



AMANN GROUP

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. In close cooperation with its customers, AMANN develops sewing and embroidery threads, as well as smart yarns for tomorrow's market requirements.

More than 2,600 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 Bönnigheim, Germany.

Automotive applications place outstanding demands upon materials and processes. This requires innovative and reliable thread components: ideally balanced twist and elongation level, highest strength level, and highly consistent finishings in combination with a perfectly adjusted precision winding process guarantee our customers the best processing and seam performance. This results in higher production efficiency and reduced scrap rates.

AMANN's highly engineered sewing threads are developed and manufactured in close cooperation with the automotive industry. Full dedication to the customers' needs and requirements is what drives AMANN. This ongoing commitment ensures that AMANN is the preferred supplier of the global automotive industry – today and in the future.

CERTIFICATION & SAFETY

At AMANN, customer expectations regarding performance, reliability and technical expertise, as well as the quality and environmental compatibility of the products are an obligation and a motivation at the same time. Continuous compliance with the high-quality standards at AMANN Group is ascertained by the certification for quality management according to DIN EN ISO 9001.

ENVIRONMENTAL MANAGEMENT

AMANN's resource-friendly approach and its strive to keep the environmental impact as low as possible is documented by the certification in accordance with the DIN EN ISO 14001 environmental management system.

QUALITY COMMITMENT

The fulfilment of the process-oriented quality commitment for a safe production environment is proven by the certification under the strict IATF 16949 standards.



SERVICE

From development to production and everyday customer support, quality, precision and a great deal of creativity and passion characterise AMANN's performance.

RELIABILITY

Based on its vast expertise in the production of sewing and embroidery threads, AMANN has been serving the global textile industry for decades. AMANN is a reliable partner for the automotive industries and offers professional product solutions for all applications.

INTERNATIONAL SALES TEAM

AMANN's direct points of contact all over the world facilitate a more personal communication and have comprehensive understanding for the requirements and procedures within the international automotive industry.

COLOUR COMPETENCE

Colour is an essential aspect within automotive interior design concepts. The AMANN colour competence center utilises state-of-the-art technologies and employs experienced experts. A huge colour range that is available worldwide covers the most diverse requirements of all automotive applications and automotive product specifications.

LOGISTICS AND WAREHOUSING

As an internationally leading producer of high-quality sewing and embroidery threads, shipping and warehousing are a part of AMANN's daily business. Just-in-time-delivery, flexibility in meeting customer requirements and efficient logistics management – this is what AMANN stands for.

PROCESS & APPLICATION CONSULTING

AMANN's expertise is not limited to the development and production of special threads – we are also a conceptual partner for our customers, offering continuous technical support from project phase to subsequent series supply. Our team of experts bundles automotive expertise and accompanies the entire development process.

Focused on the needs of automobile manufacturers, AMANN has not only the seam but also the entire component in sight. Whether questions about design, seam concepts or safety-relevant components: Together with our AMANN Innovation Lab, we are the common theme along the entire supply chain.

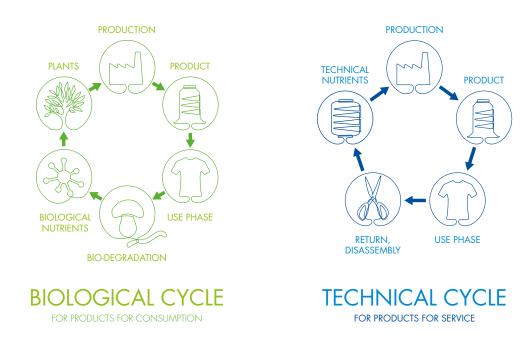


LIFECYCLE OR RECYCLED. AMANN'S SUSTAINABLE SEWING AND EMBROIDERY THREADS

AMANN develops its products in a targeted manner in order to make them not only more sustainable, but also more environmentally friendly through the use of selected recycled and natural materials.

Our sustainable product range consists of two product lines: the Cradle to Cradle Certified® Gold Lifecycle line and the GRS-certified Recycled line.

Cradle to Cradle®, stands for a consistent, continuous recycling management, where no waste is generated, as the Cradle to Cradle® products are either used as biological nutrients in biological cycles, or they are continuously kept in technical cycles as technical nutrients. With our Lifecycle line, we can offer Cradle to Cradle Certified® Gold sewing threads for both cycles: Lifecycle Cotton for the biological cycle and Lifecycle Polyamide for the technical cycle.



