



WEAVE**inMotion**

transport processing solution

Process Belts for Belt Filters



WORLD WIDE WEAVE

transport processing solution



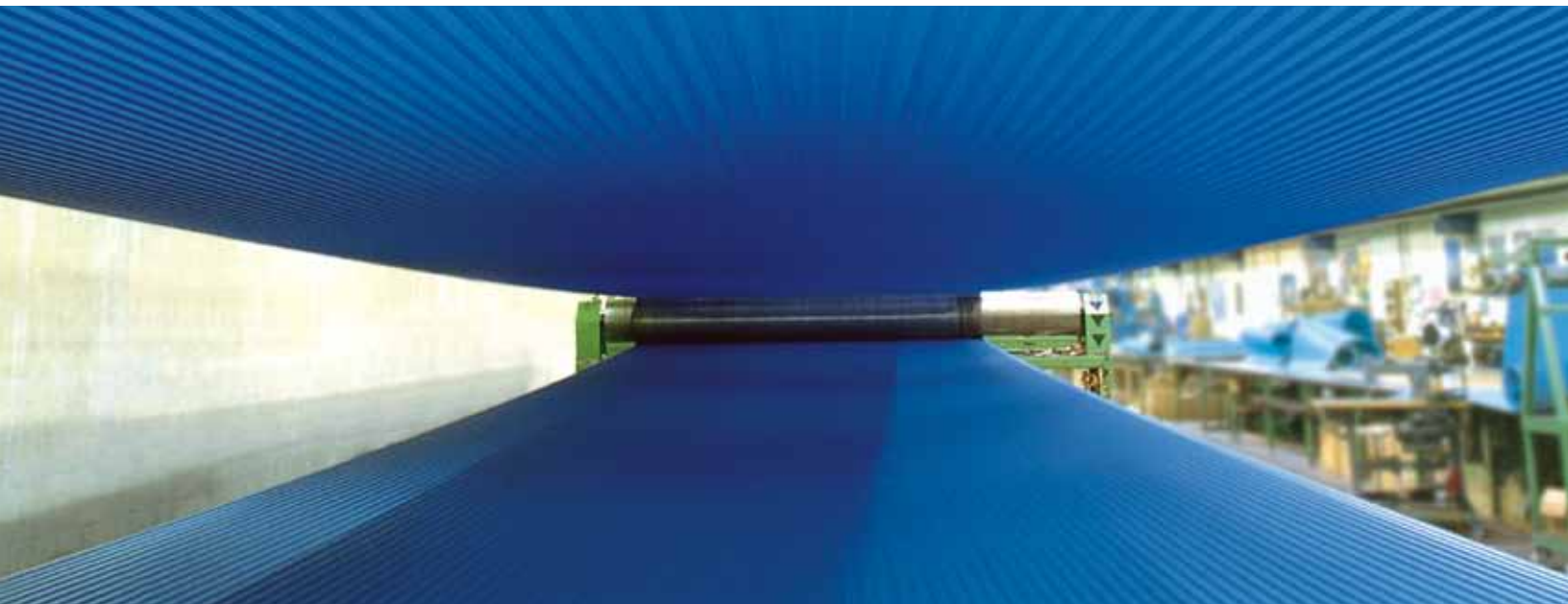
Loom for plastic woven belts with seven meters working width

The sum of our **competencies:** **made-to-measure filter belts**

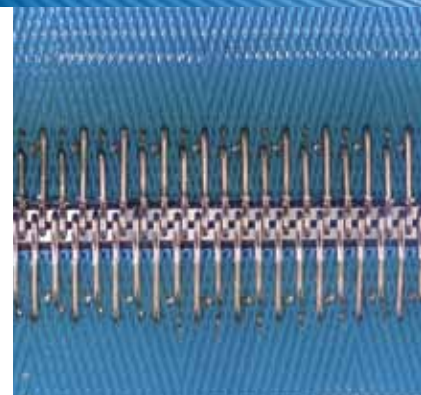
GKD's production facility for plastic and metal woven process meshes serves three core business sectors throughout the world: Filtration and Separation, Process Belt Technology and Architecture and Design. Specialized competencies in the development of high-quality filter media are the basis for the production of high-performance filtration meshes. These are made by GKD from many sorts of weavable metals and plastics, such as stainless steel or stainless steel/synthetic combinations, PES, PA, PPS or PEEK, as well as blends of these materials. In the field of application for belt filters, these made-to-measure mesh constructions are put to a wide range of uses as endless belts.



