



#### 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.

The products from our Lifecycle line are Cradle to Cradle Certified® Gold and the products from our Recycled line are available as Global Recycled Standard (GRS) certified.



#### **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.

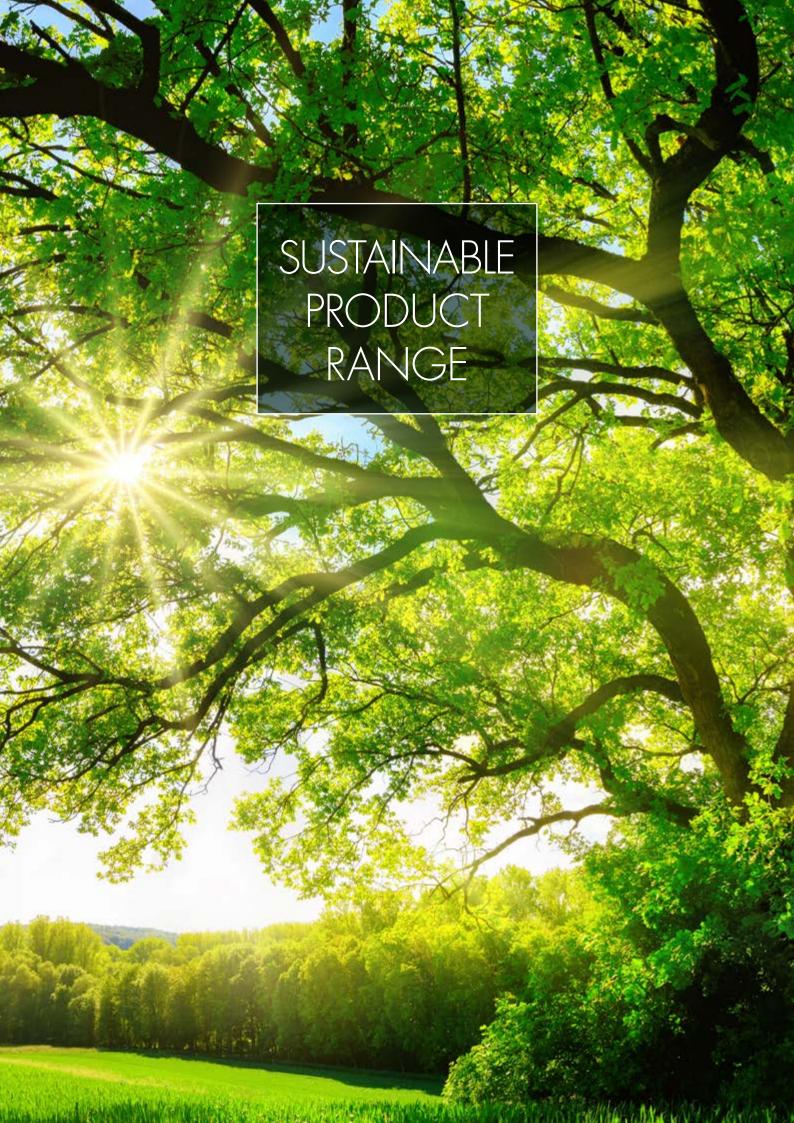
#### LOGISTICS AND WAREHOUSING

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.

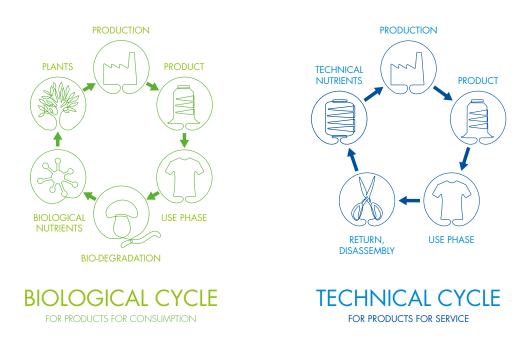


## LIFECYCLE OR RECYCLED. AMANN'S SUSTAINABLE SEWING AND EMBROIDERY THREADS

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. 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.

#### LIFECYCLE 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.



#### RECYCLED LINE

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



## POLYESTER CONTINUOUS FILAMENT, 100% RECYCLED

- AMANN's sustainable thread made from 100% recycled PET bottles
- available as GRS certified
- the outstanding product for seating- and interior design concepts
- for functional and decorative seams
- excellent colour fastness and UV resistance
- high seam strength
- best sewing performance with perfect stitch formation

Ticket no. Tex no.		Needle size		Make-up
	1	Nm	No.	
20	135	120-140	19-22	600 m FS
	1			2.500 m FS
30	90	100-130	16-21	900 m FS
40	70	90-120	14-19	1.200 m FS
		1		5.000 m FS

FS/KS =

# 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
- initial line				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.	Tex no.	Needl	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