Our high-quality sewing and embroidery threads from the Recycled line are made from 100% recycled, transparent PET bottles and are certified according to the Global Recycled Standard (GRS). They have the same quality features as our excellent range products, for instance in terms of breaking strength, abrasion resistance and sewability.

The finish of our sewing threads is also systematically optimised. For example, in the production of water-repellent sewing threads, we have replaced environmentally harmful perfluorocarbons (PFCs) with environmentally compatible alternatives. Our eco-friendly WRe finish is available for Serafil WRe, Onyx WRe and Saba WRe. As a globally operating company, we also focus on sustainable, fair and safe production processes worldwide.



POLYESTER CONTINUOUS FILAMENT

- the outstanding product for interior design concepts
- for decorative and closing seams
- excellent colour fastness and UV resistance
- high seam strength
- best sewing performance with perfect stitch formation
- suitable for coarse decorative embroidery

| Ticket no. | Tex no. | Needl | Make-up | |
|--|---|---------|---------|-------------|
| | AND DESCRIPTION OF THE PERSON | Nm | No. | |
| 8 | 350 | 200-260 | 25-28 | 850 m FS |
| The same of the sa | | | | kg FS |
| 10 | 270 | 180-220 | 24-26 | 300 m FS |
| Marie Control | | | | 1.000 m FS |
| 15 | 210 | 150-180 | 23-24 | 450 m FS |
| 20 | 135 | 120-140 | 19-22 | 600 m FS |
| | | | | 2.500 m FS |
| 25 | 110 | 110-140 | 18-22 | 3.000 m FS |
| 30 | 90 | 100-130 | 16-21 | 900 m FS |
| | | | | 4.000 m FS |
| 40 | 70 | 90-120 | 14-19 | 1.200 m FS |
| | | | 1 | 5.000 m FS |
| 60 | 45 | 80-110 | 12-18 | 1.800 m FS |
| | | | | 5.000 m FS |
| 80 | 30 | 70-110 | 10-18 | 3.200 m FS |
| | | | | 10.000 m FS |
| 120 | 24 | 70-80 | 10-12 | 4.000 m FS |
| 180 | 16 | 65-70 | 9-10 | 5.000 m FS |
| ALCOHOLD TO | Color Maria | | | |

FS/KS =

Serafil



POLYESTER CONTINUOUS FILAMENT

- WRe = water-repellent and eco-friendly
- free from harmful chemicals
- for water-repellent closing and decorative seams
- excellent colour fastness to artificial light at high temperatures
- high seam strength
- best sewing performance with perfect stitch formation

| Ticket no. | Tex no. | Needle Nm | e size No. | Make-up | No. of colours |
|------------|---------|--------------|---------------|------------|----------------|
| 10 | 270 | 180-220 | 24-26 | 1.000 m FS | on request |
| 100 | | | | 300 m FS | on request |
| 15 | 210 | 150-180 | 23-24 | 450 m FS | on request |
| 20 | 135 | 120-140 | 19-22 | 600 m FS | on request |

FS/KS =



POLYESTER CONTINUOUS FILAMENT, TRILOBAL

- for special design effects
- for brilliant seams with a higher gloss level
- excellent colour fastness to artificial light at high temperatures
- high seam strength
- best sewing performance with perfect stitch formation

| Ticket no. | Ticket no. Tex no. Needle size | | e size | Make-up | No. of colours |
|------------|--------------------------------|---------|--------|------------|----------------|
| | | Nm | No. | | |
| 20 | 135 | 120-140 | 19-22 | 600 m FS | 1 |
| | | | | 2.400 m FS | on request |