Warp beaming



Heat setting unit

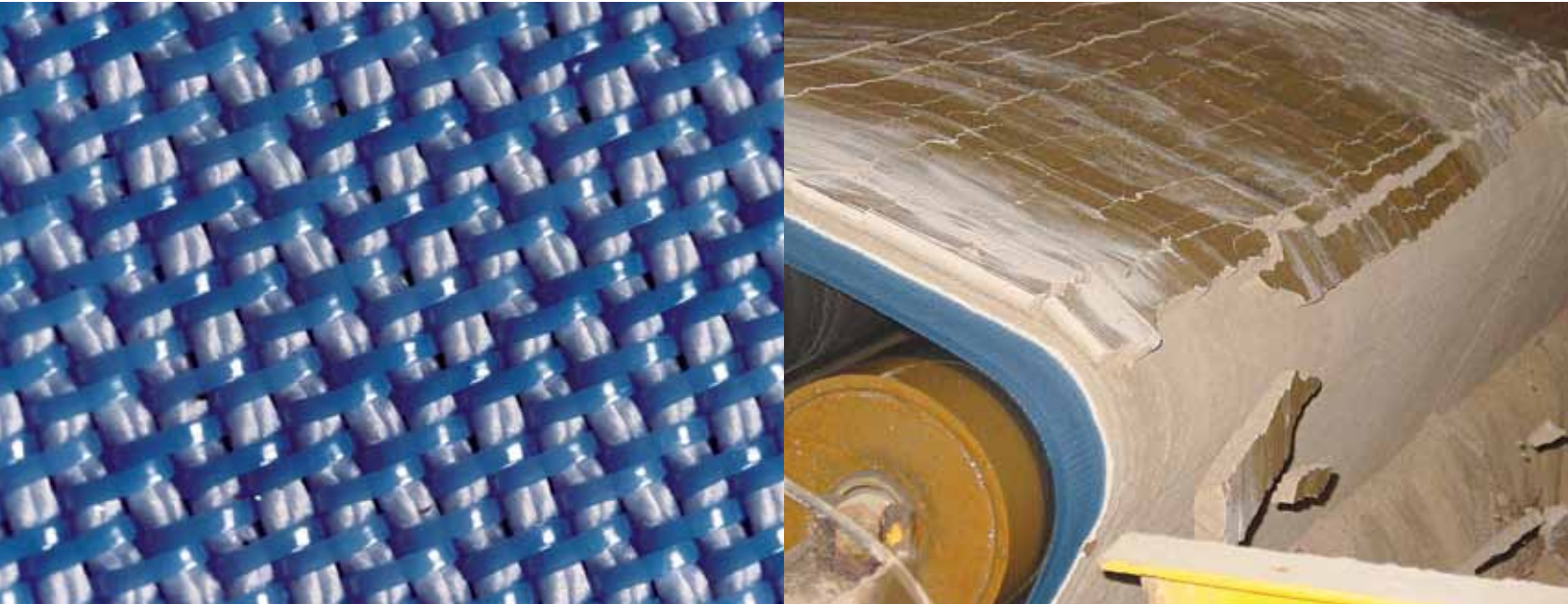
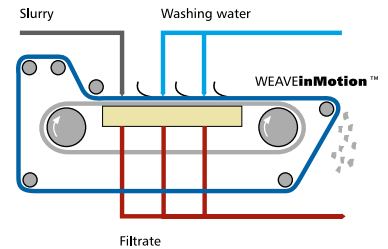


Pin seam

Tailored precisely to the specific application, our belts are customer-specific developments which ensure both the reliability and the efficiency of your processes. The meshes can be woven in sizes of up to seven meters wide and 120 meters long. Mesh apertures ranging from 20 μm , for use in the fine filtration of abrasives and coolants, up to the Linear Screen with 3,000 μm , for wet screening, ensure trouble-free production processes.

