

AMANN
GROUP

TECH-X
WORKWEAR AND TECHTEX





ABOUT AMANN

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Innovation since 1854

Since 1854, AMANN has been one of the leading global producers in the field of high-quality sewing and embroidery threads. Its technical expertise, reliability and flexibility in production and service makes AMANN a strong partner worldwide. More than 2,500 motivated employees in more than 100 countries worldwide make AMANN's success possible. AMANN Group exclusively produces at its own production sites. The company headquarters are located in Bönningheim, Germany.

Commitment to the precepts of the UN global compact

As a global company, AMANN has made the conscious decision to enter into the UN Global Compact. "The United Nations Global Compact is the world's biggest and most important initiative for responsible corporate management. Based on ten universal principles and the Sustainable Development Goals, it pursues the vision of an inclusive and sustainable global economy to the benefit of all people, communities and markets, today and in the future."¹

It is AMANN's ambition not only to be a pioneer in terms of high-quality, sophisticated products, but also in activities in the spirit of sustainability.

Learn more about our sustainable achievements and targets in our annually published Sustainability Report.

Certification & safety

Ensuring our high quality and environmental standards is an essential part of the AMANN philosophy. That is why we comply with the following internationally recognised certifications and standards:

- Quality management system ISO 9001
- Automotive quality management system IATF 16949
- Environmental management system ISO 14001
- Higg Index Facility Environmental Module (Higg Index FEM)
- Higg Index Facility Social and Labour Module (Higg Index FSML)

Product certifications

AMANN products are certified to meet stringent requirements for chemical safety, functional performance and the use of sustainable materials, ensuring reliability and compliance across all applications.

- REACH: AMANN products are REACH-compliant, confirming they are safe for human health and the environment.

- STANDARD 100 by OEKO-TEX®: This certification guarantees that AMANN products are tested for harmful substances. Many products meet the stricter Appendix 6 criteria, ensuring advanced consumer and environmental safety.
- DIN EN ISO 15797: DIN EN ISO 15797 is the international standard that defines test methods for evaluating workwear and protective clothing in industrial washing and finishing processes, and AMANN threads are certified to meet these requirements for maximum durability and reliability.
- PRO Care certification: For industrial laundry, PRO Care by Hohenstein Laboratories certifies that textiles and sewing components, such as AMANN threads, can withstand repeated industrial washing and finishing processes while maintaining safety, performance, and durability.
- Cradle to Cradle Certified® Gold: AMANN Lifecycle products are Cradle to Cradle Certified® Gold for sustainable design, focusing on material health, recyclability and minimal environmental impact.
- Global Recycled Standard (GRS): The products of AMANN's Recycled line are GRS-certified, verifying the use of recycled materials and adherence to responsible social and environmental practices.

¹ German Global Compact Network office: United Nations Global Compact

A blue and white helicopter is shown in flight, lifting a large cargo basket filled with red and blue containers. The helicopter is positioned in the upper center of the frame, with its main rotor blades blurred from motion. The cargo basket is suspended below the helicopter by several ropes and is filled with numerous red and blue containers, likely fuel or oil drums. The background is a dramatic sky with large, white, fluffy clouds. The overall scene suggests a heavy-lift operation in a rugged or remote environment.

WORKWEAR AND TECHTEX

WORKWEAR AND TECHTEX

Special sewing threads for technical applications

All over the world technical textiles are gaining more relevance. They provide high-tech solutions, replacing more traditional materials and can be bonded with other materials for new combinations. Whether our threads are required for textile construction, the industrial or apparel sector – technical textiles are always high-tech, innovative products with special physical, chemical and application-technical characteristics. Their development is shaped by demanding requirement profiles, and for security-related applications by norms, specifications and directives. Their functionality must also be reflected in the seams.

The seam is an essential feature within technical textiles. It provides a flexible and secure connection for the manufacture of complex two or three dimensional products. Embroidery technology is also utilised for technical textiles, for example in the production of fibre composite materials (composites and textile heating systems).

Whether sewn, embroidered or woven, sewing threads inserted into the textile material must maintain or fulfil the function and the sometimes very demanding requirements of the entire product. For

this, special sewing threads are frequently required. AMANN's technically oriented product range offers such solutions, among others for protective clothing, outdoor textiles, filters, smart textiles, composites, lifting and restraint systems and many more.

AMANN is a specialist in these fields and our extensive range of Tech-X Performance Threads offers the perfect solution for every complex requirement.

AMANN Technical Advisory Services (TAS)

As strong and reliable as our yarns: Advice on sewing and embroidery technology is one of our core competencies, which we are continuously expanding with the aid of various test and analysis procedures. In our ultra-modern AMANN Technical Advisory Services (TAS), we put our products through their paces and analyse them down to the smallest fibre. This puts us in a position to keep our quality promise and enables us to constantly expand our specialist knowledge.

The team at our technology centre provides solid and reliable advice for all issues relating to applications and products. We are happy to pass on our

knowledge to you in individual customer workshops, technical seminars or specialist lectures. Based on decades of experience and cutting-edge know-how, we support you in all questions concerning your business, whether you want to increase your productivity or precisely calculate your material requirements. You can also count on us for special topics – from the development of sewing technology to processing testing.

Our application-oriented consulting knows literally no limits: our experts are at your side worldwide. We are always up to the minute when it comes to the processing of new materials.

