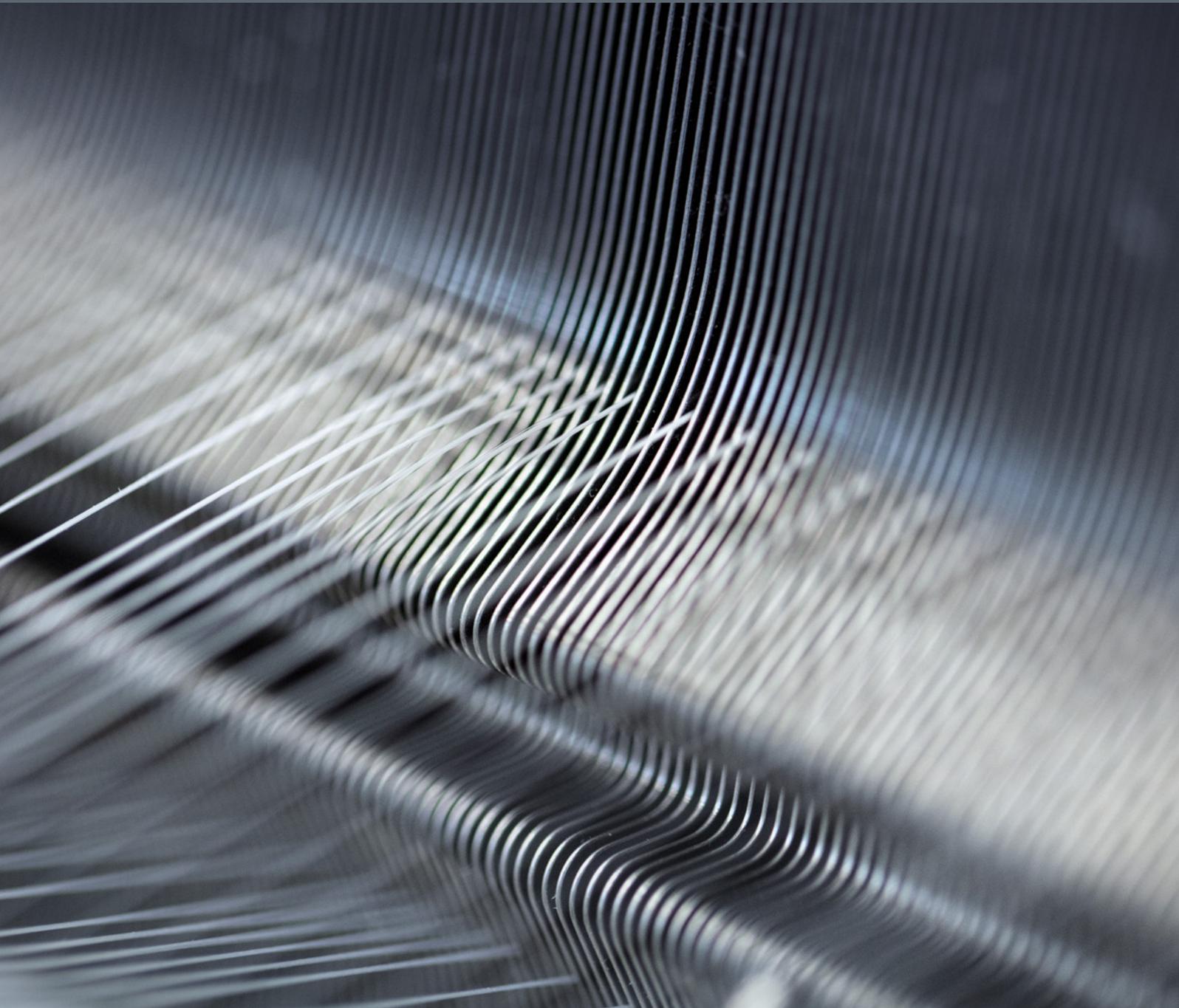


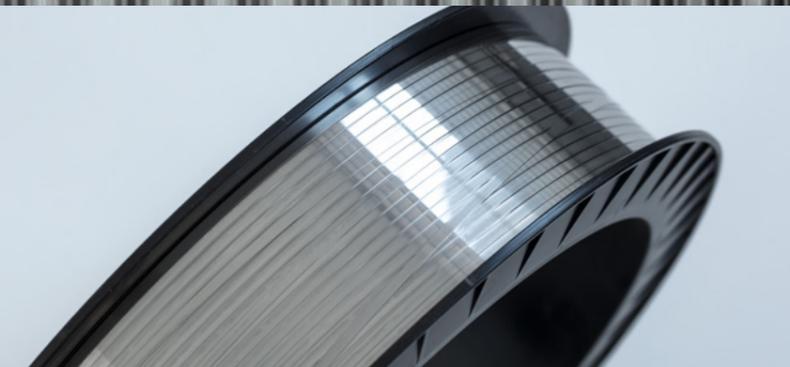
# Your partner for weaving

Steven reeds – key to success



## Precision and quality for over 150 years

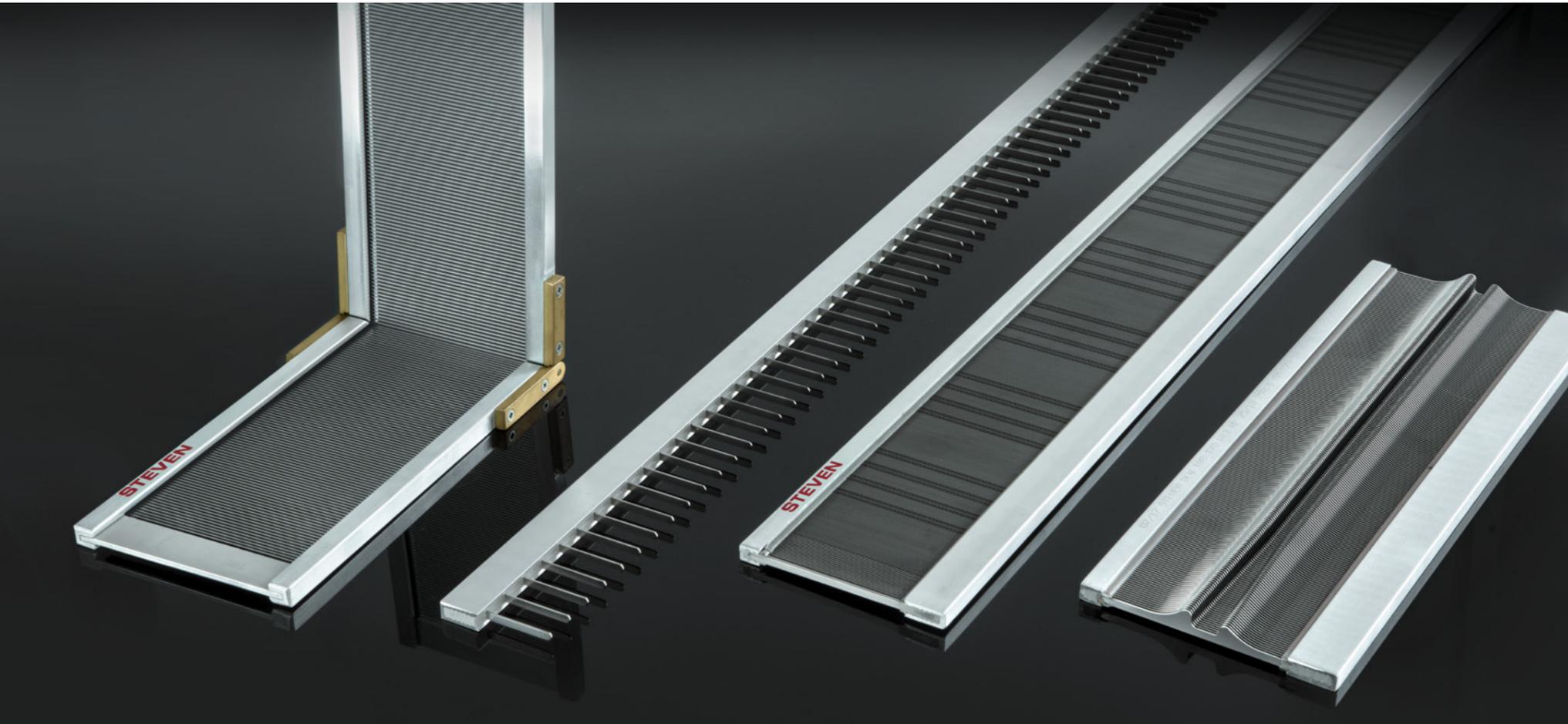
Our application experience, combined with your ideas, moves the boundaries of what is possible. State-of-the-art production methods, in combination with high-quality material and qualified, experienced staff, facilitate the production of precision reeds with the highest quality level. This guarantees robust production processes even in your most sophisticated applications.