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Vacuum belt filter plant

*Double-weave twill made of Polymer**Vacuum belt filter for FGDP gypsum*

Robust and high performance filtration in **FGDP gypsum** dewatering

GKD double-weave twill made of polyester with multifilament weft wires is a proven product for the dewatering of FGDP gypsum. The gypsum slurry which is formed in the lime scrubbing process during flue gas desulphurization in coal-fired power stations is mechanically dewatered on continuously operating vacuum belt filter plants. The sequence of this process, feed, washing and dewatering of the gypsum slurry on a single belt filter places enormous demands on the strength and efficiency of the filtration mesh used. These demands are fulfilled by the GKD mesh thanks to its excellent dewatering and filtration performance combined with its chemical resistance and mechanical strength.



Polyester mesh Type 3356

Purity testing

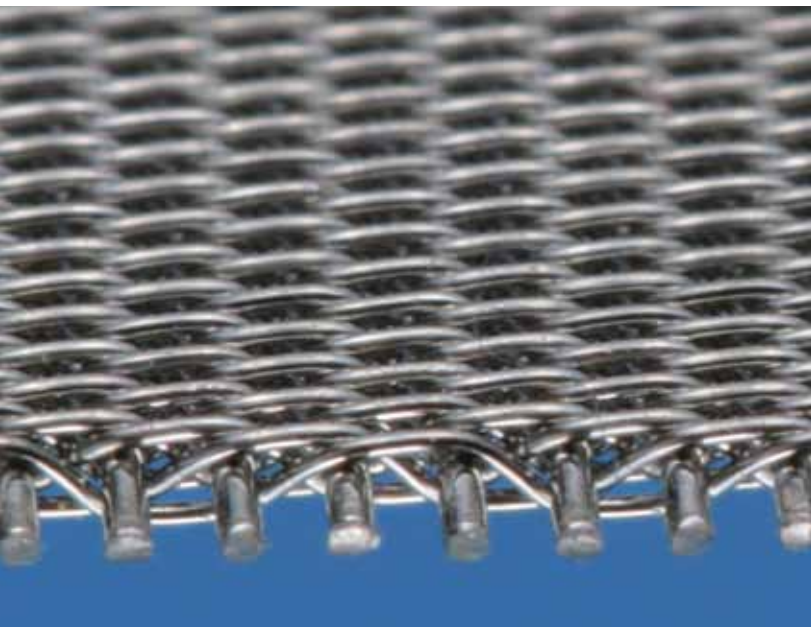
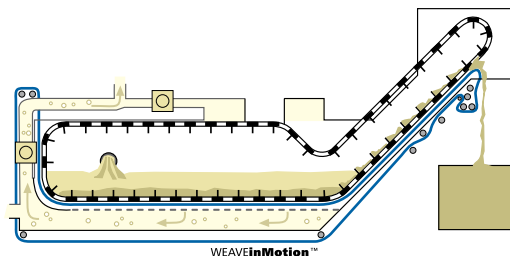
Polyester mesh for rock salt processing

