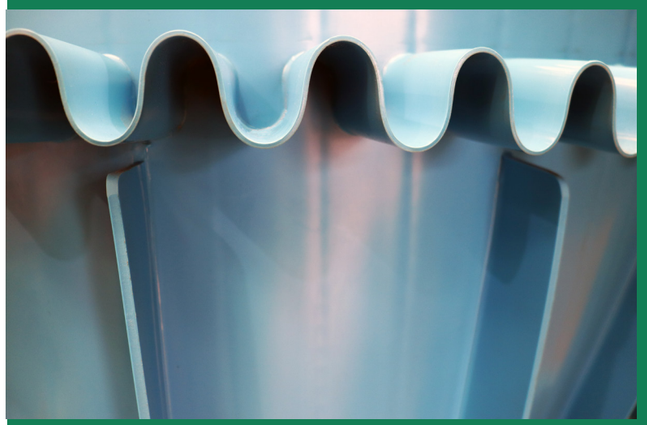
Kevlar is a heat-resistant para-aramid synthetic fibre with a molecular structure of many inter-chain bonds which make it extremely strong.

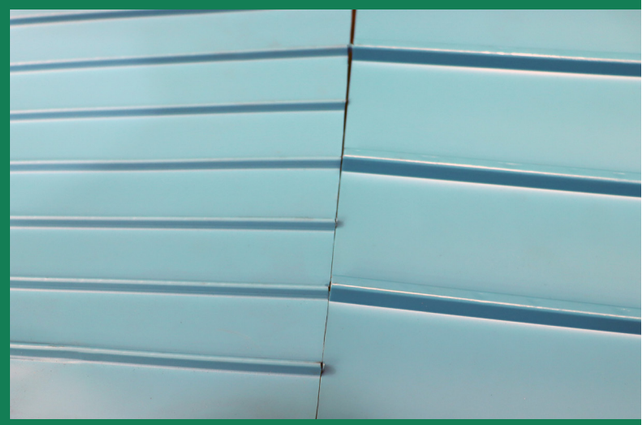
When Kevlar is integrated into traditional urethane conveyor belts, it provides dimensional stability, allowing it to keep proper engagement between the belt and drive sprockets; therefore, making it longer lasting especially in higher loaded horizontal conveyors.

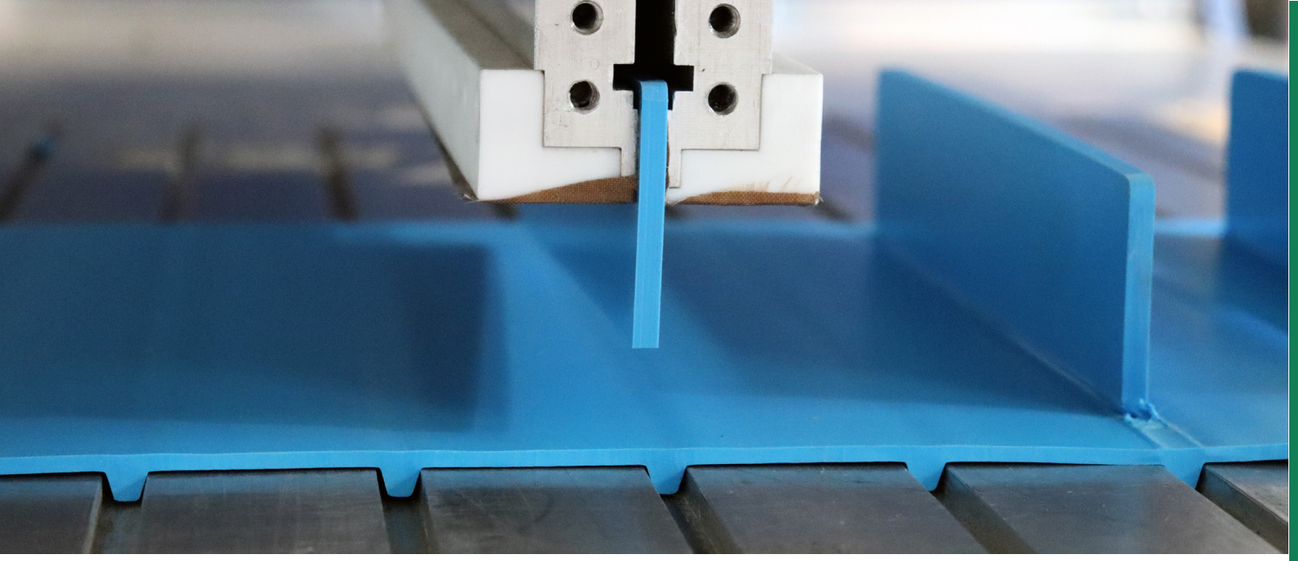
Gates TPU is an innovation leader in Kevlar reinforced, positive-driven and flat urethane conveyor belts. The Gates TPU Food Belt product line is created for the food processing industry and are USDA/ EU certified for direct contact with food and hygienic products. The product offerings include positive drive, flat and self-tracking troughing belt options.

