Synchronous belt solutions for packaging technology

Your specialist for synchronous belt technology
As a specialist in synchronous belt technology, IGAT GmbH has gained a reputation throughout Europe for innovative solutions, a commitment to quality, and customer service. We are proud to supply our products to leading custom machine manufacturers and their customers.

A major component of our work comprises products and drive solutions for conveying and packaging technology. Thanks to our technical facilities, our many years of experience and our excellent specialist expertise our services are much in demand in this market sector.

In this flyer we wish to present below customized belt solutions from IGAT for conveying and packaging applications:

- belt coatings: product-friendly, cut-resistant, heat-proof, high-friction
- cleat versions: threaded strips, nubs, cleats, fins, milled sections
- vacuum technology: vacuum belts, film pick-up belts, belts incorporating holes
- special solutions: magnetic belts, VARI-SPACE nubbed belts
- current belt technology: belt connectors, self-tracking belts
- sprockets: standard / manufactured to drawing

As a system provider IGAT supplies all the drive elements for the related conveying and transport legs such as sprockets, splined shafts, belt guides, bearings and clamping systems. Our engineers will be happy to give additional technical information for your current projects.

**Belt products for conveying and packaging technology**

Vacuum solutions

Processed backing coatings

All details in the catalogue are not guaranteed and are expressly subject to technical modifications in their execution and to possible errors.

**Purchasing hotline:** Telephone +49 / (0)211 / 49 62 402

**email:** info@igat.net

**Detailed catalogues** and other news and information about **IGAT: www.igat.net**
BELT COATINGS
general

For transport and packaging jobs involving synchronous belt conveyors IGAT offers an extensive program of application-optimized belt coatings. We process materials such as polyurethane, elastomer, PVC, silicone and also foams which guarantee reproducible product characteristics in each case.

Just contact our Application Technology Department to choose the ideal coating for your specific application.

FOOD-SAFE COATINGS
for packaging and transporting foodstuffs

Our FDA / EU backing coatings are approved for direct contact with foodstuffs.

In addition to glued versions we also supply single-part “Foodflex synchronous belts” with various back profiles for optimum movement of a wide variety of food products.

BELT COATINGS
for synchronous, product-friendly transport jobs

Our selected backing coatings for sensitive goods guarantee a soft and gentle transport operation.

As standard we use polyurethanes, white or transparent, which are particularly impression-free at greater Shore hardnesses. The PU materials used exhibit a high resistance to chemicals, abrasion emulsions, water and oils.

If softer carrying combined with improved grip is required, IGAT processes coatings with minigrip profiles. Sylomer foams are also especially gentle for lighter transport jobs.
CUT-RESISTANT BELT BACKING
for sharp-edged products

For the transportation and further processing of sharp-edged end products we recommend, in addition to wear-resistant elastomers such as RP400 or rubber green, also chrome leather coatings.

Another simple solution is a PAR backing fabric, which can be applied inexpensively to any base belt. According to quantity, co-extruded, single-piece belt versions with fabric can be supplied.

HEAT-RESISTANT BELT SOLUTIONS
for packaging sections in the hot air domain

A shock-free coating processed by IGAT involves silicones which can withstand temperature peaks of up to about 220° C.

In addition to heat-resistant Viton (up to 200° C) IGAT supplies special felts such as Novo felt (up to 250° C) and para aramid felts (up to 500° C) for high temperature ranges.

For your specific case please ask for a technical consultation since the base adhesives used for the backing coatings cannot permanently transfer the temperature ranges given.

SPECIALY ANTI-SLIP BACKING STRUCTURES
for fast-running applications

Dynamic applications involving higher speeds demand a particularly good adhesion in the product being conveyed to the backing of the belt.

We offer all Supergrip profiles of PVC or rubber materials. In addition IGAT supplies especially anti-slip, smooth coverings of Correx or other rubber materials. Just ask for a consultation.
CLEAT SOLUTIONS

To ensure fast replacement of elements mounted on the belt backing there are various fastening options with threads. IGAT offers different systems for the belt widths 25 / 32 / 50 / 75 und 100 mm of brass, stainless steel or plastic.

Just contact our Application Technology Section to choose the optimum thread solution for your particular application.

IG-PF CLEAT

IG-PF keys with internal thread can be used for the pitch distances T10 / AT10 and T20 / AT20. The belt tooth is milled out in this version and the belt backing is drilled to accommodate screw connections. Steel and stainless steel versions are available.