Cost-effective refining of **phosphoric acid** and **minerals**

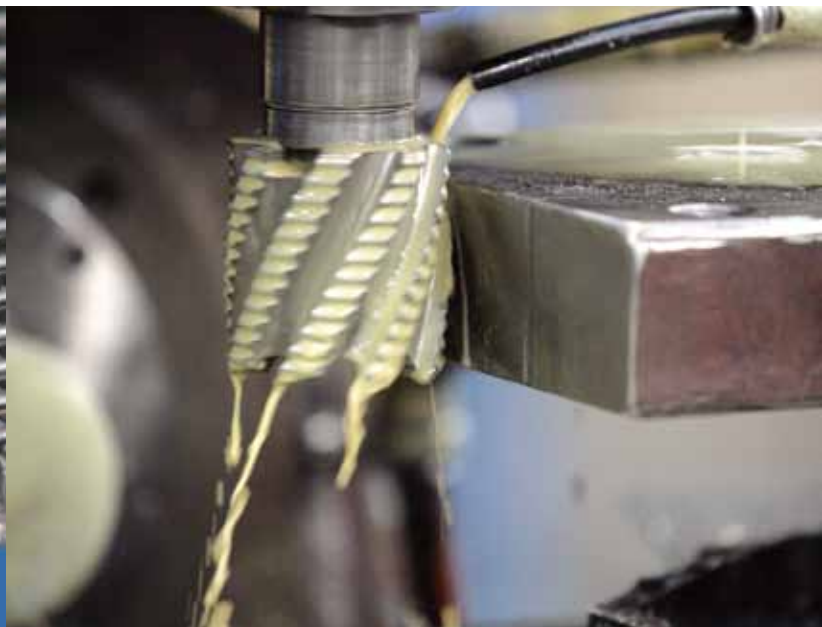
In the production of phosphoric acid from raw phosphate and sulphuric acid, the key factor for cost-efficiency is the purity of the filtrate. The special structure of the polyester mesh Type 3356 qualifies it optimally for this process. Fine, chemical-resistant, robust and with a smooth surface, it guarantees long service life and good cake discharge and cleaning capabilities combined with optimal filtration rates.

For the refining of rock salt, minerals or gold, the wire dimensions of the polyester mesh types 5060 and 8050 are precisely tuned to the specific process. As well as their chemical resistance, the mechanical strength and the dewatering and filtration performance of these meshes guarantee a successful process.

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Vacuum belt filter for
solid/liquid separation

KPZ 55 stainless steel mesh

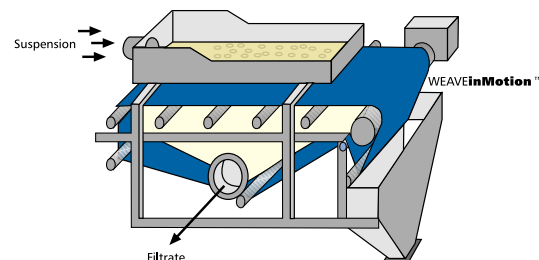


Machining under application of cooling lubricants

Reliable and sustainable filtration of **cooling lubricants**

Belt filters with continuous stainless steel woven belts made of twill dutch weave, or vacuum belt filter meshes of woven polyester of Type 3354 ensure consistently good filtration results. For this reason, they are the preferred choice of media in critical processes like the filtration of cooling lubricants, fluids and coolants. This process mesh, with its fine apertures, in spite of its monofilament structure, achieves maximum retention rates even when there is only a small filter cake. In processes not using filter aid, filter grades of 30 μm , 55 μm or 100 μm are maintained.

Screening of solids



Polyester mesh Type 8060

Linear Screen for the processing of minerals

Efficient **coal washing** – precise **wet screening** in mines

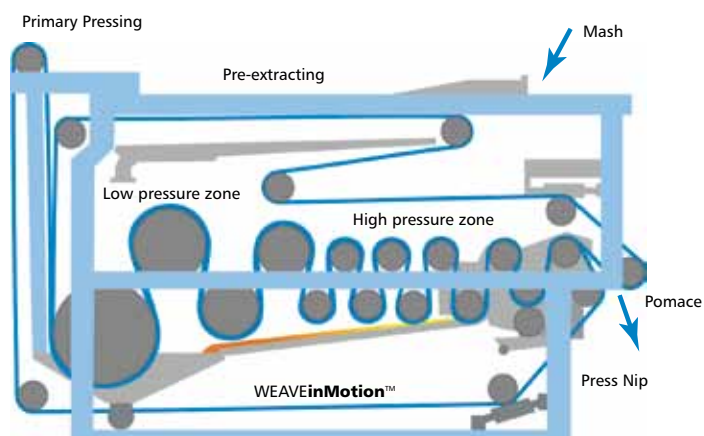
To meet the demands of coal washing in vacuum belt filters, the polyester mesh Type 8060 is the ideal solution. Highly efficient and with the necessary filter rates, this mesh facilitates optimal washing and dewatering of the coal in various stages of production. The monofilament structure of the mesh combines mechanical stability, good washing capabilities and high filter performance.