A woman with brown hair tied back, wearing a bright blue work jacket and a yellow hard hat, is focused on her work. She is using a screwdriver with a red handle to work on a metal structure. The background shows a large industrial building with a corrugated metal roof.

**AMANN products
for workwear:**

- Saba
- Isacord Recycled
- Strongcore
- Outdoor-Pro

WORKWEAR

WORKWEAR

Technical sewing threads for workwear – maximum performance for the most demanding requirements

Workwear is as diverse as the professions in which it is worn – but all applications have one thing in common: they require robust, durable and reliable sewing threads. Whether classic workwear in the crafts sector, leasing wear in the healthcare industry or representative corporate wear – the seams must remain reliable even under heavy use.

AMANN offers a comprehensive portfolio of technical sewing threads that are specially tailored to the requirements of various workwear segments:

- **Workwear**, such as overalls and protective jackets require high-strength, abrasion- and tear-resistant threads that can withstand mechanical stress and harsh environments.

- **Leasingwear**, such as kasacks or smocks in the medical sector, must withstand countless industrial washing and drying cycles (in accordance with ISO 15797). Sewing threads that are dimensionally stable, colourfast and resistant to chemicals are used here.
- **Corporate Wear**, such as business shirts or service clothing, places particularly high demands on appearance, seam appearance and care resistance. Our threads guarantee uniform processing, lasting colour brilliance and high wash resistance – even with frequent use.

With our sewing threads for workwear, you can rely on technical precision, reliable processing and maximum durability – from industrial production to everyday use on the job.

Application fields:

- Workwear
- Leasingwear
- Corporate wear





Product properties:

- AMANN's all-rounder for workwear and leasingwear
- High-performing, outstanding sewing behaviour
- Ideal abrasion resistance and strength properties
- Great in tickets and colours
- Textile appearance
- For closing and topstitch seams
- For matt embroidery
- Excellent colour fastness, Pro-Care certified for industrial laundry according to DIN EN ISO 15797

Ticket no.	Tex no.	Needle size min (in Nm)	Needle size min (in No.)	Make-up
8	400	200	25	800 m Co
12	260	150	23	1.100 m Co
18	200	140	22	1.400 m Co
30	105	110	18	10x300 m XW 3.000 m Co
35	80	100	16	5.000 m Co
50	60	90	14	10x500 m XW 2.500 m Co
80	40	80	12	10x1.000 m XW 5.000 m Co
100	30	75	11	10x1.000 m XW 5.000 m Co
120	24	65	9	10x1.000 m XW 5.000 m Co
150	21	55	7	10x1.000 m XW 5.000 m Co
180	18	50	6	5.000 m Co

Co =  XW = 

Raw material:

- Polyester/polyester

Construction type:

- Core spun

Applications:

- Workwear: e.g. work overalls
- Leasingwear: e.g. hospital clothing
- Corporate wear: e.g. clothes embroidered with corporate logo

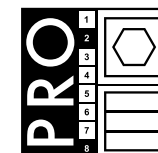
Certifications:



STANDARD
100



93.0.4233
Hohenstein



Product properties:

- The universal machine embroidery thread for robust embroidery
- Made from 100% recycled polyester
- Available as GRS certified
- Abrasion-resistant, robust, perfect embroidery properties
- Excellent colour fastness, Pro-Care certified for industrial laundry according to DIN EN ISO 15797
- The ideal choice for manufacturing sustainable products

Ticket no.	Tex no.	Needle size min (in Nm)	Needle size min (in No.)	Make-up
40	27	65	9	10x1.000 m KS 5.000 m KS

FS/KS = 

Raw material:

- 100% recycled Polyester

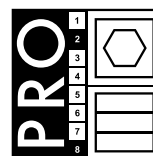
Construction type:

- Continuous filament, trilobal

Applications:

- Workwear: e.g. embroidery on work overalls
- Leasingwear: e.g. embroidery on hospital clothing
- Corporate wear: e.g. clothes embroidered with corporate logo

Certifications:



Product properties:

- The robust, bonded sewing thread for workwear exposed to high abrasion
- Brilliant colours, textile look & feel
- For seams with maximum durability
- Best sewing performance
- For multidirectional sewing

Raw material:

- Polyamide 6.6

Construction type:

- Continuous filament, bonded

Main application:

- Workwear: work shoes, work jackets, work trousers
- Others: any type of shoes, bags, suitcases, belts and further leather goods

Ticket no.	Tex no.	Needle size min (in Nm)	Needle size min (in No.)	Make-up
20	135	160	23	1.500 m FS 3.000 m FS
30	90	140	22	2.500 m FS 4.100 m FS
40	70	120	19	3.500 m FS 7.000 m FS
60	45	100	16	4.500 m FS

FS/KS = 

Certifications:



Product properties:

- The ideal sewing thread for workwear exposed to extreme weather conditions
- Equipped with our PFAS-free water-repellent finish as standard
- Brilliant colours, textile look and feel
- Specially suited for multidirectional sewing
- Excellent UV resistance due to premium dyestuffs
- Weathering test according to ISO 4892-1 and ISO 4892-2 (DIN EN ISO 12402-7) and cold storage at -30°C

Ticket no.	Tex no.	Needle size min (in Nm)	Needle size min (in No.)	Make-up
10	270	200	25	1.400 m FS
15	210	180	24	1.900 m FS 8.500 m FS
20	135	130	21	1.500 m FS 3.000 m FS
30	90	110	18	2.300 m FS
40	70	100	16	5.500 m FS
60	45	90	14	4.000 m FS

