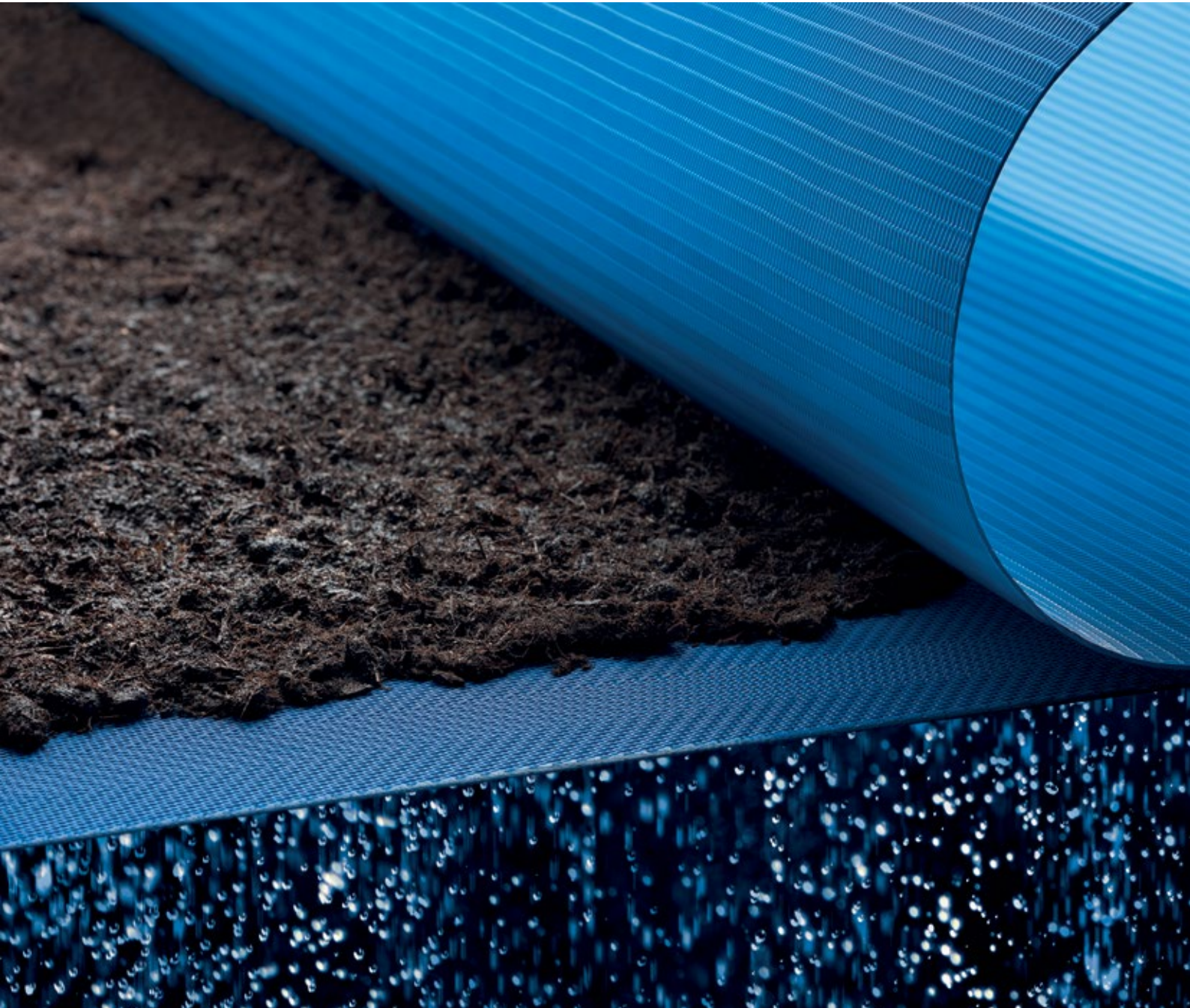


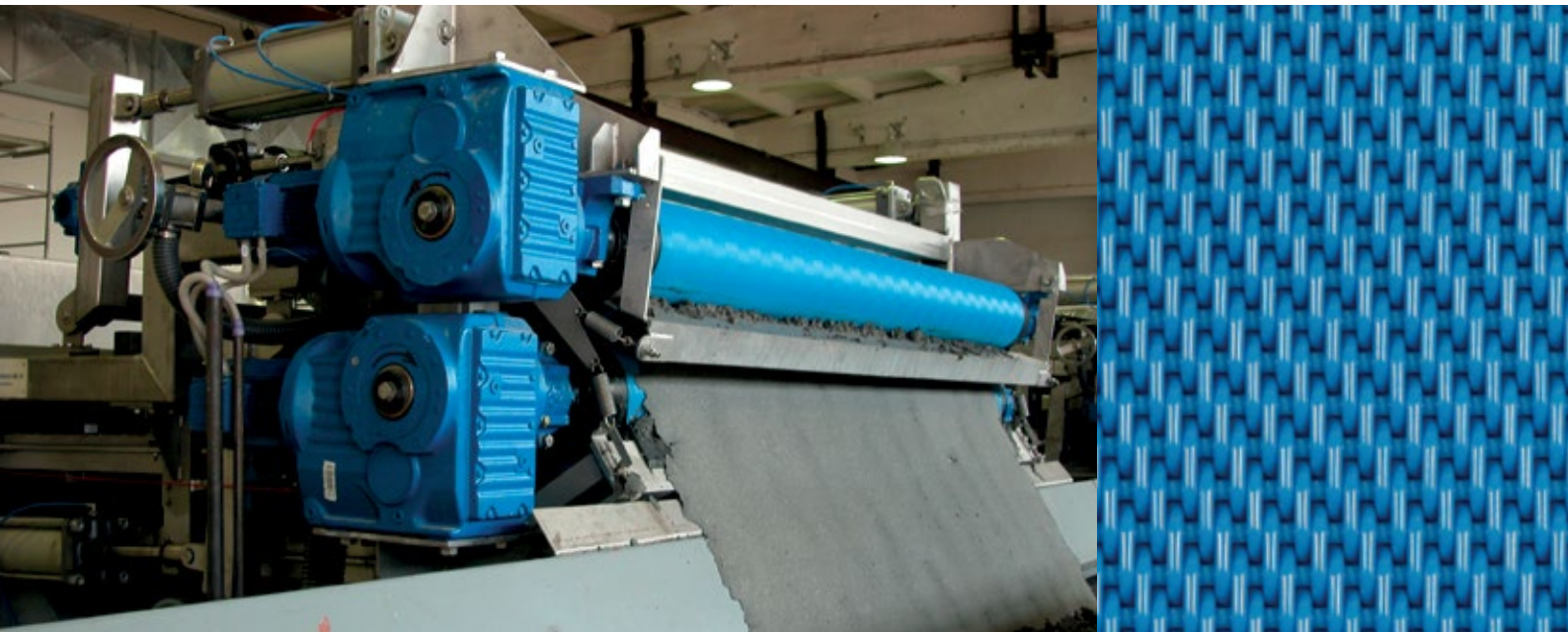
BELTS MADE  
OF WOVEN MESH  
AND SPIRALS

 **PROCESS BELTS**

# PROCESS BELTS FOR SLUDGE DEWATERING AND DRYING







## EFFICIENT **SLUDGE DEWATERING** WITH SYNTHETIC MESH PROCESS BELTS

Whether for industrial sludge, product and chemical sludge or in municipal sewage plants – process belts from GKD dewater sludge reliably and efficiently. The combination of the right plastic monofilament, weave or spiral type as well as the correct opening and permeability makes our process belts particularly effective and robust and guarantees resistance to abrasion and chemical influences. Because they are manufactured on heavy-duty looms for metal mesh or the very latest spiral machines and additionally reinforced through a thermal fixing process, GKD process belts also boast a particularly high level of mechanical stability.

Whether as woven or spiral belts, GKD process belts are ideal for belt presses and sludge dryers.

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### **ADVANTAGES OF SLUDGE DEWATERING WITH GKD PROCESS BELTS**

- VARIED FIELDS OF APPLICATION
  - OPTIMAL CAKE BUILDUP AND CAKE DISCHARGE
  - EXTREMELY STRONG AND WARP-RESISTANT MESH MINIMIZES THE RISK OF DEFORMATION AND WRINKLE FORMATION, THANKS TO PRODUCTION ON SPECIAL METAL WEAVING LOOMS
  - SPIRAL BELTS WITH A HIGH DEGREE OF FORM STABILITY THANKS TO SPECIAL THERMOSETTING
  - HIGH RESISTANCE TO ABRASION AND CHEMICAL INFLUENCES
  - OPTIMAL THROUGHPUT RATE
  - QUICK AND EASY TO CLEAN
-



## THE RIGHT PROCESS BELT FOR EVERY **SLUDGE DEWATERING** PROCEDURE

Thanks to many years working together with leading manufacturers of belt presses, we at GKD know what's important when it comes to process belts.