For wet screening, for example in goldmines, the Linear Screen with its absolutely precise mesh openings is the optimal choice of filter media. Thanks to its process reliability, this mesh type is also the perfect choice for removal of coarse dirt or for washing fruits and vegetables. Available as polyester and as a blend of polyamide and polyester, GKD's Linear Screen meshes are a reliable all-rounder for these applications.

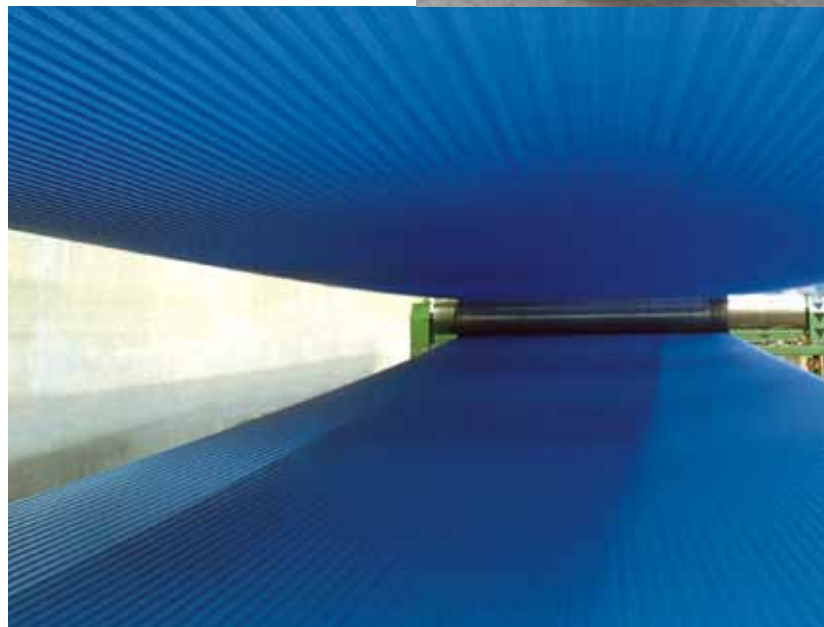
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Double belt press for fruit juice