FS/KS = 

Raw material:

- Polyester

Construction type:

- Continuous filament, bonded

Main application:

- Workwear: work shoes, work jackets, work trousers
- Outdoor textiles: e.g. boat and pool covers, sails, tents and awnings

Certifications:





PROTECTIVE CLOTHING

AMANN products for protective clothing:

- N-tech
- N-tech CS
- K-tech
- Kc-tech
- A-tech
- A-tech CS
- Nc-tech

PROTECTIVE CLOTHING

Special sewing threads for protective clothing and other heat-protective applications

Flame and heat protection is required in the most varied applications. The challenge is protecting the wearer and environment from life threatening situations involving fire and heat. The manufacturing of heat protective clothing is tightly controlled by norms, regulations and partly by individual product specifications. In general, those norms and specifications do not actually specify the sewing thread to be used. The test parameters refer to the complete item of clothing; the threads are examined as a whole. The seams have to fulfil the same requirements in the test as the garment fabric. This means that in the limited flame spread test method the seams are exposed to the flame as well.

All AMANN aramids products have been examined according to the DIN EN ISO 15025 test standard. So, they can fulfill the requirements of DIN EN ISO 11.611, DIN EN ISO 11.612, DIN EN ISO 14.116 and DIN EN 469.

When the seams are on the inside and therefore protected from direct heat transmission or an open flame source, AMANN threads from our standard product range such as Saba or Rasant can be used. Generally

speaking, the manufacturing of heat protective textiles does not necessarily have to involve special sewing threads. Should specified test standards allow the application of conventional sewing threads, then for the sake of economy and a more varied choice of colours, this may be an option. The manufacturing of heat protective textiles usually requires the application of special sewing threads to fulfil temperature resistance requirements. For this purpose, sewing threads made from meta or para-aramids are proven products. They neither burn nor melt and carbonise or decompose only after a long exposure to high temperatures. After clearing the fire source, they are self-extinguishing. Aramid sewing threads thus constitute an essential part of the many specifications and regulations for the production of heat protective clothing for the military, police, fire brigade and many other profession sectors. They enable raw material uniformity of sewing thread and sewn material. Therefore, the entire garment fulfils the function profile.

Application fields:

- Fire prevention and heat protection (e.g. fire brigade)
- Blast furnace and smelters
- Motor racing
- Bullet-proof vests (e.g. police)
- and much more





Product properties:

- High-performance meta-aramid special sewing and embroidery thread
- For flame-retardant and heat-protective applications
- Self-extinguishing and non-melting
- Permanent temperature resistance up to approx. 200°C
- Decomposition temperature at approx. 370°C
- Burning behaviour tested according to DIN EN ISO 15025
- Pro-Care certified for industrial laundry according to DIN EN ISO 15797

Ticket no.	Tex no.	Needle size min (in Nm)	Needle size min (in No.)	Make-up
40	75	100	16	3.000 m Co
70	40	80	12	10x1.000 m XW 5.000 m Co

Co =  XW = 

Raw material:

- Nomex® DuPont™ meta-aramid

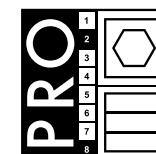
Construction type:

- Schappe spun

Main application:

- Protective clothing: heat-protective clothing, racing clothing, work boots
- Filtration: hot-gas filtration
- Other: flame-retardant textiles (e.g. airplane seats, curtains)

Certifications:



Product properties:

- High-performance meta-aramid special sewing and embroidery thread
- For flame-retardant and heat-protective applications
- Self-extinguishing and non-melting
- Permanent temperature resistance up to approx. 200°C
- Decomposition temperature at approx. 370°C
- Burning behaviour tested according to DIN EN ISO 15025
- Pro-Care certified for industrial laundry according to DIN EN ISO 15797
- Certification according to the strict safety requirements of UL

Ticket no.	Tex no.	Needle size min (in Nm)	Needle size min (in No.)	Make-up
70	40	80	12	10x1.000 m XW 5.000 m Co
120	25	70	10	5.000 m Co

Co =  XW = 

Raw material:

- Nomex® DuPont™ meta-aramid

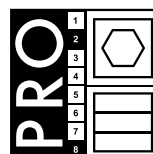
Construction type:

- Cut staple spun

Main application:

- Protective clothing: heat-protective clothing, racing clothing, work boots, flame-retardant underwear
- Filtration: hot-gas filtration
- Other: flame-retardant textiles (e.g. airplane seats, curtains)

Certifications:



A-tech



Product properties:

- Meta-aramid special sewing & embroidery thread for flame-retardant and heat-protective applications
- Self-extinguishing and non-melting
- The powerful alternative to Nomex®
- Permanent temperature resistance up to approx. 200°C
- Decomposition temperature at approx. 370°C
- Burning behaviour tested according to DIN EN ISO 15025

Ticket no.	Tex no.	Needle size min (in Nm)	Needle size min (in No.)	Make-up
70	40	80	12	1.000 m Co 5.000 m Co

Co = 

Raw material:

- NEWSTAR® Yantai meta-aramid

Construction type:

- Schappe spun

Main application:

- Protective clothing: heat-protective clothing, racing clothing, work boots
- Filtration: hot-gas filtration
- Other: flame-retardant textiles (e.g. airplane seats, curtains)

Certifications:



Product properties:

- Meta-aramid special sewing & embroidery thread for flame-retardant and heat-protective applications
- Self-extinguishing and non-melting
- The powerful alternative to Nomex®
- Permanent temperature resistance up to approx. 200°C
- Decomposition temperature at approx. 370°C
- Burning behaviour tested according to DIN EN ISO 15025

Ticket no.	Tex no.	Needle size min (in Nm)	Needle size min (in No.)	Make-up
40	75	100	16	3.000 m Co
70	40	80	12	5.000 m Co
120	25	70	10	5.000 m Co

Co = 

Raw material:

- NEWSTAR® Yantai meta-aramid

Construction type:

- Cut staple spun

Main application:

- Protective clothing: heat-protective clothing, racing clothing, work boots, work gloves, fire-retardant underwear
- Filtration: hot-gas filtration
- Other: flame-retardant textiles (e.g. airplane seats, curtains)

Certifications:



Product properties:

- Para-aramid special sewing thread for applications with high requirements on cut protection
- Also suitable for flame and heat protection
- Permanent temperature resistance up to approx. 170°C
- Decomposition temperature at approx. 425°C
- Burning behaviour tested according to DIN EN ISO 15025

Raw material:

- Kevlar® DuPont™ para-aramid

Construction type:

- Schappe spun

Main application:

- Protective clothing: cut-protective gloves, trousers, jackets

Ticket no.	Tex no.	Needle size min (in Nm)	Needle size min (in No.)	Make-up
35	80	120	19	3.000 m Co
50	60	110	18	3.000 m Co
75	40	100	16	5.000 m Co

Co = 

Certifications:



Product properties:

- Extremely high-performing para-aramid special sewing thread for cut protection
- Also suitable for heat-protective applications
- Self-extinguishing and non-melting
- Permanent temperature resistance up to approx. 170°C
- Decomposition temperature at approx. 425°C
- Burning behaviour tested according to DIN EN ISO 15025

Ticket no.	Tex no.	Needle size min (in Nm)	Needle size min (in No.)	Make-up
22	135	130	21	ca. 500 g/ 3.000 m FS

FS/KS = 

Raw material:

- Kevlar® DuPont™ para-aramid

Construction type:

- Continuous filament, bonded

Main application:

- Protective clothing: cut-protective shoes, bullet-proof vests
- Others: safety belts, for example in airplanes

Certifications:



Product properties:

- Meta-aramid special sewing thread for highest requirements in flame-retardant and heat-protective applications
- Self-extinguishing, non-melting, robust and extremely durable
- Permanent temperature resistance up to approx. 200°C
- Decomposition temperature at approx. 370°C
- Burning behaviour tested according to DIN EN ISO 15025

Ticket no.	Tex no.	Needle size min (in Nm)	Needle size min (in No.)	Make-up
20	140	120	19	1.000 m FS
34	95	120	19	1.500 m FS
40	70	110	18	2.000 m FS
60	45	100	16	3.000 m FS

FS/KS = 

Raw material:

- Nomex® DuPont™ meta-aramid

Construction type:

- Continuous filament

Main application:

- Protective clothing: heat-protective clothing (e.g. protective gloves), heavy-duty safety shoes, racing clothing
- Other: flame-retardant textiles (e.g. airplane seats)

Certifications:



COMING
SOON

Ac-tech

Product properties:

- Meta-aramid special sewing & embroidery thread for flame-retardant and heat-protective applications
- Self-extinguishing and non-melting
- The powerful alternative to Nomex®
- Permanent temperature resistance up to approx. 200°C
- Decomposition temperature at approx. 370°C
- Burning behaviour tested according to DIN EN ISO 15025

Ticket no.	Tex no.	Needle size min (in Nm)	Needle size min (in No.)	Make-up
60	45	100	16	2.000 m FS

FS/KS = 

Raw material:

- NEWSTAR® Yantai meta-aramid

Construction type:

- Continuous filament

Main application:

- Protective clothing: heat-protective clothing (e.g. protective gloves), heavy-duty safety shoes, racing clothing
- Other: flame-retardant textiles (e.g. airplane seats)





**AMANN products for
antistatic sewing threads:**

- C-tech
- I-tech

ANTISTATIC SEWING THREADS

ANTISTATIC SEWING THREADS

Antistatic sewing threads – reliable dissipation for maximum safety

In areas of application with sensitive electronics, explosive atmospheres or special hygiene requirements, electrostatic charging is a serious risk. Antistatic sewing threads make a decisive contribution to safety here – by specifically dissipating charges via the seams of the clothing or product. AMANN offers conductive sewing threads that have been specially developed for applications where electrostatic discharge is required and ignition prevention and electrostatic control are crucial. Conductive fibres – such as stainless steel or carbon components – are

integrated into the thread construction to ensure reliable, permanent conductivity without compromising mechanical strength or seam quality.

Typical fields of application:

- **Cleanroom and protective clothing** in the microelectronics, semiconductor and pharmaceutical industries
- **Safety shoes** with conductive seams as part of the ESD concept
- **Filtration systems** in which sparking due to electrostatic charging must be prevented

In dependence on **DIN 54345-5** our sewing threads C-tech and I-tech are able to dissipate electrostatic charges if earthed or connected with earth contact.

Safety begins in the details – with antistatic sewing threads from AMANN.