With our wide range of standard as well as custom-built products, we always offer customers the ideal solution for dewatering all types of sludge. As such, today we manufacture individual process belts made of polyester (PES), polyamide (PA) or polyphenylene sulfide (PPS) with widths of up to 8 meters. These filter belts, drainage belts and dryer belts are temperature-stable up to at least 200°C and deployable in a pH range of 1 to 14.

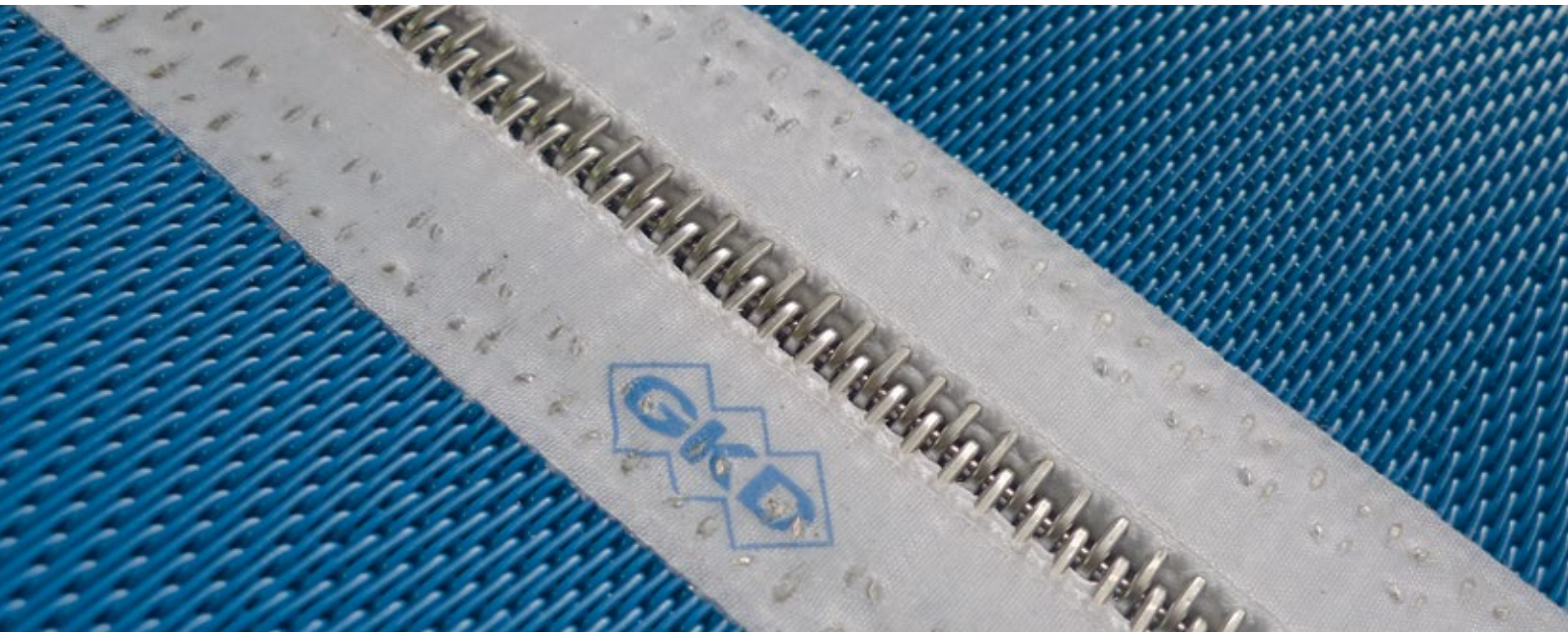
For individual solutions, GKD technical and sales staff are always happy to help.

