

From Wish to Reality – A new construction technique for awnings

For many years we have looked for a way to prevent the sagging of the side hems on awnings, particularly after a few years of use. Conventional construction techniques with sewn seams are unable to solve this problem.

The main cause of this problem is the tendency of the seams and side hems to stretch, particularly after repeated rolling in and out cycles.

The introduction of glued awning construction techniques, now available from a number of manufacturers, has resulted in a number of improvements:

- A more pleasing, homogenous appearance of the awning cover, with almost undetectable seams.
- Water-tight seams, with no dripping from needle holes.
- No deterioration of the seams by mechanical or environmental factors.
- Thinner seams due to material compression and absence of thread.
- Optimal seam strength due to full surface bonding.



Sewn Seams

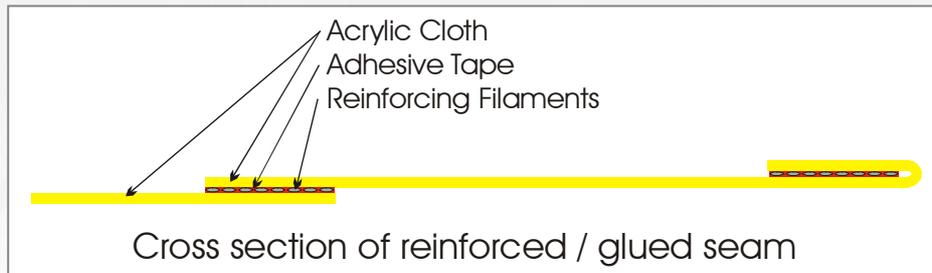


Glued Seams

Although gluing has provided some improvements, gluing alone cannot provide a significant reduction in seam stretching.

New Technique

By using a specially reinforced adhesive tape, stretching of the seams can be virtually eliminated. The reinforcing filaments in this tape have almost no stretch, and provide strong, stretch-free seams and hems. No stretch means no sag.

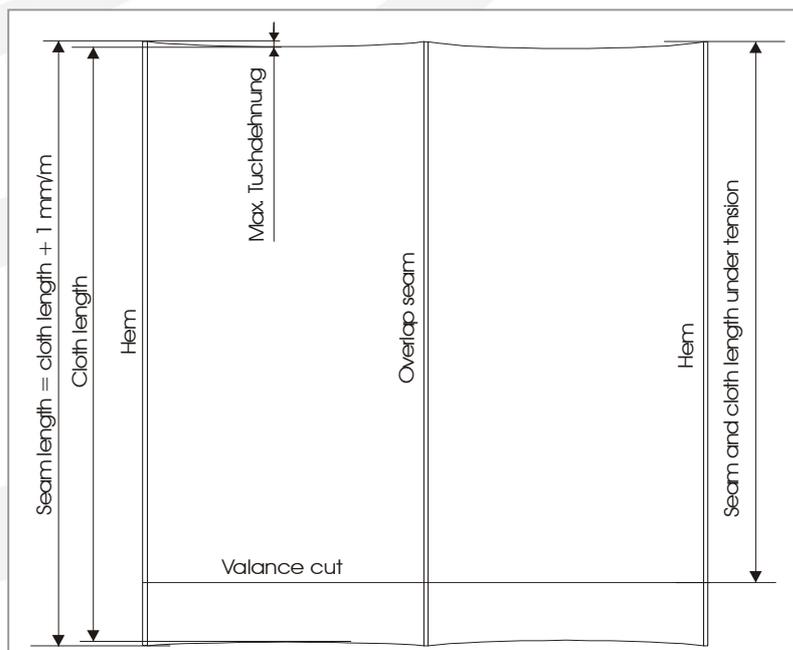


With the Jentschmann 2796-2-20 Ultrasonic welding system, the machine travels along the seam while the material is clamped on the machine table. Guiding devices ensure that the seam or hem overlap is perfectly maintained, while the heat activated adhesive tape is fed between the layers to be joined.