## The subtle distinction for your success

The importance of the raw material used is not normally as obvious as if you compare a historic reed to a modern pattern reed. Although material hardness, elasticity, surface finish and radii are not easily perceptible, they have a major impact on the productivity of your weaving process.

Steven produces all reeds from high-quality stainless steel. To improve the lifetime and stability, we recommend tunnel and flat reeds made from tempered steel. For particularly sensitive yarns and difficult woven fabric constructions, we offer an optimized special polish under the designation HP.



## Our product range

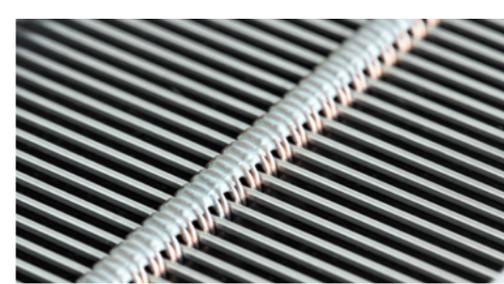
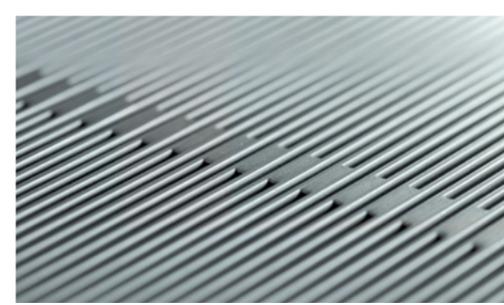
Tunnel reeds, double reeds for airjet weaving looms, graduated reeds for airjet weaving looms, flat reeds, double reeds for rapier/projectile looms, graduated flat reeds, pattern reeds, warping reeds, leasing reeds, needle bars, Hinge reeds, hook reeds, multiaxial weaving reeds, expansion combs, guiding combs, comb segments, V-reeds, support reeds

Steven also offers cleaning and repair for reeds as well as inspection and calibration of air flow as a service for its customers.

## Steven reeds – your key to quality and productivity

### In touch with your end product

No other component in the weaving process is in such close contact with your end product as the reed. By the time you hold the finished woven fabric in your hands, our reeds have already touched every warp and weft yarn. Steven reeds ensure that thousands of warp and weft yarns can be woven into a fabric with perfect appearance without damage. The high influence we have on your quality and efficiency is our goal and responsibility. Drawing-in, weaving, finished – our goal is your success.



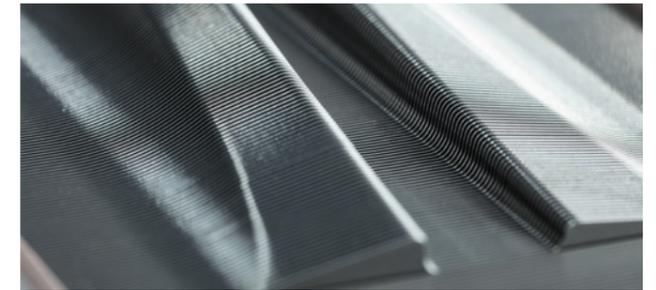
### Steven reeds – quality through consistency

Your woven fabric defines our product: It determines the number of dents, the useful length and the wire thickness. Once defined, the pitch is applied evenly over the entire reed length – dent for dent, gap for gap, reed for reed.

