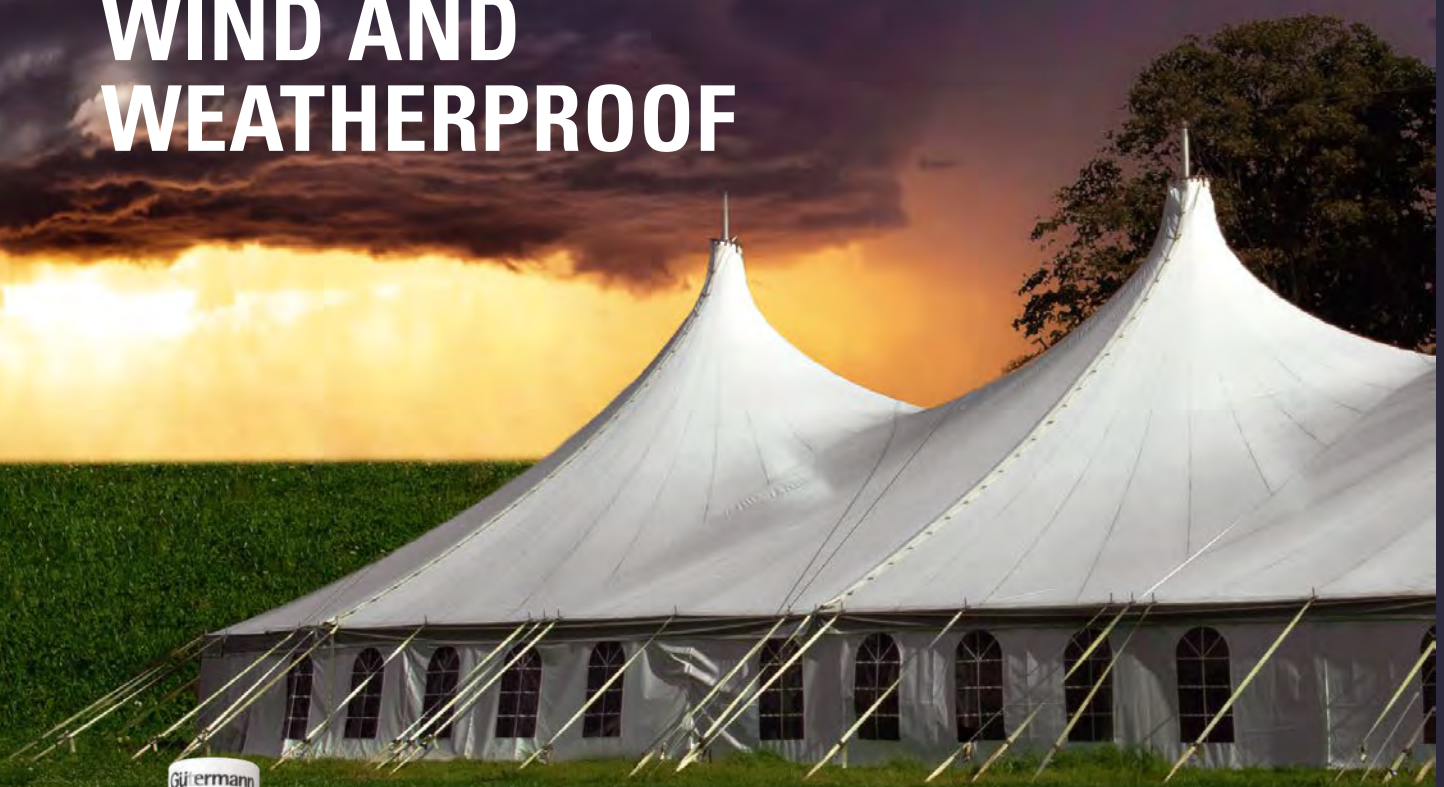


WIND AND WEATHERPROOF



For every weather – Solbond and Calora UV

Wind and weather make the highest demands of the longevity of sewn seams. Durability and wear resistance are paramount in outdoor products in particular. The importance of the thread used for the tent first becomes clear when the wind unleashes its full potential and the sun shines brightly. Gütermann therefore offers two different sewing threads: Solbond and Calora UV. The new product solutions impress in every weather.