By carefully controlling the welding parameters, the seam is elongated by a controlled amount (1mm / meter).

This ensures that when on the roller, the awning material is taught but not overstretched, reducing bag formation and wrinkling. When unrolled, the tension of the arms is taken on by the seams which, being reinforced, resist further stretching.

Due to the slight compression of the acrylic by the Ultrasonic weld, the seams are thinner than sewn seams, even with the reinforcing filaments.



Effect of using reinforced adhesive tape on awning construction.

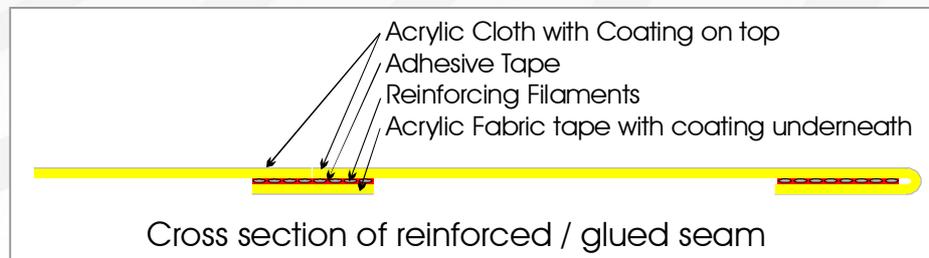
Using the Jentschmann reinforced adhesive tape system provides an exceptionally smooth, taught awning that retains its superb looks for years to come.

The gluing of coated acrylic material

The experience showed, that the covered dirt-deflecting surfaces of acrylic textiles are made in a way that heat activated adhesive tapes do not enough or not at all adhere on it. That means, that these materials can only be glued on the uncoated side. Therefore common overlap seams can't be realised because always one of the surfaces of the fabric is coated and the adhesive tape is only sticking enough on the uncoated side.

As coated acrylic materials should also be glued, Jentschmann developed a seam construction that takes in consideration this presupposition, that means that only the uncoated surfaces will be glued.

Whereas the hems are still glued in a conventional way with the reinforced adhesive tape, the seams are joined side by side with the adhesive tape and a textile tape. (see sketch)



To realise this seam construction it is necessary to use a special guide.

For the cutting of the textile You have to be aware that there is no overlapping. It is also necessary to take in consideration the need of an supplementary textile strip for this type of seam.

Concerning the thickness of the seam there are the same conditions as for the overlap seam, twice the textile thickness and once the adhesive tape. Due to the slight compression during the gluing process with ultrasonic and the following seam press, the seams are still thinner than sewn seams, even with the reinforcing filaments.

Further are valuable the same statements as for the uncoated acrylics.



Jentschmann 2796 ECO

Computer controlled Ultrasonic Gluing system for continuous bonding of long, straight seams on awnings etc. with heat activated adhesive tapes.

Particular features and advantages:

- Fully automatic setting of welding parameters according to application.
- Precise hold of fabric during entire welding process.
- Differentiable drive of sonotrode and anvil roller in relation to forward movement of welding head to optimise quality and look of welding seams.
- Seam press for compression and cooling of seam glued seam.
- Low power consumption without power peaks.



Jentschmann 2796-2-20 StG

The Jentschmann 2796-2-20 with rotary sonotrode is ideal for welding and gluing long straight seams on awnings, rolling shades, tents, tarpaulins, etc. The computerized control system and quick change guiding devices allows the machine to be used for a wide variety of applications, while the optional re-wind system provides even greater productivity by improved material handling.

Particular features and advantages:

- Fully automatic setting of welding parameters according to application.
- Precise hold of fabric during entire welding process.
- Differentiable drive of sonotrode and anvil roller in relation to forward movement of welding head to optimise quality and look of welding seams.
- Seam press for compression and cooling of seam as well as compensating seam shrinking.
- Adjustment of preset welding power output during entire welding process.
- Graphic display of welding power output with power-relevant welding parameters during a welding cycle for analysis and quality control.
- Low power consumption without power peaks.