Consistency is the quality feature of our reeds. It is achieved using high-precision dent material and spring wire, combined with state-of-the-art reed binding technology. Once the binding process has been finished, we fix the reed with Steven Pox, an epoxy resin produced exclusively for Steven, that combines durability and damping.



# Steven tunnel reeds – with pressure to success



### Constant air flow over the entire tunnel reed

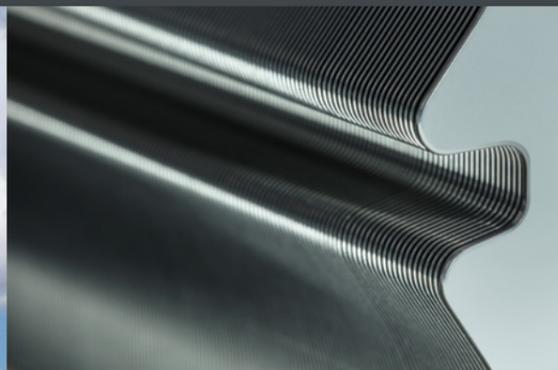
The tunnel is the work space of tunnel reeds: Here, the weft yarn glides on a bed of air from the beginning to end of insertion. A key factor to guarantee the correct function of the reed is an even air flow over the entire reed length. This is why the air flow of each Steven tunnel reed is adjusted on specially developed systems and delivered with a corresponding air flow protocol. We adjust the air flow according to the specification of the weaving machine manufacturer or to your desired requirement. Different air flow zones are also possible over the reed length.

### Highly polished reed dents with perfect edge radii

The profiled dents of the tunnel reed separate the individual warp yarns: During the shed formation, the warp threads glide over the surfaces and the edges of the profiled dents. Each weft yarn is moved into the woven fabric from the tunnel through forward reed movement. The rounding and polishing of the reed dents are therefore extremely important for the quality of your woven fabric. For particularly sensitive yarns and challenging woven fabrics, Steven offers a special polish for dents and tunnels under the designation HP.

### Conicals and biconicals

For air jet weaving with multiple weft accumulators, we offer optional conicals for Steven tunnel reeds. Conicals of between 20 and 90 mm can be used depending on the number of weft accumulators. For tire cord, asymmetrical cones of 100 mm on each side of the reed are available. For patterns with large shed openings, Steven offers biconicals. We also use tempered material as the standard for tunnel reeds. For demanding and sensitive yarns, we offer cones with special polish under the designation HP.