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### **ADVANTAGES OF INDIVIDUAL GKD PROCESS BELT SOLUTIONS**

- ROBUST PLASTICS FOR EVEN THE MOST DEMANDING PROCESS REQUIREMENTS
  - UP TO EIGHT METERS WIDE
  - TEMPERATURE-STABLE UP TO 200°C
  - CAN BE USED UNDER VIRTUALLY ANY MECHANICAL AND CHEMICAL CONDITIONS
  - FOR SLUDGES WITH PH VALUES FROM 1 TO 14
  - INDIVIDUAL CUSTOMIZATION AND DEVELOPMENT
  - TURNKEY PROCESS BELTS WITH INSTRUCTIONS
-





## LONG SERVICE LIVES WITH FLAT **PAD SEAM**

Like the process belts themselves, the seams also have to withstand extremely tough conditions: blades, sludge distribution elements and uneven sludge feeding put the seams under enormous stress. This is why our engineers developed the particularly flat PAD seam, which is exclusively available from GKD and its partners. Not only is it technically superior to other seams, in contrast to other seam solutions it also offers constantly reproducible quality worldwide. In a hot melting procedure, a special pad is melted into the belt mesh and pressed together with staples. Compared to conventional hook seams, blades and sludge distributors can glide over the seam area far more easily. As a result, the special seam is stronger, more durable and possesses better running properties. Furthermore, the risk of damage to the seams is reduced to a minimum, the seam area is closed more tightly and product penetration is reduced.

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### ADVANTAGES OF THE EXTREMELY FLAT PAD SPECIAL SEAM\*<sup>1</sup>

- HIGH STRENGTH AND DURABILITY
- PAD SEAM SIZES ARE INDIVIDUALLY ADAPTED TO THE PROCESS BELT MESH
- OPTIMIZED BELT RUNNING PROPERTIES
- EXACTLY REPRODUCIBLE QUALITY COMPARED TO CONVENTIONAL SEAMS
- SIMPLE HANDLING
- CAN BE PRINTED INDIVIDUALLY WITH COMPANY LOGO
- PARTICULARLY FLAT DESIGN

*\*<sup>1</sup> Alongside the PAD seam, we of course offer other seam solutions for individual applications, including woven-on pin seams, woven-on spiral seams, endless woven seams and (glue-compressed) hook seams.*

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## EFFICIENT **SLUDGE DRYING** WITH SYNTHETIC MESH PROCESS BELTS

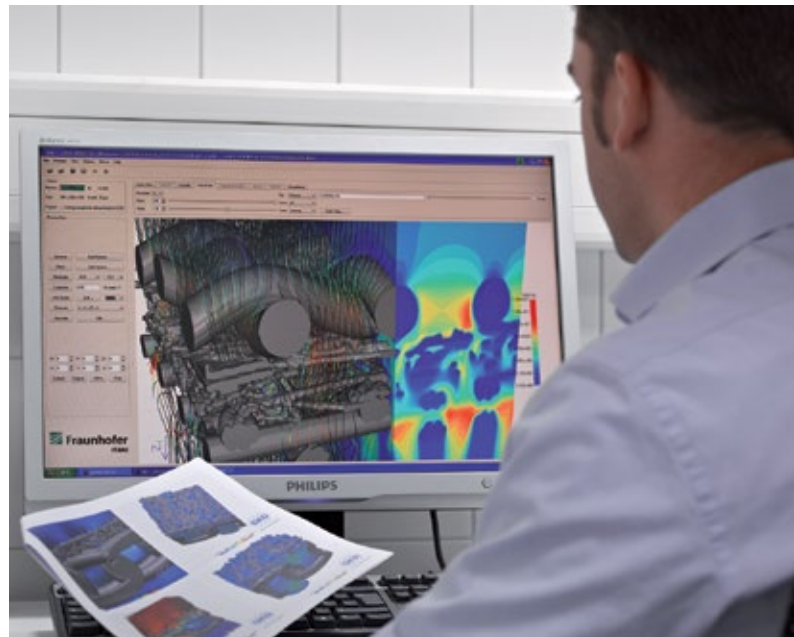
Sludge drying plants reduce the weight and volume of sludge and increase the dry substance to up to 98 percent. Using GKD special belts made of polyester (PES) or polyphenylene sulfide (PPS), drying plants optimally reduce residual moisture. This in turn reduces energy consumption and disposal costs and thus increases efficiency.

Our synthetic mesh belts can be used for a range of applications: they cover the low and high-temperature areas in a range from 80 to 200°C and a pH range of 1 to 14. Moreover, the extensively refined belts woven from robust synthetic monofilaments also withstand particularly high surface loads. After the drying process, thanks to the special mesh structure on the underside, the belts are easy to clean using a minimum of water, thereby benefiting the environment.