FS/KS =

POLYESTER CONTINUOUS FILAMENT

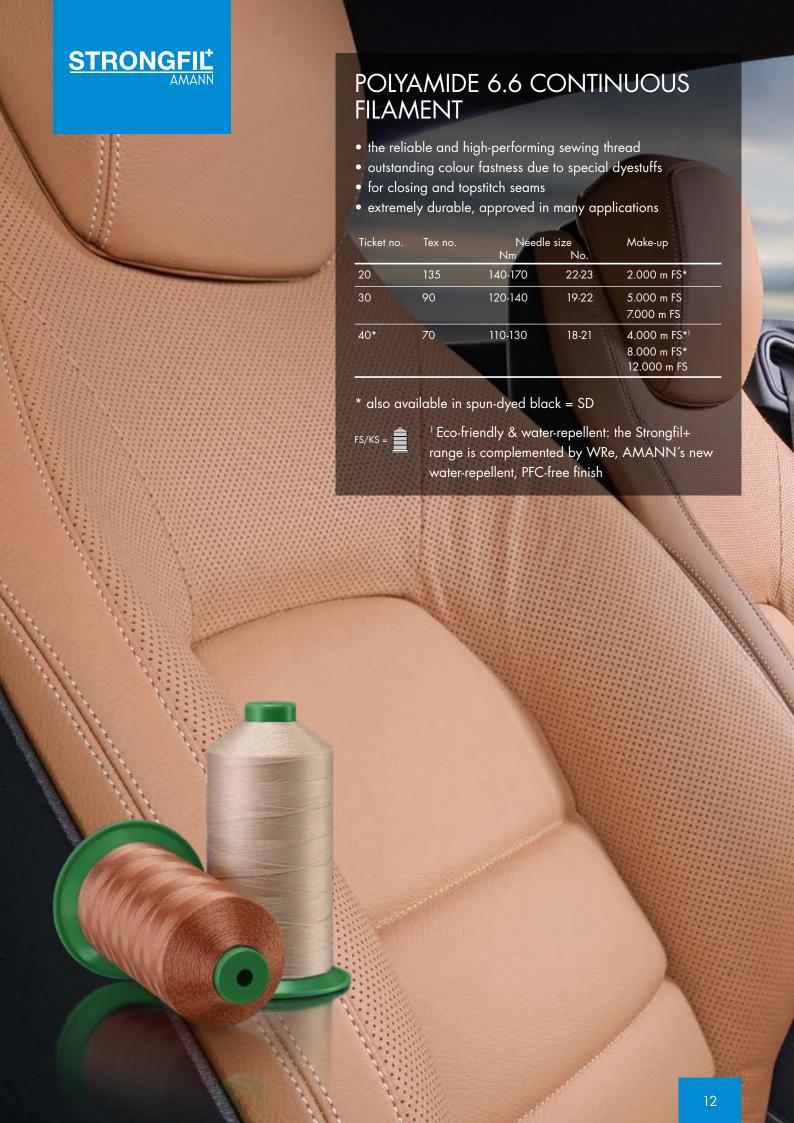
- spun dyed black
- very high tensile strength
- excellent colour fastness to artificial light at high temperatures
- high seam strength
- best sewing performance with perfect stitch formation

| Ticket no. | Tex no. | Needl Nm | e size No. | Make-up | No. of colours |
|------------|---------|-------------|---------------|---------------------|-----------------|
| 8 | 350 | 180-230 | 24-26 | kg FS 1.700 m FS | 1 on request |
| 10 | 270 | 160-200 | 23-25 | kg FS 1.350 m FS | 1 1 |
| 13 | 240 | 150-180 | 23-24 | kg FS 1.600 m FS | 1 1 |
| 25 | 90 | 110-130 | 18-21 | 3.000 m FS | on request |
| 30 | 90 | 100-130 | 16-21 | 4.000 m FS | on request |

FS/KS =

Serafilsd







ISACORD

POLYESTER CONTINUOUS FILAMENT, TRILOBAL

- universal machine embroidery thread for brilliant embroidery
- great in colour, great in function
- abrasion-resistant, robust, perfect embroidery properties
- excellent colour fastness

| Ticket no. | Tex no. | Need Nm | lle size No. | Make-up |
|------------|---------|------------|-----------------|-----------------------------|
| 40 | 27 | 65-90 | 9-14 | 10x1.000 m KS 5.000 m KS |

FS/KS =

lsa

Polyester fibre bobbin thread, unbonded

| Ticket no. | Tex no. | Nee | dle size | Make-up | |
|------------|---------|-----|----------|-------------|----|
| | | Nm | No. | | 77 |
| 150 | 18 | | | 10.000 m Co | M |





POLYAMIDE 6.6 CONTINUOUS FILAMENT, BONDED

- safety first: the leading product for airbag cushion manufacturing
- excellent processing reliability
- perfect for multidirectional sewing
- very high seam strength
- high abrasion and temperature resistance

| Ticket no. | Tex no. | Needle Nm | size No. | Make-up |
|------------|---------|--------------|-------------|--------------------------|
| 13 | 260 | 180-200 | 24-25 | 1.000 m FS 2.000 m FS |
| 20 | 175 | 140-160 | 22-23 | 3.000 m FS 4.500 m FS |
| 30 | 112 | 130-160 | 21-23 | 2.500 m FS 5.000 m FS |
| 40 | 85 | 110-130 | 18-21 | 3.500 m FS |
| 60 | 57 | 100-120 | 16-19 | 5.000 m FS |
| 80 | 39 | 90-110 | 14-18 | 9.000 m FS |