Product properties:

- Special sewing thread with a carbon component for dispersion and decaying of electrical or static charges, for example clean room garments or protective clothing

Raw material:

- Belltron® B31/polyester

Construction type:

- Hybrid thread

Main application:

- Clean room garments and protective clothing, e.g. for the fields of microelectronics or pharmacy

Ticket no.	Tex no.	Needle size min (in Nm)	Needle size min (in No.)	Make-up
80	35	80	12	4.000 m FS

FS/KS = 

Certifications:



Product properties:

- Special sewing thread with a carbon component for dispersion and decaying of electrical or static charges, for example clean room garments or protective clothing

Ticket no.	Tex no.	Needle size min (in Nm)	Needle size min (in No.)	Make-up
20	125	120	19	2.000 m FS

FS/KS = 

Raw material:

- Bekinox® stainless steel
polyester/polyamide

Construction type:

- Hybrid thread

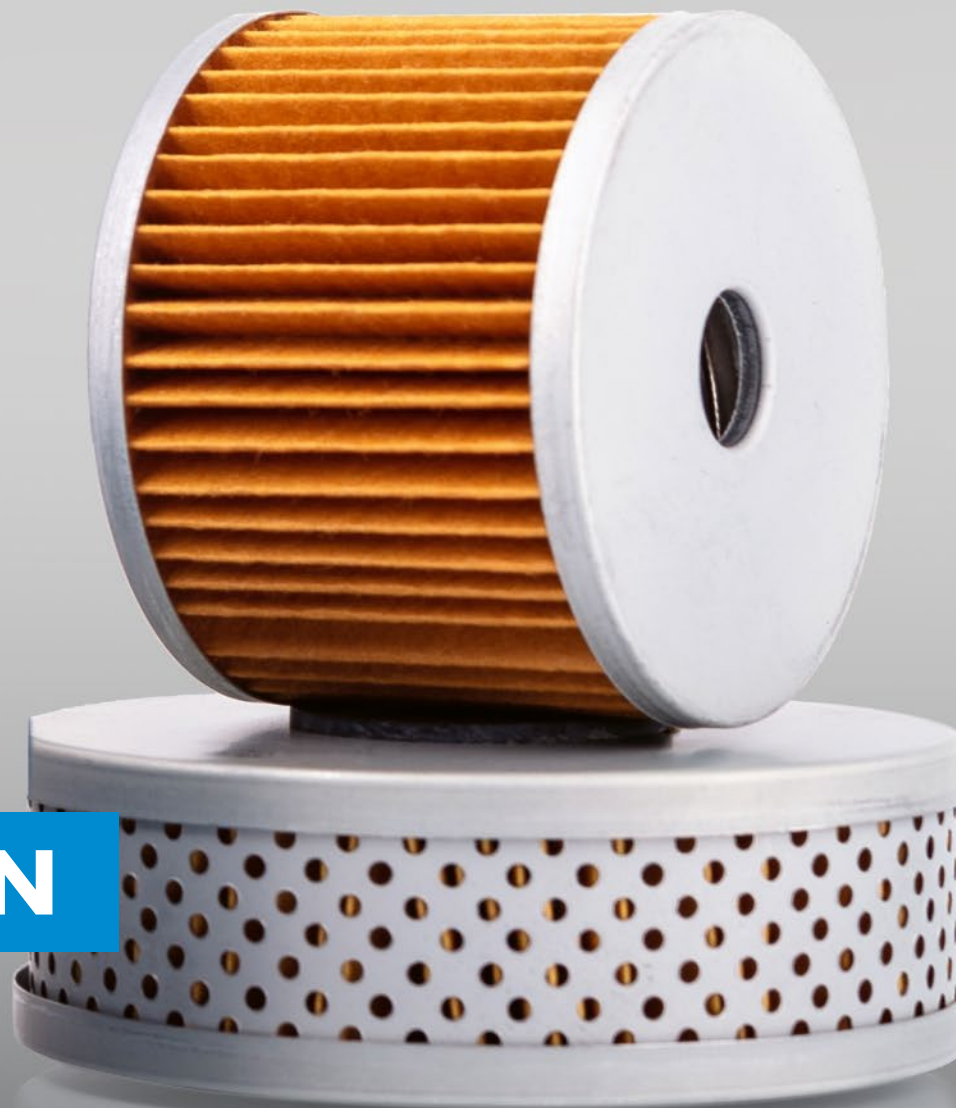
Main application:

- Clean room safety shoes, e. g. for the fields of microelectronics or pharmacy
- Filtration

Certifications:



FILTRATION



**AMANN products
for filtration:**

- PP-tech
- Zyex®

FILTRATION

Special sewing threads for filtration

Technical textiles can be exposed to very different chemical influences. Therefore, seams also have to be resistant to those influences and must keep their characteristics over a long induction period. The seams have to fulfil the same requirements as the fabric it is being processed with. Ideally, the thread and fabric raw material is uniform.

Industrial filtration is a typical application example. Textile filters have to fulfil the most varied and extreme chemical resistance requirements depending on the method and on the filtrate (wet or dry filtration, hot-gas or liquid-gas filtration).