IG-ML CLEAT

IGAT IG-ML cleat strips with threads can be used in the pitch distances AT10 / AT20. On the belt backing there are M4 or M5 threaded sleeves which provide ideal centering of the mounted parts. The geometry of the strips has been chosen to ensure that there is no possibility of contact with the disc teeth. The strips are available in brass, stainless steel or plastic.

IG-R CLEAT

The IG-R rhomboid inserts are incorporated in the belt teeth of AT10 /AT20 tooting using a special production procedure. The distances and pitches can be fixed as required, and there are not any empty interspaces in the neighboring teeth which are susceptible to dirt. The holes in the threaded sleeves are cut exclusively with a water jet. The rhomboid inserts are available in brass, steel and stainless steel.
NUBS
To synchronize and provide exact positioning of goods IGAT offers synchronous belt solutions featuring special cleats and nubs applied to the backs. Basically all familiar belt systems of neoprene or polyurethane can be equipped with nubs.

About one thousand different standard nub designs made of polyurethane, polyethylene or glass fiber-reinforced materials are available. Where used in mass production we can make up adapted nubs either as a CNC milled feature or by way of injection molding.

We would be happy to supply details of IGAT’s standard nubs range on request.

FINNED / PADDLE BELTS
IGAT finned belts are a special challenge in manufacturing terms. We make fin widths with exact pitch from 2 mm, and paddle heights of 180 mm are possible. The cleats are manufactured from glass fiber-reinforced polyurethane - mostly to customer specification.

Applications are found, for example, in packaging jobs in the pharmaceutical and hygiene products industries. There are further solutions for transporting envelopes and CDs.

MILLED CLEAT PROFILES
Depending on the products being transported and packaged we can manufacture any required backing profiles to facilitate optimized contact surfaces with the product conveyed and hence also guarantee higher synchronization cycles.

The geometry of the worked backing profiles is adjusted with a precise tolerance in each case to the product conveyed. The suitable coating materials are mostly chosen in close consultation between our end customers and the IGAT engineers.

The areas of use are mainly pick-up belts and synchronous conveyors which require exact positioning.
VACUUM BELTS

IGAT offers you a particularly comprehensive range of vacuum belts for a large number of transport and packaging solutions with films, cardboard or paper products. With the variety of manufacturing options at hand we can create many different hole patterns and belt designs.

Decisive for optimized vacuum volume is the coordination of the manufacturing tolerances for belt guidance, the hole pattern and the center of the vacuum groove in the toothing.

When selecting and dimensioning your special belt application just contact the IGAT engineers.

FILM PICK-UP BELTS

To handle the vacuum-supported movement of films in film-fed bagging machines IGAT offers the complete line of so-called pick-up belts, also with food-safe coatings.

Our product features:

- Standard lengths T10 with 630 / 720 / 780 / 840 / 920 mm
- Basic belt neoprene or polyurethane
- Coatings PU yellow, Linatex, LCN, neoprene
- Specially anti-slip silicone coatings
- Impact-free versions on request
- Vacuum ducts, holes, groove to customer drawing
- Vacuum holes cut by water jet
- Short delivery times

BELTS INCORPORATING HOLES

Specifically to ensure gentle conveyance of films, labels and paper products, IGAT makes special belts incorporating holes, featuring non-slip and compressible coatings on the back.

We use select input materials to guarantee even and synchronous movement of the goods being transported even at low pretension levels and with small deflections.
SPECIAL SOLUTIONS

VARI-SPACE NUBBED BELTS

Nubbed belts with adjustable fin widths

The VARI-SPACE nubbed belts offer you the greatest flexibility when transporting unit goods of differing geometries. Whether it’s plastic products or cardboard items, with only a few manual operations you can adjust the distance between nubs to suit the current product being conveyed.

Product features of Vari-Space belts

- Variable nub distance between nubs adjustable manually
- Short fitting times when changing the conveyor belt
- Wide variety of nub designs available
- Basic belt system can be freely selected

BELTS WITH NAILS

Our belts with nails have become well established not only in the food industry, but also over many years in other sectors where the main concern is the handling of fibrous materials or soft items.

Whether it’s staples, stainless steel nails or spike mats, with our production depth it is possible to apply any kind of nail version to almost all conveyors, flat belts and synchronous belts. The nails are incorporated in the respective belt solution using a special fastening technique.

The IGAT application engineers would be pleased to help you with more detailed questions and designs.