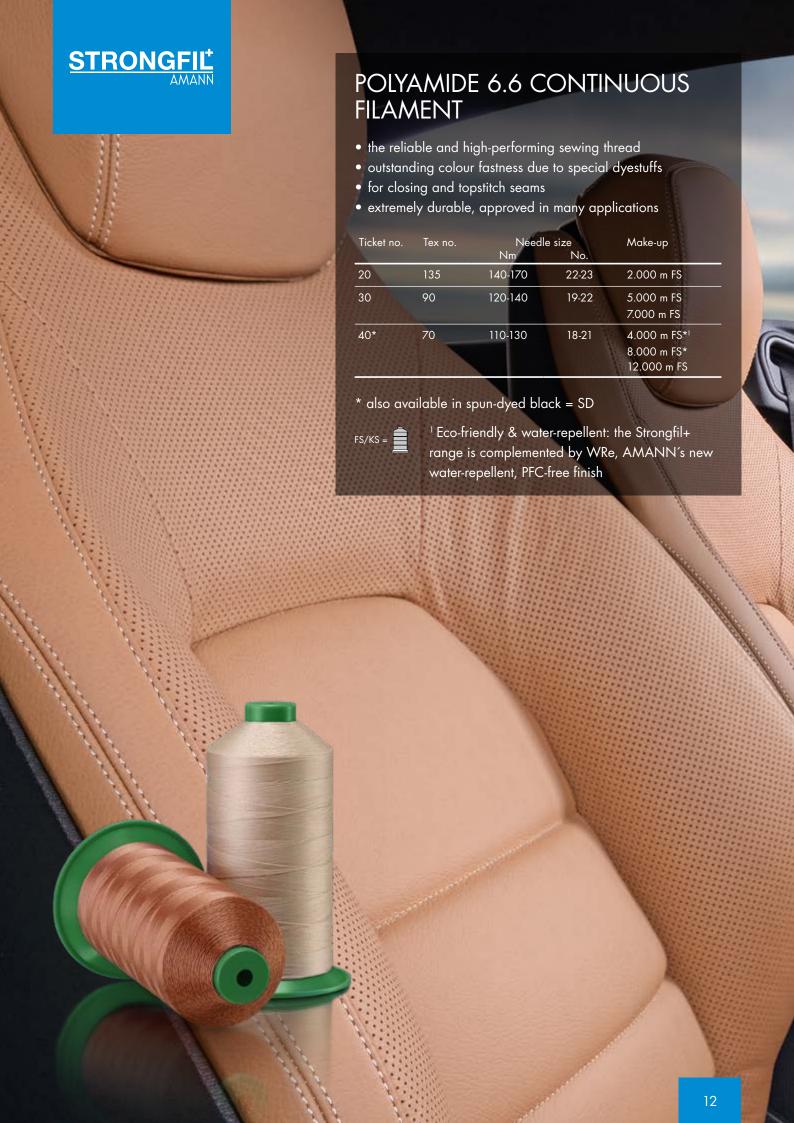
- spun dyed black
- very high tensile strength
- excellent colour fastness to artificial light at high temperatures
- high seam strength
- best sewing performance with perfect stitch formation

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



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## PASSENGER SAFETY SYSTEMS

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Product	Major characteristic	Ticket no.	Tex no.
Oxcel	Multidirectional seams, all airbag applications	WO -	
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	11/2	
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 <sup>™</sup> 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,	Functional seams, very good fastness to light, flat seam appearance, SW=spun-dyed black	4	7.4.
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		
Polyester continuous filament, unbonded	Needle thread Bobbin thread	15, 20, 30 30, 40	210, 135, 110 110, <i>7</i> 0
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 <sup>+</sup>	Decorative seams, excellent abrasion resistance		
Polyamide 6.6 continuous filament, unbonded	Needle thread Bobbin thread	20 30, 40	135 90, 70
Strongfil <sup>+</sup>	Functional seams, excellent abrasion resistance		
Polyamide 6.6 continuous filament, unbonded	Needle thread Bobbin thread	30, 40 30, 40	90, 70 90, 70
Serafil	Decorative seams, very good fastness to light		
Seratil 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				
Product	Major characteristic		Ticket no.	Tex no.
Strongfil <sup>+</sup>	Decorative seams, excellent abrasic	n resistance		
Polyamide 6.6 continuous filament, unbonded		Needle thread Bobbin thread	20, 40 40	135, 70 70
Strongfil <sup>+</sup>	Functional seams, excellent abrasion	n resistance		
Polyamide 6.6 continuous filament, unbonded		Needle thread Bobbin thread	30, 40 30, 40	90, 70 90, 70
c (I	Decorative seams, very good fastne	ss to light		
unbonded  Serafil Polyester continuous filament, unbonded  Functional sea		Needle thread Bobbin thread	20, 30, 40 40	135, 110, 70 70
Court [1]	Functional seams, very good fastnes	ss to light	1 16	
Polyester continuous filament, unbonded		Needle thread Bobbin thread	20, 40 40	135, 70 70
unbonded  Serafil Polyester continuous filament, unbonded  Serafil	Excellent cover effect, overlock sear	ns		
	Need	Looper thread dle thread: Serafil	100 80	35 30

## SEAT COVER

Product	Major characteristic	Ticket no.	Tex no.
Strongfil <sup>+</sup>	Decorative seams, excellent abrasion resistance		
Polyamide 6.6 continuous filament, unbonded	Needle thread Bobbin thread	20, 30, 40 30, 40	135, 90, 70 90, 70
Strongfil <sup>+</sup>	Functional seams, excellent abrasion resistance		
Polyamide 6.6 continuous filament, unbonded	Needle thread Bobbin thread	30, 40 30, 40	90, 70 90, 70
Serafil	Decorative seams, very good fastness to light		
Polyester continuous filament, unbonded	Needle thread Bobbin thread	10, 15, 20 20, 30, 40	270, 210, 135 135, 110, 70
Serafil	Functional seams, very good fastness to light		
Polyester continuous filament, unbonded	Needle thread Bobbin thread	20, 25, 30 20, 30	135, 110 135, 110
Serafil	Functional airbag seams	4	
Polyester continuous filament, unbonded	Bobbin thread	80	30

## SEATING & INTERIOR SYSTEMS/BONDED PRODUCTS

Product	Major characteristic	Ticket no.	Tex no.
Strongbond <sup>†</sup>	Multidirectional seams, excellent abrasion resistance		
Polyamide 6.6 continuous filament, bonded	Needle & bobbin thread	20, 30, 40	135, 90, 70
Strongbond <sup>+</sup>	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	Functional seams, very good fastness to light, water-repellent finish		1 8
filament, unbonded	Needle & bobbin threa	ad 20	135

