THREADS SOLUTIONS FOR AIRBAGS, INTERIORS AND MORE
Seams unlimited
GLOBAL SEAM COMPETENCE — FOR MOVING FORWARD SAFELY

TRUST AND RESPONSIBILITY — WHOEVER MOVES PEOPLE AROUND THE WHOLE WORLD CANNOT MAKE COMPROMISES. SAFETY IS THE TOP PRIORITY, FROM AIRBAG TO BELT. SEWING THREADS FROM A&E GÜTERMANN MEANS YOU ARE COUNTING ON A PARTNER WITH EXPERIENCE.

OUR ENTITLEMENT

“Seams unlimited” – that means complete sewing thread competence for all requirements and customers around the world. You can find the right product for any application in our automotive product range. That is our claim - and you can see how we measure up to it. If you should notice that your particular requirements are not one-hundred percent covered by our current product range, we welcome the challenge to do everything we can to find the perfect product for your purposes.

SEWING THREADS FOR THE HIGHEST STANDARDS

Innumerable technical components in cars, motorcycles, trains and aeroplanes ensure that we get to our destination comfortably, quickly and safely. What role does thread play in this? A very important one. Not only airbags, seats and belts are made of textile materials that need to be sewn. So does most of the interior elements as well as the insulation and engine bay insulation. As broad as the range of applications is, so different are the requirements on the thread: Colourfast, water repellent, UV resistant, tear and abrasion resistant, temperature and chemical resistance and many more.

Our Headquarters in Gutach-Breisgau, Germany. Movement means future – with sewing threads of A&E Gütermann
CERTIFIED QUALITY MANAGEMENT

The production of our sewing threads and the quality of the materials we use comply with the strict European regulations. Thus, our quality management system becomes regularly certified according to ISO 9001:2015 and IATF 16949:2016.

Our sewing threads are flawless in processing as well as in the final use of them because our suppliers also comply with the defined specifications in order to guarantee our standards when working with us. To meet all aspects of these requirements in full, A&E Gütermann voluntarily undertakes to be regularly inspected and evaluated by independent external certification institutes.

OUR THREADS STAND UP TO THE HARSHEST CONDITIONS

Our sewing threads for the automotive industry meet the central requirements in regards to light fastness and surface finish properties. Do you have any special requirements?

We welcome your enquiries. Together we can find the right solution.

| Light fastness:                     |
| Hot light-fastness test according to PV 1303, |
| 3 periods ≥ 4                        |

SPECIAL TREATMENTS

- Water repellent
- Waxed
- UV-resistant
TEXTILE SUPPORT MATERIALS CAN BE USED IN VERY DIFFERENT WAYS IN THE AUTOMOTIVE INDUSTRY

Things such as seats and the interior of a vehicle are often made of leather or fabric while in the more heavily used and safety relevant areas there are usually synthetics such as polyester and polyamide. A&E Gütermann sewing threads are optimally geared to the various areas and different requirements.
SEAMS FOR BEST PERFORMANCE:
OUR SOLUTIONS FOR AUTOMOTIVE COMPONENTS

THOSE WHO HAVE BEEN INVOLVED IN THE AUTOMOTIVE INDUSTRY FOR LONG AS WE HAVE KNOW, WHAT’S IMPORTANT: THE TECHNICAL AND THE VISUAL MATERIAL PROPERTIES HAVE TO HARMONISE.

SEATING

Seats need to be sturdy and long-lasting yet still comfortable and visually attractive. Various types of seams can be used here, from holding and closing seams to decorative seams. Additional seam operations are also sometimes necessary, such as sewing in seat airbags on the side of the seat. With A&E Gütermann, you can feel confident that you have the best thread competence at your service.

Solutions:
- Calora 15 / Filan AS 15
- Calora 20 / Filan AS 20
- Calora 30 / Filan AS 30
- Calora 40 / Filan AS 40
- Calora 80 / Filan AS 80
- Zwilon 20 / Amifil AS 20 (Polyamide 6.6)
- Zwilon 30 / Amifil AS 30 (Polyamide 6.6)
- Zwilon 40 / Amifil AS 40 (Polyamide 6.6)
for holding and closing seams,
decorative seams,
lap and French seams
Calora 80 for sewing seat airbags

HEAD RESTS, ARM RESTS AND CENTRE CONSOLES

Form and function melt into one unit. Head rests, arm rests and centre consoles are among the most distinctive visual features of a vehicle’s interior. They assure the stability of the car and, at the same time, stamp the individual design. The sewing thread needs to not only be durable but also colourfast and UV resistant to stay looking good under daily wear and tear.