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### ADVANTAGES OF GKD DRYER BELTS

- ROBUST SYNTHETIC MONOFILAMENTS FOR EVEN THE MOST DEMANDING PROCESS REQUIREMENTS
  - OPTIMAL DIRECTIONAL STABILITY
  - UP TO EIGHT METERS WIDE
  - UP TO 200 METERS LONG
  - FOR LOW AND HIGH-TEMPERATURE APPLICATIONS BETWEEN 80 AND 200°C
  - FOR SLUDGES WITH PH VALUES FROM 1 TO 14
  - OPTIMAL MESH OPENING FOR HIGH AIR PERMEABILITY AND DUST REDUCTION
  - INDIVIDUAL ADAPTATION AND DEVELOPMENT
  - TURNKEY PROCESS BELTS WITH INSTRUCTIONS
-



## RESEARCH, DEVELOPMENT AND CONSULTING

Technical expertise and optimum customer benefit – this is what we at GKD aim for with our process and spiral belts. That's why we focus on the development of new process belts alongside our existing product portfolio. We always use detailed analyses of existing or planned applications as the basis for the development of innovative and efficient solutions. Our engineers combine their expertise in production, materials and plants with extensive practical knowledge of process technologies. These processes are supported by computer simulations.

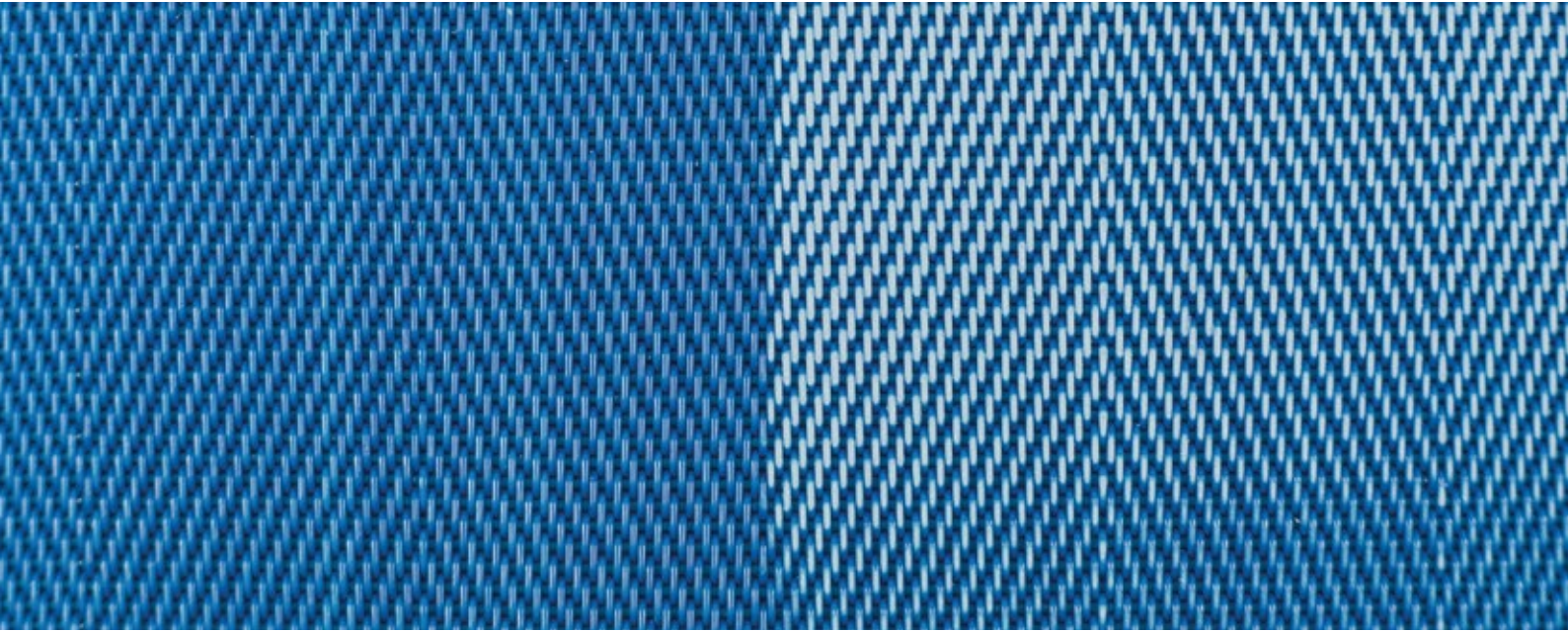
This all results in process belts ideally suited to the requirements of the market and in characteristic GKD quality. We deliver this standard by using the latest manufacturing processes that are subject to constant further development – just like our products themselves.