Product properties:

- Special sewing thread for the most extreme requirements in terms of chemical resistance
- Excellent resistance to bases and acids
- Extremely durable under mechanical wear
- Permanent temperature resistance up to approx. 250°C
- Melting point at approx. 330°C

Raw material:

- Peek (Polyetheretherketone)

Construction type:

- Continuous filament

Main application:



- Filtration: solid-liquid separation
- Protective clothing: chemical-protective clothing

Ticket no.	Tex no.	Needle size min (in Nm)	Needle size min (in No.)	Make-up
24	125	120	19	3.000 m FS

FS/KS = 

Product properties:

- Special sewing thread for the filter industry
- High resistance to chemicals

Raw material:

- Polypropylene

Construction type:

- Continuous filament

Ticket no.	Tex no.	Needle size min (in Nm)	Needle size min (in No.)	Make-up
40	85	120	19	3.250 m FS

FS/KS = 

Main application:

- Filtration: wet filtration, solid-liquid filtration



**AMANN products
for smart textiles:**

- Silver-tech
- Silver-tech+

**SMART
TEXTILES**

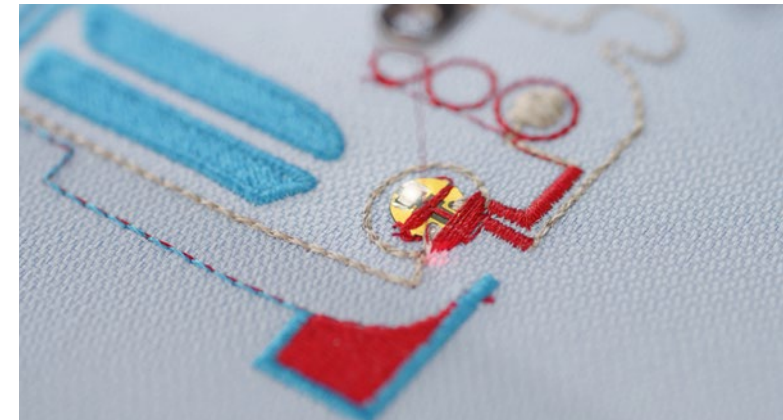
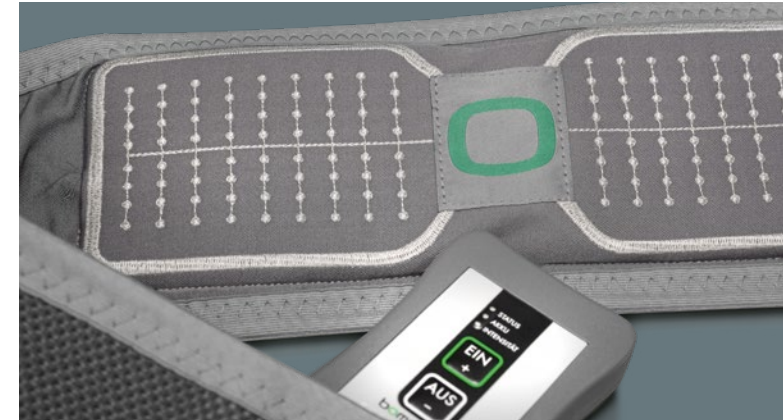
SMART TEXTILES

Smart textiles – connected functionality thanks to conductive sewing and embroidery threads

In the world of smart textiles, textile materials are merging with innovative technologies to create intelligent solutions. Electrically conductive sewing and embroidery threads play a key role here, as they can be integrated into textile systems as flexible connecting elements, sensor or actuator components.

Thanks to their electrical conductivity, these special yarns enable the transfer of energy or data directly within a textile carrier. They are ideal for applications such as:

- Sensors for wearables for recording body data such as temperature or movement,
- Heated textiles, e.g. in seating systems, outdoor clothing or medical products,
- Signal transmission in industrial areas, e.g. for control or status monitoring.



Silver-tech

Product properties:

- Special sewing and embroidery thread with a silver coating
- For conductive seams and surfaces
- Textile electrodes as sensors and actuators
- For seam positions that require antimicrobial characteristics

Raw material:

- Silver coated polyamide/polyester

Construction type:

- Hybrid thread

Ticket no.	Tex no.	Needle size min (in Nm)	Needle size min (in No.)	Make-up	Electric resistance
50	62	90	14	1.500 m FS	< 150 Ω /m
120	28	75	11	2.500 m FS	< 530 Ω /m

FS/KS = 

Main application:



- Smart textiles: e.g. textile electrodes as sensors and actuators
- Medtech: e.g. for smart orthoses, prostheses, or electronic muscle stimulation (EMS)

Certifications:



Product properties:

- Special sewing and embroidery thread with a silver coating
- For conductive seams and surfaces
- Maximum conductivity
- Fully conductive surface
- Textile electrodes as sensors and actuators
- For seam positions that require antimicrobial characteristics

Ticket no.	Tex no.	Needle size min (in Nm)	Needle size min (in No.)	Make-up	Electric resistance
100	33	75	11	2.000 m KS	< 200 Ω/m
150	22	70	10	2.500 m KS	< 300 Ω/m

FS/KS = 

Raw material:

- Silver coated polyamide

Construction type:

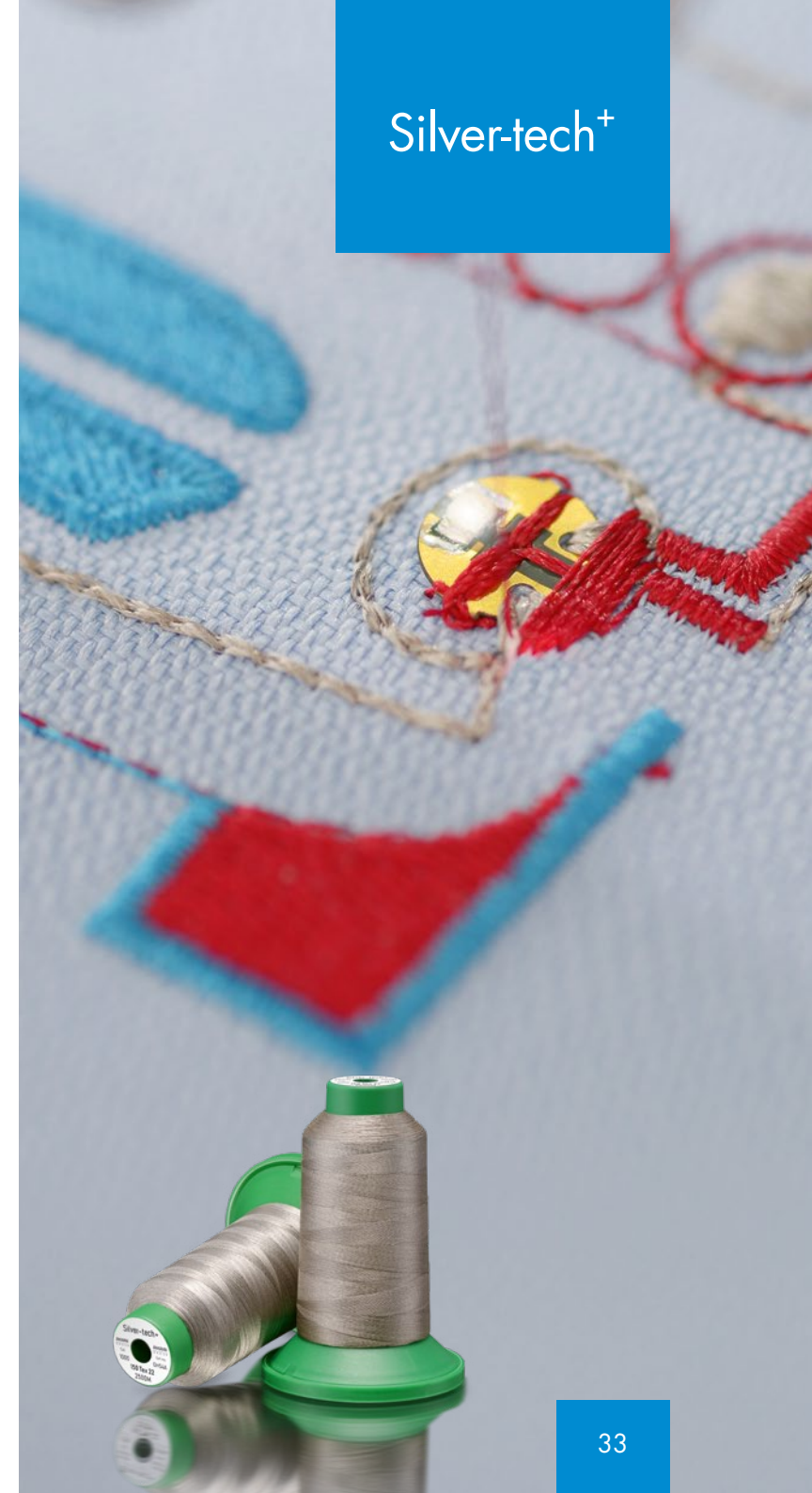
- Continuous filament

Main application:



- Smart textiles: e.g. textile electrodes as sensors and actuators
- Medtech: e.g. for smart orthoses, prostheses, or electronic muscle stimulation (EMS)

Certifications:



**AMANN products for
further applications:**

- Xtreme-tech with Dyneema®
- Basalt-tech
- Serafil Comphil
- Onyx Comphil

FURTHER SPECIAL SEWING THREADS

FURTHER SPECIAL SEWING THREADS

Further special technical sewing threads

Thread follows function. According to this principle, AMANN's product range offers other special sewing threads. Whether for lifting and restraint systems, scour protection for wind turbines, or special protective clothing: AMANN offers customised sewing threads, which are aligned with ever new requirement profiles of technical textiles.



Xtreme- tech with Dyneema®

Product properties:

- High-tenacity special sewing thread made from Dyneema®
- Maximum strength at minimum weight: 15 times stronger than steel
- High resistance to UV-light, chemicals and water
- Extremely abrasion-resistant
- Maximum strength can be reached in combination with fabric made from Dyneema®

Ticket no.	Tex no.	Needle size min (in Nm)	Needle size min (in No.)	Make-up
15	220	160	23	1.000 m FS
20	150	160	23	1.500 m FS
40	65	110	18	3.000 m FS

FS/KS = 

Raw material:

- Dyneema®, HPPE (high performance polyethylene)

Construction type:

- Continuous filament, bonded

Main application:



- Lifting and restraint systems: climbing equipment, fixation of freight containers
- Protective clothing: safety shoes, safety gloves
- Other: hand gliders, fishing nets

Certifications:



Product properties:

- The first sewing thread made out of Basalt stone fibres
- Natural product as made from 100% basalt
- Combines most diverse features in one thread: Non-conductive, resists chemicals, corrosion, rot and UV
- Extremely high temperature resistance: continuous temperature resistance up to approx. 650°C, softening temperature at approx. 1050°C

