

OPTIMAL FOR WATERTIGHT SEAMS



Gütermann

Gütermann Mara WA - lets rain and water roll off

Outdoor applications are at the mercy of the rain and damp. So the weakest point, namely the seam, must be up to the job of keeping the water out. To produce waterproof seams, you need threads with an excellent finish. With its water-repellent protective finish that eliminates the thread's wicking effect, Mara WA offers an optimal basis for waterproof seams. Used in conjunction with the right sewing technology your seam will withstand all weathers.

A perfect combination



When Mara is combined with Gütermann's water-repellent finish, water and moisture do not stand a chance of penetrating the fabric. Making it perfect for sport and functional clothing as well as for tents, tarpaulins, awnings and all laminates that are intended to protect you from cloudbursts and downpours. Mara WA is the optimal solution for watertight seams.

Mara – manufactured with Micro Core Technology®

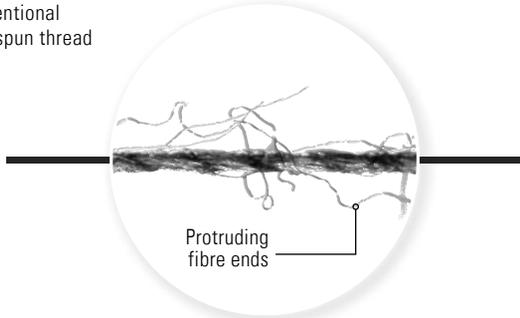
Conventional core-spun threads have naturally occurring thin and thick sections. These consist of fibres that look hairy and therefore show higher levels of abrasion.

This is not the case with MCT threads. These are smoother and more even because they consist of filaments that run continuously through the threads in micro loops. The advantages: high mechanical resilience and constant thread tensions during

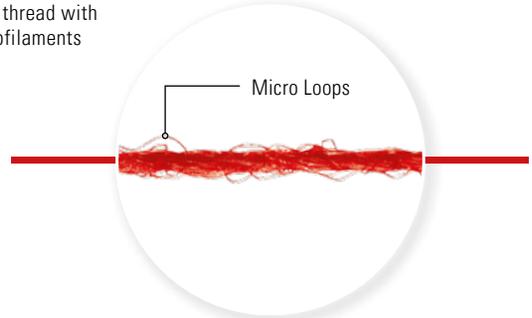
fabrication and considerably less thread breakage. And Mara MCT threads are cleaner. As they do not have any fibre ends there is practically hardly any abrasion.

All this guarantees that MCT threads will create a perfect seam - flawlessly sewable and aesthetically beautiful.

Conventional core-spun thread



MCT thread with microfilaments



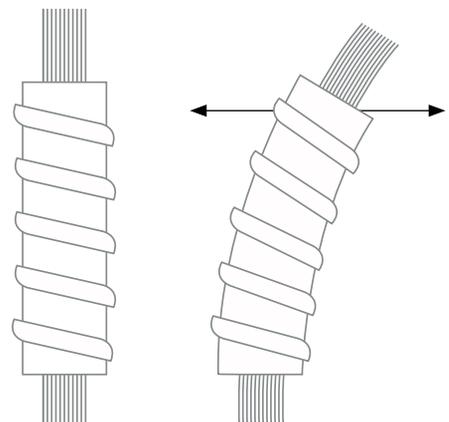
A look down the microscope shows Mara's perfect evenness.

The strength of the water-repellent finish

There are many water-repellent threads on the market which still absorb moisture, this is not the case with the water-repellent finish by Gütermann.

Why is this?

Whereas conventional synthetic sewing threads owe their water-repelling effect to a mixture of wax and silicones, the water-repellent finish from Gütermann is based on an expensive, special technology. A highly flexible coating is placed around the filamentary bond using special heat treatments for over 20 hours eliminating the hygroscopic capillary action of the thread. In this way, threads do not absorb any water and yet are part of every movement in the sewing process.

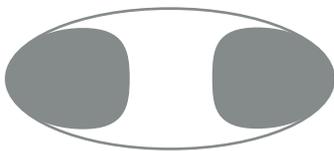


Firmly connected and yet highly flexible. The water-repellent coating around the filamentary bond follows every move of the thread.

Important issues when sewing

It is crucial for the needle size, type of stitch, thread and thread tension to be in perfect harmony. The double lock-stitch offers an ideal basis for a mechanically closed needle hole. Water-repellent seams also require special attention when choosing the correct needle size. These must be selected according to the sewing thread so that the material is not damaged when sewing and the thread closes the needle hole. Mara MCT threads are ideally suited for this as the low level of abrasion ensures the micro loops remain intact. Together with the water-repellent finish they seal the stitch hole optimally.

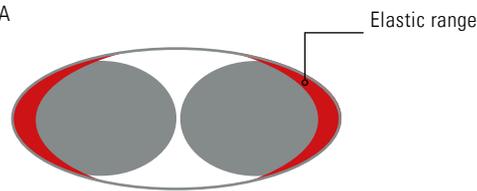
A cross section of the needle hole for core-spun thread



Furthermore, Mara MCT threads can be used with finer needles than conventional core-spun threads which also saves the material from unnecessary wear and tear.

Conventional finishes are used at the expense of the anti-frictional properties which result in widening the needle hole and impeding fabrication. This is a further advantage of the water-repellent finish by Gütermann Mara WA: due to the heat treatment the excellent anti-frictional properties of the MCT threads remain intact. It is not necessary to have special settings on the sewing machine.

A cross section of the needle hole for Mara WA



The illustration shows the needle hole's cross-section of a quilting seam without the stitch connections. Mara WA lies in the needle hole without tension. The distance to the stitch hole limitation prevents the abrasion of the water-repellent protective finish when sewing. Which allows the micro loops combined with the finish to seal the needle hole optimally.

Mara WA - passes the toughest test conditions

Water doesn't stand a chance when Gütermann Mara WA is involved. This is proven by the methylene blue test and a test by a renowned manufacturer of laminates. In the test only the sewing thread and the already sewn thread were hung in a blue-coloured solution. Using the capillary/wicking action

the water-repellent effect on the specially finished thread was measured. After two hours, the Gütermann Mara WA did not indicate any rise at all. Which is excellent. For in products with a water-repellent finish hydrostatic head measurements of up to 10 mm are entirely normal.

The advantages at a glance

Water repellent



The capillary action of the thread is eliminated. Gütermann Mara WA has a special finish that surrounds the filaments and follows every seam movement. In addition, the micro loops help to close the stitch hole.

Fabrication extra



Gütermann Mara WA combines the advantages of a water-repellent finish with Micro Core Technology®. And thanks to the consistent thread tension, it can be sewn easily and causes little abrasion. And there's another advantage: finer needles can be used for fabrication to prevent the material from damage.

Durable



The water-repellent finish can be fully cleaned. This is how Gütermann Mara WA demonstrates its quality after more than 20 washes. Without compromising on functionality.

The seam competence since 1864.



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