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### ADVANTAGES FOR OUR CUSTOMERS

- VIRTUAL MESH DEVELOPMENT AND PROCESS OPTIMIZATION THROUGH GEODICT®
  - COMPUTER-BASED FLOW SIMULATIONS (CFD) FOR PREDICTING PERMEABILITY, FILTER EFFICIENCY, PARTICLE PENETRATION AND DIRT PENETRATION
  - STRENGTH CALCULATIONS USING THE FINITE ELEMENT METHOD (FEM)
  - INCREASED SERVICE LIFE THANKS TO OPTIMIZED MANUFACTURING PROCESS AND PROCESS PARAMETERS
  - LABORATORY TESTS FOR DETERMINING RESIDUAL CAKE MOISTURE
-





## NEW SOLUTIONS

### EXAMPLE: MESHES WITH WEAR INDICATOR

As a partner to our customers, alongside standard GKD products we also develop custom-built process belt solutions for all kinds of municipal and industrial sludge. As such, we develop process belts with individual properties made of polyester (PES), polyamide (PA), polyphenylene sulfide (PPS) or other raw material combinations.

As the latest innovation we equip our type 1003 all-rounder with a wear indicator. This uses monofilaments in which the core has a different color to the outer surface. Wear brought about by natural causes or other influences is then visible in the discoloration of the belt. Because a visual check of the condition of the belts is possible at any time, the operator can achieve more planning security for the next belt change.

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#### INDIVIDUAL SOLUTIONS

- CUSTOMIZED SELECTION AND COMBINATION OF MATERIALS
  - PROCESS-ORIENTED THERMAL TREATMENT
  - OPTIMAL SEAM-BELT COMBINATION
  - INDIVIDUAL PRINTING WITH OWN LOGO
  - FURTHER FINISHING ON REQUEST (E.G. THERMALLY PUNCHED HOLES, CAMS OR GUIDE RAILS)
  - CUSTOM-BUILT SOLUTIONS SUCH AS BELTS WITH WEAR INDICATOR OR MESH IN A COMBINATION OF PLASTIC AND METAL
-

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**GKD - GEBR. KUFFERATH AG**

As a privately owned technical weaver, GKD-Gebr. Kufferath AG is the world market leader in metal, synthetic and spiral mesh solutions. Four independent business divisions bundle their expertise under one roof: **INDUSTRIAL MESH** (woven metal mesh and filter solutions), **PROCESS BELTS** (belts made of woven mesh and spirals), **METALFABRICS** (façades, safety and interior design made of metal fabrics) and **MEDIAMESH®** (transparent media façades). GKD continuously develops new fields of application through its manufacturing technology and process expertise. We use GKD meshes to create efficient systems, equipment and components that are perfectly integrated into our customers' processes across all industrial sectors. GKD is active on the international stage from its headquarters in Germany, five further production sites in the US, South Africa, China, India and Chile, as well as branches in France, Spain, Dubai and representatives all over the world.

**BUSINESS UNIT: PROCESS BELTS**

As a technological leader, GKD offers a wide range of versatile process belts made of mesh and spirals for demanding applications. Customers all over the world use our product range and custom-made solutions to dewater, press, filter, separate, dry, cool or freeze products. In addition, the process belts are used in applications including wood embossing, heat treatment and in the textile and nonwovens industry. Thanks to production on state-of-the-art heavy-duty looms and spiral machines, our process belt types made of synthetics, metal or a combination of materials are highly stable and at the same time flexible. Moreover, the ultra-flat PAD seam developed by GKD engineers demonstrates our innovative capacity. We are a reliable partner for all projects from the outset: from consultation and individual development, all the way through to procurement and assembly.

**CLOSE TO THE MARKET AROUND THE GLOBE.**

- ① GKD GERMANY, Düren (headquarters)
- ② GKD FRANCE, La Roque d'Anthéron, Croisilles
- ③ GKD SPAIN, Barcelona
- ④ GKD USA, Cambridge (MD), Arkansas (AR)
- ⑤ GKD LATIN AMERICA, Santiago de Chile
- ⑥ GKD SOUTH AFRICA, Randfontein
- ⑦ GKD INDIA, Jaipur
- ⑧ GKD CHINA, Beijing, Qufu
- ⑨ GKD MIDDLE EAST, Dubai