Ticket no.	Tex no.	Needle size min (in Nm)	Needle size min (in No.)	Make-up
10	300	160	23	3.300 m FS

FS/KS = 

Raw material:

- Basalt

Construction type:

- Continuous filament

Main application:



- Scour protection for wind turbines

Certifications:



Product properties:

- Thread with finish that is specially developed for composites
- Optimised sewing/embroidery performance without adhesion-inhibiting properties towards composite matrix
- For fixing carbon or fibreglass rovings by TFP embroidery method (Tailored Fibre Placement)

Raw material:

- Polyester

Construction type:

- Continuous filament with special finish

Main application:



- Composites: e.g. sports equipment/gear, prostheses, automotive and aerospace

Ticket no.	≙ Embroidery ticket	Tex no.	Needle size min (in Nm)	Needle size min (in No.)	Make-up
60	25	45	80	12	5.000 m FS
180	60	16	65	9	10.000 m KS
300	75	10	60	8	15.000 m KS

FS/KS = 

Product properties:

- Thread with finish that is specially developed for composites
- Optimised sewing performance without adhesion-inhibiting properties towards composite matrix
- For sewing carbon or fibreglass textiles used for composites

Ticket no.	Tex no.	Needle size min (in Nm)	Needle size min (in No.)	Make-up
60	45	90	12	5.000 m FS

FS/KS = 

Raw material:

- Polyamide 6.6

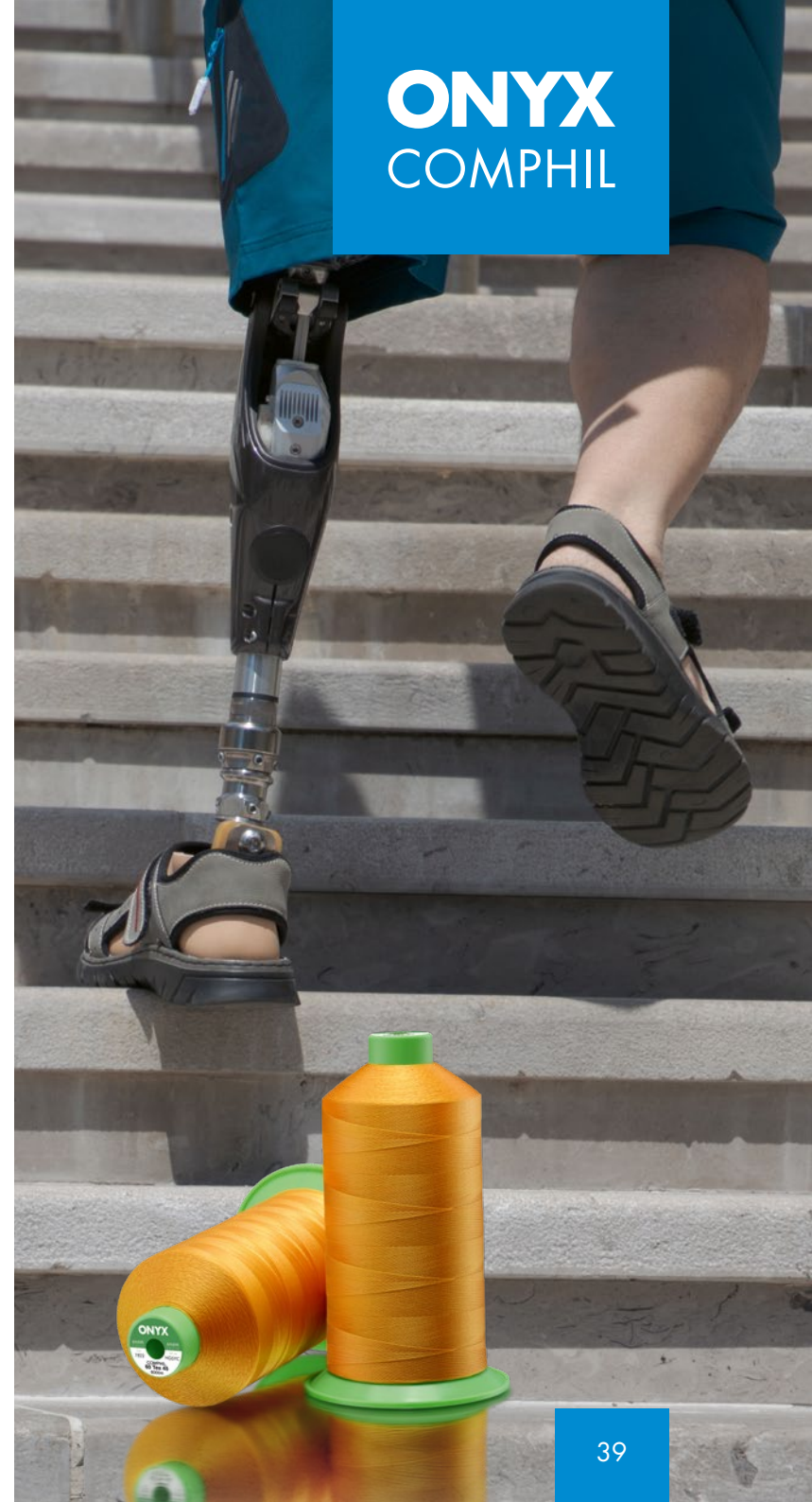
Construction type:

- Continuous filament with special finish

Main application:



- Composites: e.g. sports equipment/gear, prostheses, automotive and aerospace





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