The seam competence since 1864.

Made for outdoor applications

Tents, sunshades and many other outdoor applications must withstand the harshest of conditions. Intense UV rays, high wind force, rain, dirt and snow make extreme demands of the sewing threads. Solbond and Calora UV live up to what they promise. Their colour fastness, abrasion

resistance and strain properties are impressive. The secret to their success lies in their construction and the processing properties – and it is exactly for this reason that they are leagues ahead of comparable sewing threads.

Solbond – colour fast, bonded and offering an outstanding sewability

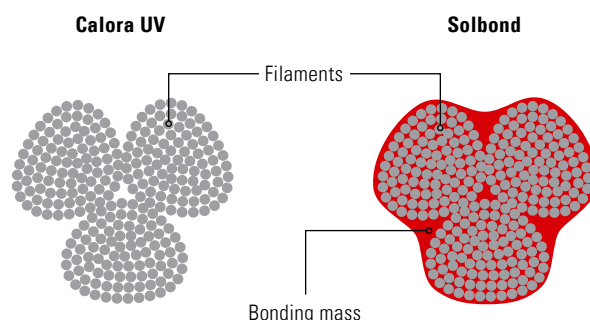
The multiple twisted multifilament made from continuous polyester filaments affords high-quality bonding. This makes Solbond the optimal solution for all heavy fabrics and demanding materials. Particularly when it comes to complex stitching at higher sewing speeds. The bonded thread comes into its own – whether in multidirectional

seams such as zigzag seams or in new seam designs. Solbond offers excellent sewability, high colour fastness, outstanding abrasion resistance and high breaking strength as well as UV and atmospheric conditions consistency. This thread braves every weather!

Calora UV – ideal for lightweight fabrics

Calora UV is also a multiple twisted filament and coloured with special dyes using a unique finishing method. The thread is ideal for lighter fabrics requiring classic stitching. The continuous polyester filaments afford a silk-like look, ideal strain resistance properties and optimal processing qualities. The use of high-strength filaments also ensures durability during continuous stressing of the seams. What's more, the thread despite its long length and is knot-free – and thus machine suitable!

Cross section of the filament bundle



Our solutions in overview

	SOLBOND	CALORA UV
Count in No./Tkt.	10 / 20 / 30 / 40	15 / 20 / 30 / 40
Size in m	1.000 / 1.500 / 2.500 / 3.000	1.500 / 2.000 / 3.000 / 4.000
Article code	583553 / 583561 / 583570 / 583588	583740 / 583758 / 583766 / 583774
Shade range	6 colours further colours on request	6 colours further colours on request

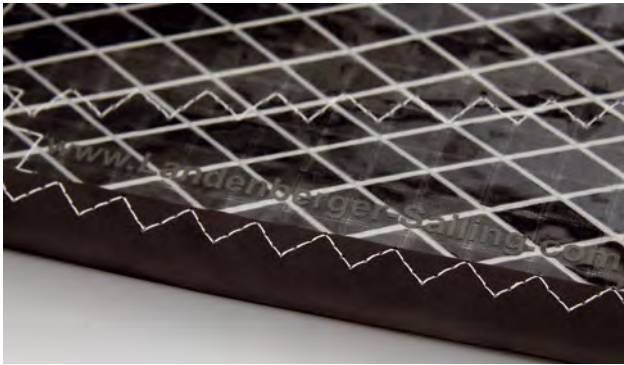
Solbond and Calora UV colour range with the according colour numbers



Seawater and sun resistance

We work closely with the Institute of Textile Technology and Process Engineering (ITV) Denkkendorf to test the UV and seawater resistance of all our products. The ITV Denkkendorf subjected filament bundles and seam samples to weathering in a specially developed test simulating the Mediterranean climate of Southern Europe over a five-year period. The outcome: the Gütermann sewing threads also demonstrated significantly better tear resistance and colour fastness than comparable high-quality products following prolonged exposure to intense UV rays and seawater.