Oxcel HT

Polyamide 4.6 continuous filament, bonded

| Ticket no. | Tex no. | Need | Needle size | |
|------------|---------|---------|-------------|------------|
| | | Nm | No. | |
| 20 | 175 | 140-160 | 22-23 | 1.500 m FS |
| | | | | 4.500 m FS |

Wardex

Polyamide 6.6, continuous filament, unbonded

the alternative bobbin thread for airbag processing

| Ticket no. | Tex no. | Needle size | | Make-up |
|------------|---------|-------------|-----|------------|
| | 150 | Nm | No. | |
| 20 | 175 | | | 3.000 m FS |

FS/KS =

Oxcel



15

PASSENGER SAFETY SYSTEMS

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|----|----|---|---|----|
| ΑI | IK | D | А | しっ |

| Product | Major characteristic | Ticket no. | Tex no. |
|--|---|---------------------------|------------------------------|
| Oxcel+ | Multidirectional seams, all airbag applications | WO L | |
| Polyamide 6.6 continuous filament, bonded | Needle & bobbin thread | 13, 20, 30, 40, 60, 80 | 260, 175, 112, 85, 57, 39 |
| Wardex | Offers alternative seam construction | 11/4 | |
| Polyamide 6.6 continuous filament, unbonded | Optional bobbin thread | 20 | 175 |
| Oxcel HT Polyamide 4.6 continuous filament, | Multidirectional seams, high temperature resistance, improved working ability of seam | | |
| bonded | Needle & bobbin thread | 20 | 175 |
| Oxcel HT (lubricated) | Offers alternative thread concept | | |
| Polyamide 4.6 continuous filament, unbonded | Optional bobbin thread | 20 | 175 |
| Para-Aramide Kevlar® DuPont [™] para-aramide continuous | Multidirectional seams, very high strength & extreme temperature resistance | | |
| filament, bonded | Needle & bobbin thread | 20, 20/1 | 160, 130 |

SEATBELT

| Product | Major characteristic | Ticket no. | Tex no. |
|---|---|--------------------------------------|---|
| Serafil Polyester continuous filament, unbonded | Functional seams, very good fastness to light, flat seam appearance, SW=spun-dyed black | 3 | 무스 |
| unbonded | Needle & bobbin thread | 8 SD, 10 SD, 13 SD, 8, 10, 30, 40 | 350 SD, 270 SD, 240 SD 350, 270, 110, 70 |

STEERING WHEEL

| Product | Major characteristic | Ticket no. | Tex no. |
|--|---|-----------------|--------------------|
| Serafil Polyester continuous filament, | Decorative, functional and manual seams, very good fastness to light, *wax finish T90 | 10, 15, 20*, 40 | 270, 210, 135*, 70 |



CAR MAT

| Product | Major characteristic | Ticket no. | Tex no. |
|---|-------------------------------|------------|---------|
| Strongfil+ | Excellent abrasion resistance | | |
| Polyamide 6.6 continuous filament, unbonded | Needle & bobbin thread | 40 | 70 |

CONSOLE

| Product | Major characteristic | Ticket no. | Tex no. |
|---|--|------------|----------|
| Serafil Polyester continuous filament, | Decorative seams, very good fastness to light Needle thread | 15, 20 | 210, 135 |
| unbonded | Bobbin thread | 40 | 70 |

DASHBOARD

| Product | Major characteristic | Ticket no. | Tex no. |
|---|---|----------------------------------|--------------------------|
| Serafil | Decorative seams, very good fastness to light | ams, very good fastness to light | |
| Polyester continuous filament, unbonded | Needle thread Bobbin thread | 15, 20, 30 30, 40 | 210, 135, 110 110, 70 |
| Serafil | Functional airbag seam | | |
| Polyester continuous filament, unbonded | Needle & bobbin thread | 120 | 24 |



DOOR PANEL

| Product | Major characteristic | Ticket no. | Tex no. |
|---|---|--------------------------|--------------------------|
| Serafil | Decorative seams, very good fastness to light | | |
| Polyester continuous filament, unbonded | | thread 15, 20, 30 30, 40 | 210, 135, 110 110, 70 |
| Serafil | Functional airbag seam | | |
| Polyester continuous filament, unbonded | Needle & bobbir | n thread 120 | 24 |