PosiClean™ belts are an easy to clean, quieter running, positive-drive replacement for straight-running plastic modular belts and unsupported monolithic belting in direct contact with food. CenterClean™ belts are designed for self-tracking and troughing applications as well as general processing conveyance.
FlatClean™ belts are an all-purpose polyurethane flat belt reinforced with aramid tensile members that minimizes belt stretch and re-tensioning.

Here at ENE Group we are the largest Gates TPU food belting stockist in Europe.



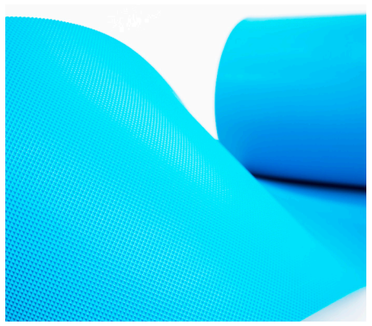


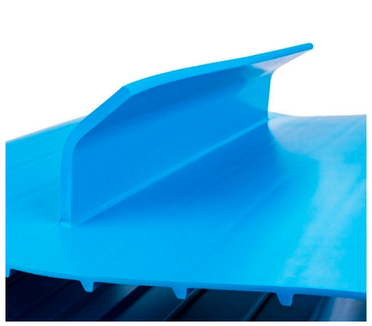


However, hygiene factors are not the only advantages to using a Kevlar reinforced conveyor belt. The durability of Kevlar and the design of the Gates TPU belts provide a belt that is longer lasting and requires less maintenance, thereby saving food processors on valuable downtime and costs. Consider some of the following:

- Kevlar reinforced belts do not elongate over time, therefore eradicating the need to keep a welding press on site.
- According to Gates, due to having 40% bigger teeth and improved sprocket interaction, Kevlar reinforced belts provide a higher load capacity as opposed to a plastic modular belt.
- Kevlar reinforced belts do not get premature cracks in the frontal area of the cleat which tend to occur on plastic modular belts due to elongation.
- Kevlar reinforced belts have longer lasting welds which use finger joints and an innovative split tooth design. Due to the stability provided by the Kevlar members, the edge does not wave after sanitation.

In conclusion, for an industry looking at more ways to improve hygiene, enhance efficiencies and become more environmentally friendly, Kevlar reinforced belts seem to be ahead of the times.

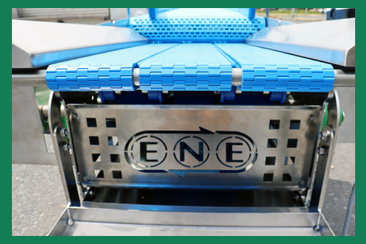




About ENE Group

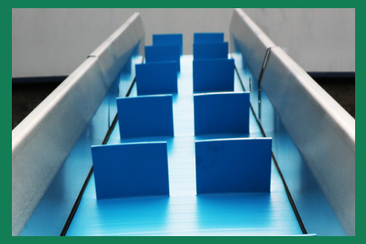
ENE Group, established in 1996, is headquartered in Banbridge. ENE has four sites spanning across the UK and EU providing solutions to the food and drinks industry along with the pharmaceutical industry. ENE is a leading manufacturer of stainless steel conveyor systems, stainless steel labelling systems and replacement conveyor belts. With their qualified and experienced engineers, ENE can provide tailor made and innovative solutions to cater for specific client needs.

ENE Conveyor Systems



Our state-of-the-art facility provides bespoke conveyor system solutions. With 25 years' experience our qualified engineers can provide tailor made and innovative solutions to cater for our specific client needs.

ENE Conveyor Belting



Equipped with state-of-the-art fabrication machinery, our expert engineers can provide bespoke conveyor belting solutions to meet client needs.

Sovereign Labelling Machines

Sovereign manufactures bespoke and innovative labelling equipment for the food, beverage and pharmaceutical industry. Equipped with the latest CNC laser cutting, milling, turning and punching machinery, Sovereign can provide clients with a comprehensive range from conveying, labelling and sleeving to robotic handling spanning from small units to complete production lines.

Ambit Projects Limited

Ambit boasts 31 years' experience in providing tailored, bespoke conveyor solutions specialising in the processing of fruit and vegetables

TPU BELTS
THERMOPLASTIC POLYURETHANE

Gates® TPU is the leading manufacturer of innovative thermoplastic polyurethane power transmission and conveyor belts. Backed by 100 years of Gates Corporation innovation and industry leading product performance and quality, Gates TPU designs long-lasting, energy-efficient belt system solutions for even the most demanding industries and applications. For more information visit gates.com.

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