One further important factor: Gütermann threads are of a consistently high, uniform quality, having been made in Germany. Allowing you to always be sure that you are using the most colour fast, robust and therefore durable thread. Quality assured, from a "made in Germany" product!



INSTITUT FÜR TEXTIL- UND VERFAHRENSTECHNIK DENKKENDORF (ITV)
GERMAN INSTITUTES OF TEXTILE- AND FIBER-RESEARCH DENKKENDORF (DITF)

Quality Inspection Certificate
according DIN 55350-18

Manufacturer / Supplier: **Gütermann / Zwicky**

Product: **Sewing Thread Solbond**

Types, Colors: **No 20 | 30 | 40; colors 800, 9515**

Quality demand: Gütermann/Zwicky - Inhouse Specification
+ specific strength¹⁾ > 46 cN/tex
+ loss of strength by artificial ageing²⁾ < 42 %
+ change of color²⁾ by artificial ageing³⁾ < 20 dE*

Test specifications: ¹⁾ DIN EN ISO 2062
²⁾ DIN EN ISO 105-A04
³⁾ ITV-method; based on EN ISO 4892-3; Artificial ageing on salt water impregn. yarns; re-presents 5 years exp. to south european climate

Test result: The tested products comply with the Gütermann/Zwicky-Quality demand

Relevant documents: ITV test report E-0452-Z-13

Denkkendorf, 29. October 2013

[Signature]
Dipl. Ing. (FH) Hartmut Haid
(Head of Laboratory)

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Chemische Analytik, Mess- und Prüftechnik e.V.

ITV
Zentrales
Prüflabor
0452-Doc. Rev. 3 / 03.10

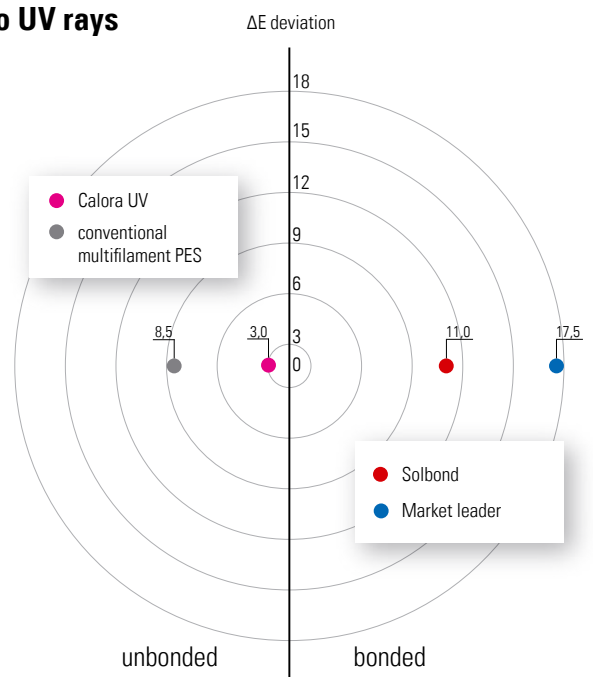
Tested and found to be good: the certificate from the ITV Denkkendorf summarises the test results and confirms the outstanding quality.

Shows colour – also following prolonged exposure to UV rays

Solbond and Calora UV are coloured with special dyes using a unique finishing method. Thanks to this special dye, the thread retains its colour for many years. Even when exposed to intense UV rays.