EMBROIDERY

| Product | Major characteristic | Ticket no. | Tex no. |
|---|--|------------|----------|
| Isacord Polyester continuous filament, trilobal | Excellent brilliance of colour, lustrous patterns possible | | |
| | Needle thread Bobbin thread: ISA | 40 150 | 27 18 |

GEAR SHIFT COVER

| Product | Major characteristic | Ticket no. | Tex no. |
|--|---|----------------------|--------------------------|
| Strongfil ⁺ | Decorative seams, excellent abrasion resistance | | |
| Polyamide 6.6 continuous filament, unbonded | Needle thread Bobbin thread | 20 30, 40 | 135 90, 70 |
| Strongfil ⁺ | Functional seams, excellent abrasion resistance | | |
| Polyamide 6.6 continuous filament, unbonded | Needle thread Bobbin thread | 30, 40 30, 40 | 90, 70 90, 70 |
| C [1] | Decorative seams, very good fastness to light | | |
| Serafil Polyester continuous filament, unbonded | Needle thread Bobbin thread | 10, 15, 20 30, 40 | 270, 210, 135 110, 70 |
| Serafil | Functional seams, very good fastness to light | | |
| Polyester continuous filament, unbonded | Needle thread Bobbin thread | 30, 40 30, 40 | 110, 70 110, 70 |

HEADREST

| TIE/ (DICEOT | | | 7 | |
|--|---------------------------------------|--------------------------------------|---|--------------------|
| Product | Major characteristic | | Ticket no. | Tex no. |
| Strongfil ⁺ | Decorative seams, excellent abrasio | n resistance | | |
| Polyamide 6.6 continuous filament, unbonded | | Needle thread Bobbin thread | 20, 40 40 | 135, 70 70 |
| Strongfil ⁺ | Functional seams, excellent abrasion | n resistance | | |
| Polyamide 6.6 continuous filament, unbonded | | Needle thread Bobbin thread | hread 20, 40 1 hread 30, 40 9 hread 30, 40 9 hread 20, 30, 40 1 hread 40 7 hread 40 7 | 90, 70 90, 70 |
| c (I | Decorative seams, very good fastne | ss to light | | |
| Serafil Polyester continuous filament, unbonded | | Needle thread Bobbin thread | | 135, 110, 70 70 |
| Serafil | Functional seams, very good fastnes | ss to light | 1 16 | |
| Polyester continuous filament, unbonded | Set State | Needle thread Bobbin thread | | 135, 70 70 |
| Callata | Excellent cover effect, overlock sear | ns | | |
| Sabatex Polyester continuous filament, texturised | Need | Looper thread dle thread: Serafil | | 35 30 |

SEAT COVER

| Major characteristic | Ticket no. | Tex no. |
|---|---|--|
| Decorative seams, excellent abrasion resistance | | |
| | | 135, 90, 70 90, 70 |
| Functional seams, excellent abrasion resistance | | |
| | | 90, 70 90, 70 |
| Decorative seams, very good fastness to light | | |
| | | 270, 210, 135 135, 110, 70 |
| Functional seams, very good fastness to light | | |
| | | 135, 110 135, 110 |
| Functional airbag seams | | |
| Bobbin three | id 80 | 30 |
| | Decorative seams, excellent abrasion resistance Needle three Bobbin three Functional seams, excellent abrasion resistance Needle three Bobbin three Decorative seams, very good fastness to light Needle three Bobbin three Functional seams, very good fastness to light Needle three Bobbin three Functional airbag seams | Decorative seams, excellent abrasion resistance Needle thread Bobbin thread Needle thread Bobbin thread |

SEATING & INTERIOR SYSTEMS/BONDED PRODUCTS

| Product | Major characteristic | Ticket no. | Tex no. |
|--|---|----------------|------------------------|
| Strongbond [†] | Multidirectional seams, excellent abrasion resistance | | |
| Polyamide 6.6 continuous filament, bonded | Needle & bobbin thread | 20, 30, 40 | 135, 90, 70 |
| Strongbond ⁺ | Functional airbag seams | | |
| Polyamide 6.6 continuous filament, bonded | Needle thread Bobbin thread: Oxcel+ | 30, 40 (80) | 90, <i>7</i> 0 (39) |

CONVERTIBLE SOFT TOP

| Product | Major characteristic | Ticket no. | Tex no. |
|---|---|------------|---------|
| Serafil WRe Polyester continuous filament, unbonded | Functional seams, very good fastness to light, water-repellent finish | | 1 8 |
| | Needle & bobbin threa | ad 20 | 135 |