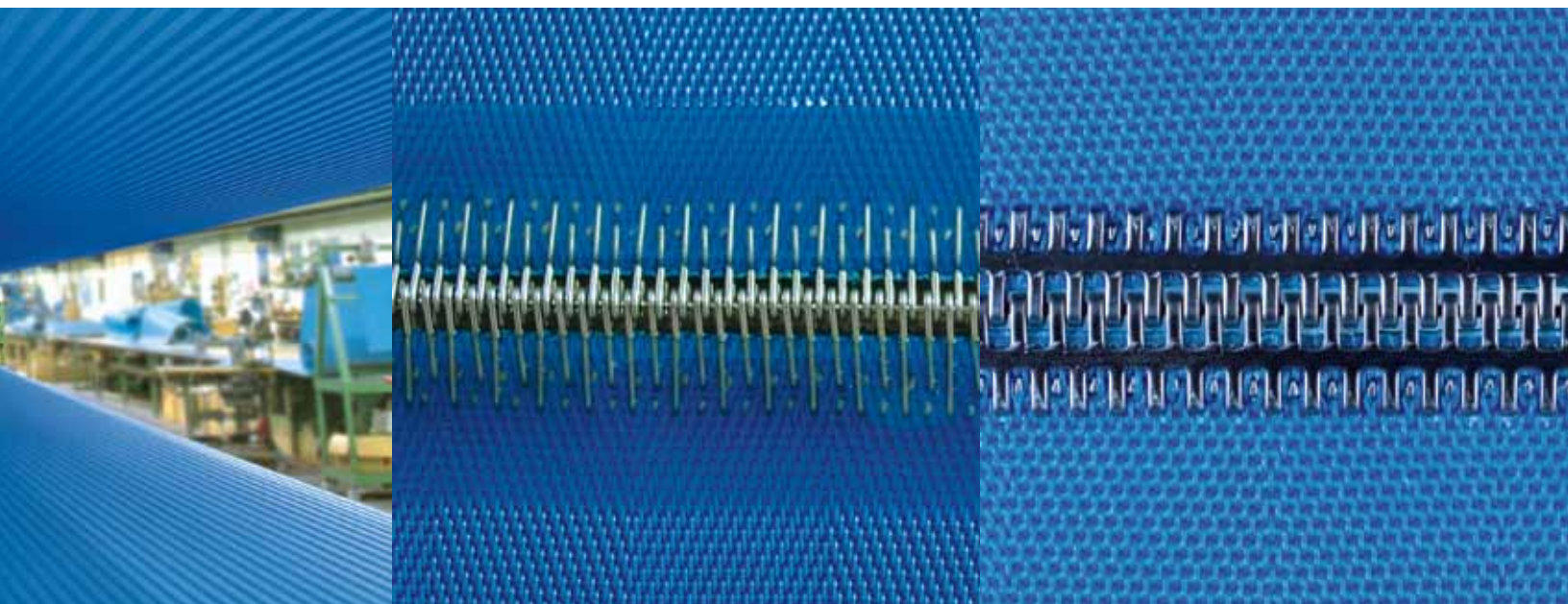
Function of a double belt press



Heat setting and stretching

Leading Technology for the Fruit Juice Industry

More stable and more robust: WEAVEinMotion™ process belts can handle tension of up to 310 N/mm. The woven plastic mesh is produced on looms made for heavy woven metal mesh. The result is meshes that have high stability and strength. In addition, subsequent thermal treatment also strengthens and fixes mesh stability while preserving elasticity. Additional lateral reinforcement by melting of the monofilaments prevents fraying along the edges. Highly stable pin seams made of stainless steel are specially tailored to suit the plastic mesh type and the particular application.



Hookseam with special glue protection

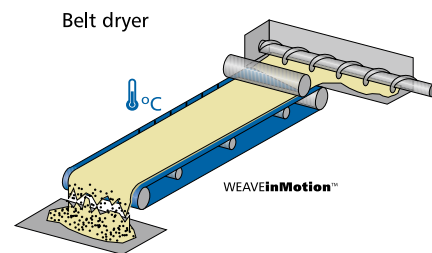
G-seam

The seams are additionally stabilized with a special coating, which also gives extra protection against mechanical abrasion. Utilizing specific synthetic polymers of defined wire diameters, weave patterns, material and mesh apertures, GKD produces optimal process belts for specific fruit and vegetable applications. The monofilament structure of the mesh also facilitates hygienic cleaning of the belt.