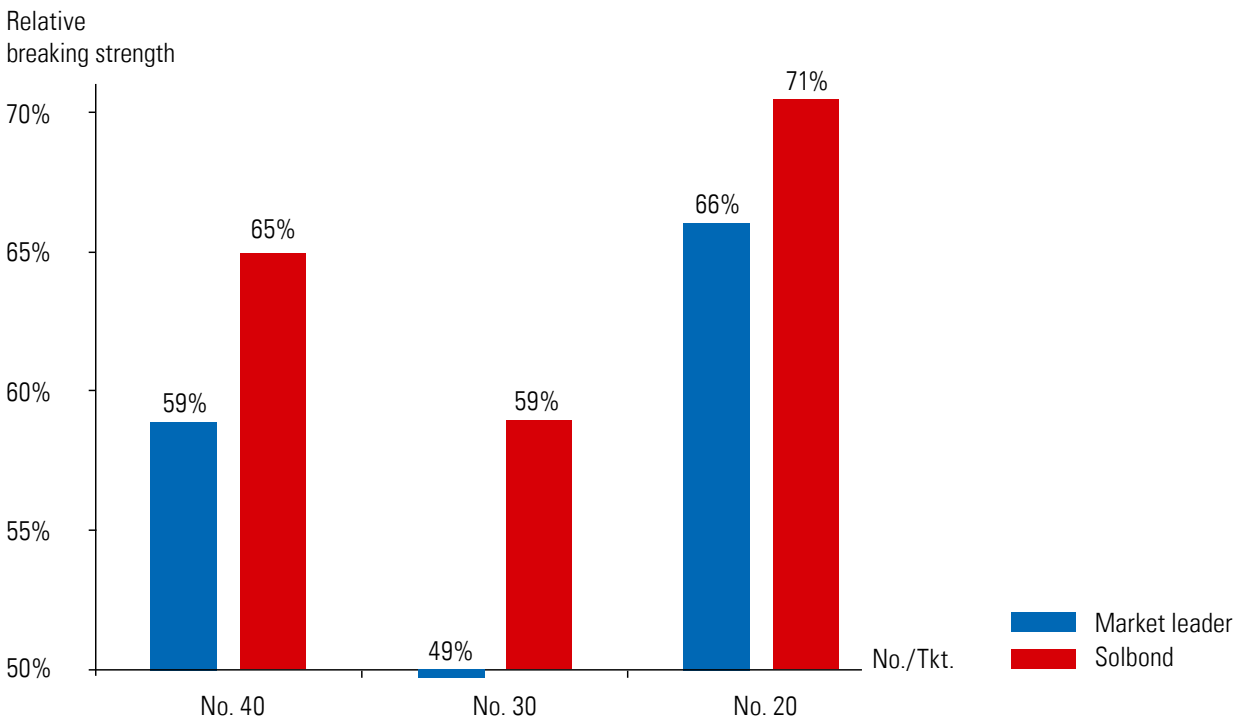
In the test, Gütermann products clearly surpassed comparable sewing threads. With UV exposure of five years, the ΔE deviation of Calora UV and Solbond was proven to be lower. NB: The ΔE deviation indicates the deviation from the original colour.

Clearly superior: in comparison with the competition, the Gütermann sewing threads convince with long-lasting colour fastness.



The durability is decisive

Relative breaking strength following exposure to intense UV and seawater in the simulation test according to ITV procedure with DIN 55350-18. The comparison with the market leader clearly proved the superiority of Solbond in all respects.

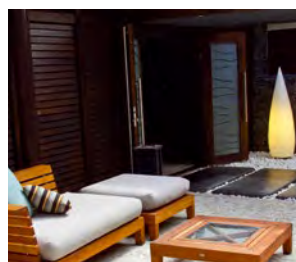
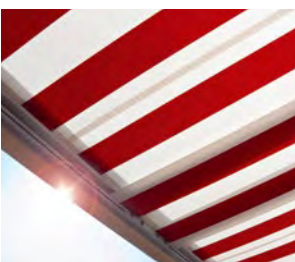


The ideal solution for outdoor applications



In the nature the seams must withstand particularly harsh conditions – sun, wind and rain greatly stress the weakest points of tents. Solbond and Calora UV withstand this onslaught and also convince in other outdoor applications.

Suitable for countless outdoor textile applications: Solbond and Calora UV consistently impress with colour, form and function.





The advantages at a glance

Weather resistance



Both Solbond and Calora UV convince with outstanding durability. In any weather. For countless years. They have been developed to withstand the sun, wind and rain.

Shape retention



The bonding and thermosetting lend the two Gütermann special sewing threads unique shape retention properties. The threads sit comfortably in the seam – without shrinking or warping.

Colour fastness



Solbond and Calora UV are coloured with special dyes using a unique finishing method. This ensures unprecedented colour fastness that is more durable and better protected from fading.

The seam competence since 1864.

Gütermann

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