MAGNETIC BELTS

IGAT magnetic belts make it possible to convey products made of ferrous metals in exact position. Depending on the task at hand, we can include any desired number of rod-type magnets, with defined field strengths, in the backings for the belts. The preferred belt types, dictated by the required minimum diameter of the sheaves, are the T10 and AT10 pitches.
BELT TECHNOLOGY IN GENERAL

BELT CONNECTORS

Pin joint (PJ) for on-the-spot belt assembly

In the pitches T10 / AT10 and 8M and 14M synchronous belts can be connected “on the spot” in the machine using special pin joints. Pin joints (PJ) are screwed into prepared holes in the belt tooth.

As options various pin joints and pin designs are available. We would ask you to contact us with respect to the transferable tensile loads.

IG-ZS belt connector

The IG-ZS belt connector is available in pitches AT10 / AT20 for the standard belt widths. The connector elements of high-strength polyamide with backing plates of special spring steel strips guarantee secure connection of the belt ends. The connector length is 10 teeth. In this area no nubs and cleats can be mounted.

Technical details and permissible tensile loads can be obtained from our Application Technology Department.

BELT TRACKING SYSTEMS

The tracking of synchronous belts covering long transport distances should be ensured using suitable guides. In addition to the Easy Drive System®, which we can obtain through distribution partners, IGAT offers the following possibilities for belt tracking:

- BAT self-tracking synchronous belt system (including with groove)
- Extruded wedge strips K6 / K10 / K13
- Tracking strips inserted in the middle of the belt
- Central tracking groove with ultrafine fabric overlay

The selection of a suitable belt tracking system depends on the individual job to be performed and the drive geometry. You should therefore consult our Application Technology Department.
SPROCKETS

In addition to the wide range of belt solutions IGAT offers you the related drive sprockets in a wide range of materials, reliably manufactured to your drawings.

Milling tools with all common toothing systems are available for splined shafts. Special toothing systems can be obtained after technical consultation.

Our base materials and toothing options can be found in the following tables.

### Our toothing options

<table>
<thead>
<tr>
<th>Profile description</th>
<th>Pitch</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trapezoidal profile to DIN / ISO 5296</td>
<td>MXL - H</td>
</tr>
<tr>
<td>Profile T to DIN 7721</td>
<td>T2.5 - T20</td>
</tr>
<tr>
<td>Profile AT</td>
<td>AT3 - AT20</td>
</tr>
<tr>
<td>Profile HTD</td>
<td>3M - 20M</td>
</tr>
<tr>
<td>Profile Supertorque</td>
<td>S2M - S14M</td>
</tr>
<tr>
<td>Profile GTMR</td>
<td>GT2MR - GT8MR</td>
</tr>
<tr>
<td>Profile RPP</td>
<td>RPP3 - RPP14</td>
</tr>
<tr>
<td>Profile Poly Chain</td>
<td>PC8 - PC14</td>
</tr>
<tr>
<td>Modular toothing systems</td>
<td>M1 - M8</td>
</tr>
</tbody>
</table>

### Material sprockets

<table>
<thead>
<tr>
<th>Material</th>
<th>Material number</th>
<th>International designation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Steel (ST)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ST37-2</td>
<td>1.0037</td>
<td>EN 10025</td>
</tr>
<tr>
<td>C45 / Ck45</td>
<td>1.0503 / 1.1191</td>
<td>EN 10083</td>
</tr>
<tr>
<td>42CrMo4</td>
<td>1.7225</td>
<td>EN 10083-3</td>
</tr>
<tr>
<td>16MnCr5</td>
<td>1.7131</td>
<td>EN 10084</td>
</tr>
<tr>
<td><strong>Stainless steel (V2A / V4A)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>X5CrNi18-10</td>
<td>1.4301</td>
<td>AISI 304</td>
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<tr>
<td>X8CrNi18-9</td>
<td>1.4305</td>
<td>AISI 303</td>
</tr>
<tr>
<td>X5CrNiMo17</td>
<td>1.4401</td>
<td>AISI 316 (V4A)</td>
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<tr>
<td>X2CrNiMo17-12-2</td>
<td>1.4404</td>
<td>AISI 316L (V4A)</td>
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<td><strong>Aluminium (AL)</strong></td>
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<tr>
<td>AlCuMgPb</td>
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<td>EN AW 2007</td>
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<tr>
<td>AlZnMgCu1,5</td>
<td>3.4365</td>
<td>EN AW 7075 (RoHS)</td>
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<tr>
<td>AlMgSi1</td>
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<td>EN AE 6082</td>
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<tr>
<td>AlCu4MgSi</td>
<td>3.1325</td>
<td>EN AW 2017A (RoHS)</td>
</tr>
</tbody>
</table>

Other sprocket materials such as cast alloys (GG / GGG), plastic (PA / POM) and sinter materials can be supplied on request.