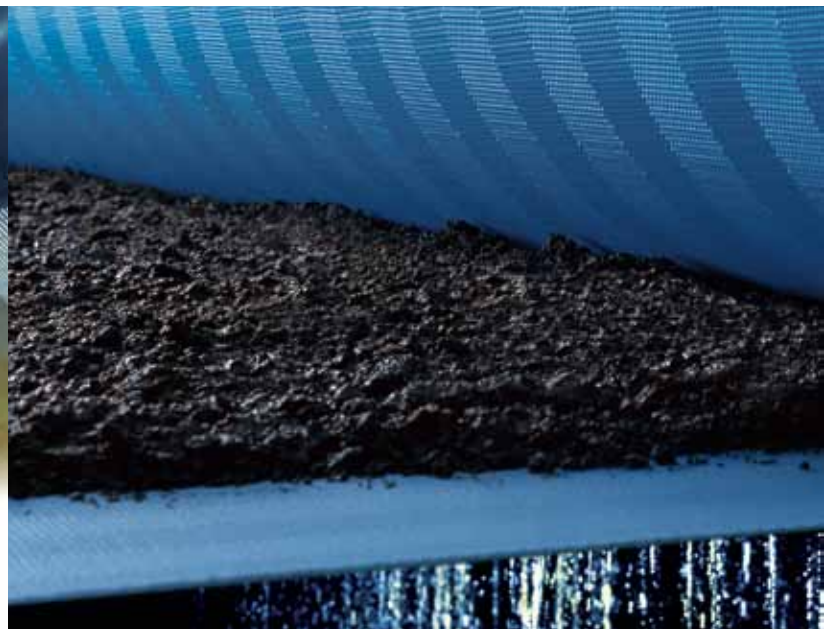
Type	Material Warp/Weft	Weave	Thickness [mm]	Weight [g/m ²]	Air Permeability		Mesh Opening [μm]	Main Application
					[l/m ² •sec, 200 Pa]	[cfm, 127 Pa]		
1003	PES	twill 2/1	1,80	1,30	2350	360	390	Apples
1012	PES	twill 2/1	2,20	1,65	2500	385	460	Apples
2045	PES	twill 2/1	1,80	1,25	3350	515	540	Apples/Pectin
3051	PES	plain	1,35	1,02	3260	500	520	Carrots
5060	PES	twill 3/2	2.30	1,70	3250	510	540	Cherries
5150	PES	twill 3/2	1,55	1,23	2300	350	260	Berries, Pectin
5156	PES	twill 3/2	1,75	1,45	2340	360	330	Berries

all data without engagement

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Belt dryer for sludge



Sludge Dewatering

Sludge Dewatering

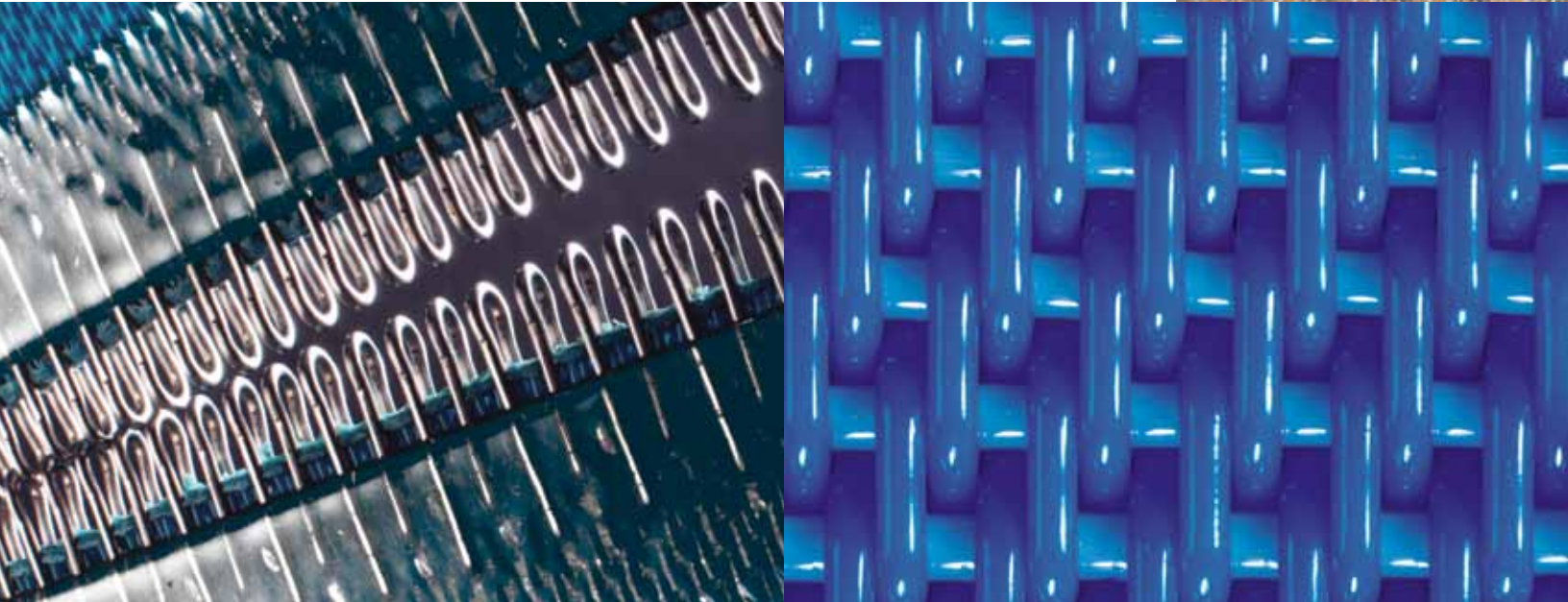
Plastic woven meshes put the pressure on sludges. Produced on heavy-duty looms for metallic woven meshes and reinforced through a thermal fixing process, plastic woven belts by GKD are extremely robust and mechanically stable. Polyester, Polyamide and PPS guarantee high resistance to abrasion or chemical influences. The fact that mesh aperture, weave, wire diameter and working materials can be adapted to the specific process makes using the belts in belt presses easy and cost-efficient. Whether for industrial sludges, chemical sludges or for municipal sludge treatment plants – our up to eight-meter-wide belts come in a range which offers an optimal belt type for every kind of sludge.