Solutions:
- Calora 15 / Filan AS 15
- Calora 20 / Filan AS 20
- Calora 30 / Filan AS 30
- Calora 40 / Filan AS 40
- Zwilon 20 / Amifil AS 20 (Polyamide 6.6)
- Zwilon 30 / Amifil AS 30 (Polyamide 6.6)
- Zwilon 40 / Amifil AS 40 (Polyamide 6.6)
for holding and closing seams,
decorative seams,
lap and French seams

Sturdy, comfortable, attractive - that is important for all car seats.
The interior creates the very special look for every vehicle.
STEERING WHEELS AND GEARSHIFT KNOB

The steering wheel and gearshift knob are among the few components in a vehicle that are actually still partially done by hand. They are constantly in use and the sewing threads must fit: They need to remain colourfast as well as remain comfortable to the touch over a period of many years.

Solutions:
Filan AS 8
Filan AS 11
Calora 15 / Filan AS 15
Calora 30 / Filan AS 30
for holding and closing seams
Calora 20 waxed (WX)
Anebraid WX 1,0 mm
for hand stitching on steering wheel

CONTROL PANEL AND DOOR PANELS

Sturdy and durable and yet visually appealing: the interior panelling fulfills multiple functions. Both leather and fabric elements are used here, and the seam types range from holding and closing seams to purely decorative seams. You can be confident that the threads in our Calora family will give you a perfect quality that meets all requirements.

Solutions:
Calora 15 / Filan AS 15
Calora 20 / Filan AS 20
Calora 30 / Filan AS 30
Calora 40 / Filan AS 40
Calora 80
for holding and closing seams,
decorative seams,
lap and French seams

FLOOR MATS

Dust, dirt, stones... Floor mats are treated roughly every day. The sewing thread here needs to be heavy duty. Besides functional properties, like being tear and abrasion resistant, the machine processing properties also play an important role.

Solutions:
Calora 20 / Filan AS 20
Zwilon 20 / Amifil AS 20
Zwilon 40 / Amifil AS 40
Zwilon 60 / Amifil AS 60
Filan AS 80
for top-stitching

Steering and gearshift knobs – often still real hand-crafted.

Beautiful and long-lasting – coverings in the interior.

Constantly stressed – mats on the floor.
SEAMS FOR HIGH PERFORMANCE: OUR SOLUTIONS FOR AUTOMOTIVE COMPONENTS

CONVERTIBLE TOP

Driving a convertible – especially in summer – is an attractive activity. But the true value of a convertible top usually stands out best under more challenging conditions like rain or snow, not sunshine.

The sewing thread needs to be wind and water repellent as well as light-fast and UV resistant to the maximum in addition to being resilient.

Solutions:
Solbond 20
Solbond 30
Calora 20 SPS (= solution-dyed)
Calora 30 SPS (= solution-dyed)
for UV-resistant and water repellent seams

INSULATION

Insulation in the engine bay needs to withstand continuous high strains and stresses. In addition to being robust, long-lasting and sewable, thread needs to be resistant to chemicals and heat as well as being very flame retardant. Our sewing threads give you proven solution that withstands even the greatest functional stresses.

Solutions:
L753, L 1503
K 753, K 403
Salta K 40
Salta K 70
for holding and closing seams

The freedom of driving – at every weather.
The engine compartment – high material requirements apply.
**REAR LUGGAGE COVERS AND NETS**

The trunk in station wagons is covered to protect the passengers from moving parts. In addition there is mostly also a coarse meshed net. Both elements must therefore be resilient and durable in order to be able to protect. Also here the breaking strength of the sewing thread is important as both parts are sewn. Selected in the right thickness and colour, they fulfill their function and look outstanding.

**Solutions:**
- Calora 20 / Filan AS 20
- Calora 30 / Filan AS 30
- Calora 40 / Filan AS 40
for holding and closing seams

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**TYRE CORD**

Sewing threads are also used in the production of tyres. A special tire cord fabric is incorporated to reinforce rubber tyres. This fabric consists of several layers that are sewn together during the manufacturing process. In order to obtain an optimal result, a “low shrinkage” thread should be used because tyre cord expands during processing. Tera 20 LS offers just that: A precisely defined elongation. The sewn-in tyre cord lanes thus achieve the correct dimensional stability for the best quality.