A wide range of products for solutions made to measure. Sludges with lower water content reduce expenditure on energy and disposal. With our special belts made of Polyester or PPS, considerably dryer sludges can be attained in serial dryers. These synthetic meshes cover working temperatures ranging from 80 to 200 degrees Celsius and pH values of 1-14. Our belts, woven from robust monofilaments and given extensive subsequent treatment, can stand up to extremely high surface load. Their specific structure also ensures excellent cleaning of the belt.



Double belt process

PPS 5099 mesh for high chemical or thermal load



Pin seam for high tensile strength

Robust woven plastic mesh 1003

- ❶ Press Belts ❸ High Pressure Press Belts
 ❷ Drainage Belts ❹ Dryer Belts

Type	Material Warp/Weft	Weave	Thickness [mm]	Weight [g/m ²]	Air Permeability		Mesh Opening [μm]	Main Application
					[l/m ² •sec, 200 Pa]	[cfm, 127 Pa]		
1003 ❶ ❷ ❸ ❹	PES	twill 2/1	1,80	1300	2350	360	390	all-purpose for municipal sludge
2045 ❷	PES	twill 2/1	1,80	1250	3350	515	540	pre dewatering
3051 ❷ ❸ ❹	PES	plain	1,35	1020	3260	500	520	sludge drying, pre dewatering
3353 ❷ ❸	PES	twill 5/1	0,87	700	1050	154	150	high pressure belt presses
4072 ❶ ❷ ❸	PES	twill 2/1	1,25	850	3550	535	320	municipal sludge
4088 ❶ ❷ ❸	PES	twill 2/1	1,72	1260	2780	420	290	municipal sludge
5060 ❶ ❷ ❸ ❹	PES	twill 3/2	2.30	1700	3250	510	540	paper, coal, ore and chemical sludges
5080 ❶	PES-PA/PES	twill 3/2	2,50	1900	2000	305	460	abrasive sludge
5090 ❶ ❷ ❸	PES	twill 3/2	1,82	1450	2320	350	320	chemical sludge
5099 ❶ ❷ ❸ ❹	PES	twill 3/2	2,20	1200	4740	735	520	sludges with pH value 1-4 temperature resistant up to 200°
5156 ❶ ❷ ❸	PES	twill 3/2	1,75	1450	2080	313	345	municipal sludge, kaolin
8065 ❶ ❷ ❸	PES	satin 6/2	1,76	1300	2300	345	320	less flocculated municipal sludge



Thorough consultation ensures project success



Lab analysis



Weaving competence



Thermal fixing equipment

Service in every project phase

WEAVEinMotion™ stands for high-quality process belt technology. In close cooperation with users and plant constructors, we develop solutions which are made to measure in every detail. We see ourselves as your partner from the very start: consultation, development, installation and repair are the cornerstones of our service. Instant support – at any time and if necessary around the clock – ensures long-term process efficiency and quality.

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