**Solutions:**
- Tera 20 LS (= low shrinkage)
for holding seams on tyre cord
SEAMS FOR HIGH PERFORMANCE: OUR SOLUTIONS FOR AUTOMOTIVE COMPONENTS

SAFETY BELTS

Whether as an aircraft seat belt or three-point vehicle belt: safety belts distribute the centrifugal forces. In the event of a collision, they hold the person in the seat, protecting him or her from life-threatening injuries. In an emergency, they must withstand extreme forces of up to 1.5 tons traction. In addition to tear resistance and a certain amount of elasticity, threads for safety belts must also be durable and light-fast.

Solutions:
Calora 8 SPS (= solution-dyed)
for bar tack, belt end

AIRBAG

When an airbag is triggered, it is usually a case of life or death. In the process, the materials are exposed to maximum stresses. That includes the thread for sewing it: An airbag during a crash opens like an explosion within 25 milliseconds exposing it to hundreds of degrees of heat and thousands of centinewtons of tensile force. The essential requirements on sewing thread for airbags are maximum tear resistance, maximum elasticity and temperature resistance over a period of many years.

Solutions:
G1503 G bonded / G1503 UG unbonded
Zwibond / Zwilon 13, 20, 30, 40, 60
Newbond 13, 17, 20, 30, 40
for top-stitching

Securely strapped – in case of an emergency essential.
On impact available – airbags save in milliseconds.
A&E Gütermann brings you nothing less than the perfect thread for every seam. With the greatest durability and outstanding looks. All this in consistently high quality and a wide range of colours.

<table>
<thead>
<tr>
<th>Automotive application</th>
<th>Seam position</th>
<th>A&amp;E Gütermann solution</th>
<th>Material</th>
<th>Construction</th>
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<tr>
<td>Seats</td>
<td>Holding and closing seams; decorative seams; lap and French seams</td>
<td>Calora 15 / Filan AS 15</td>
<td>100% polyester</td>
<td>Continuous filament</td>
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<td>Calora 80 (for sewing in seat airbags)</td>
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<td>Zwilon 20 / Amifil AS 20</td>
<td>100% polyamide 6.6</td>
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<td>Zwilon 30 / Amifil AS 30</td>
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<td>Zwilon 40 / Amifil AS 40</td>
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<td>Head rests, arm rests and centre consoles</td>
<td>Holding and closing seams; decorative seams; lap and French seams</td>
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<td>Zwilon 40 / Amifil AS 40</td>
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<td>Steering wheels and gearshift knob</td>
<td>Holding and closing seams; WX-products for hand-crafting</td>
<td>Filan AS 8</td>
<td>100% polyester</td>
<td>Continuous filament</td>
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<td>Calora 20 waxed (WXX)</td>
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<td>Calora 30 / Filan AS 30</td>
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<td>Anoebraid WX 1.0 mm</td>
<td>100% polyester</td>
<td>Continuous filament, braided</td>
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<td>Control panel and door panels</td>
<td>Holding and closing seams; decorative seams; lap and French seams</td>
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<td>100% polyester</td>
<td>Continuous filament</td>
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<td>Calora 80</td>
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<td>Floor mats</td>
<td>Top-stitching</td>
<td>Calora 20 / Filan AS 20</td>
<td>100% polyester</td>
<td>Continuous filament</td>
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<td>Filan AS 80</td>
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<td>Zwilon 20 / Amifil AS 20</td>
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<td>Zwilon 40 / Amifil AS 40</td>
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<td>Convertible top</td>
<td>UV-resistant and water repellent seams</td>
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<td>100% polyester</td>
<td>Continuous filament</td>
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<td>Calora 40 SPS (= solution-dyed)</td>
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<td>Solbond 20</td>
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<td>Solbond 30</td>
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<td>Insulation</td>
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<td>L 750</td>
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<td>L 1503</td>
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<td>K 153</td>
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<td>Spun, long fibre</td>
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<td>K 402</td>
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<td>Salta K 40</td>
<td>100% aramid</td>
<td>Spun, short fibre</td>
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<td>Salta K 70</td>
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<tr>
<td>Rear luggage covers and nets</td>
<td>Holding and closing seams</td>
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<td>100% polyester</td>
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<td>Calora 30 / Filan AS 30</td>
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<td>Calora 40 / Filan AS 40</td>
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<td>Tyre cord</td>
<td>Holding and closing seams</td>
<td>Tera 20 LS (= low shrinkage)</td>
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<td>Safety belts</td>
<td>Bar tack, belt end</td>
<td>Calora 8 SPS (= solution-dyed)</td>
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<td>Airbag</td>
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<td>G1903 UG unbonded</td>
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<td>Newbond 13 / 17 / 20 / 30 / 40</td>
<td>100% polyamide</td>
<td>Continuous filament, bonded</td>
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</tbody>
</table>

All lengths of the above listed products are available on customer request.