## Spacing is key

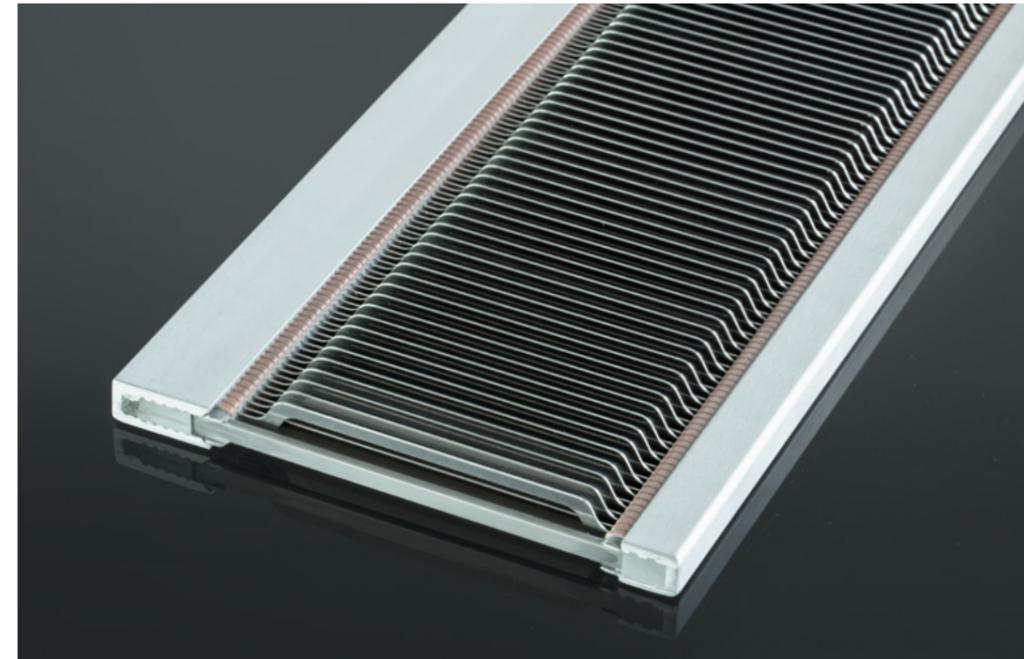
### Pattern reeds and graduated reeds

A key quality feature of reeds is a consistent, constant pitch over the entire reed. In certain applications, however, the exact opposite is required.

To this end, Steven graduated reeds with the option of changing the pitch up to 10 spaces per 10 cm without changing the spring diameter.

The pitch can be spread even further by combining several spring diameters.

Pattern reeds are characterized by repeated patterns of different pitches. This usually takes place by varying the number of spring windings with the same spring diameter. As many repeats as desired can be used.



## Double reeds for better separation

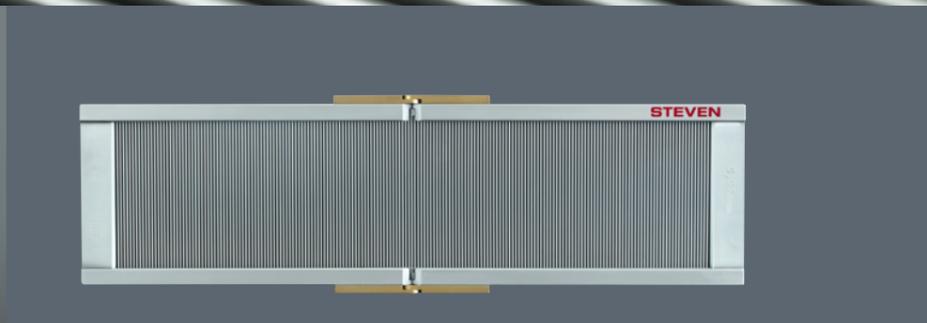
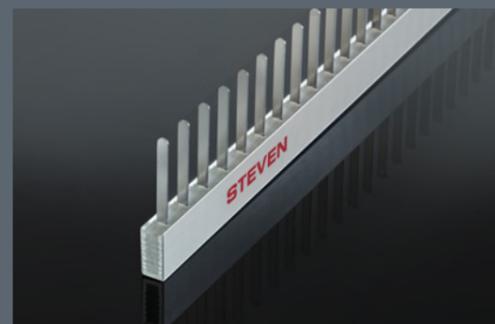
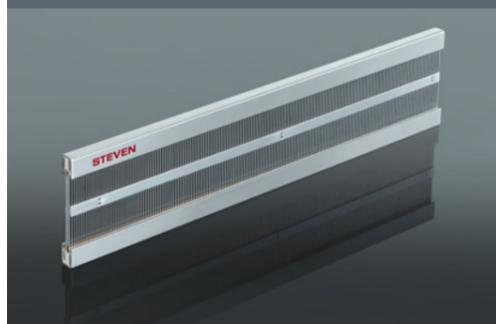
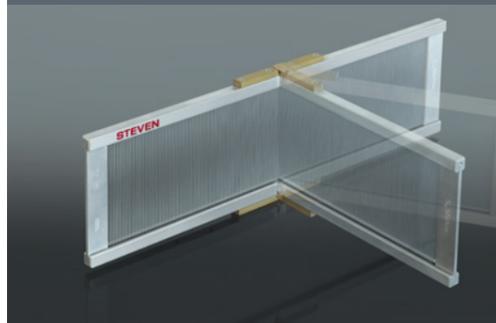
### Double reeds for rapier, projectile and air jet looms

Double reeds are used for producing terry and decorative fabrics, as well as for processing special effect yarns. Combining a wide variety of yarn types and weft densities within an article creates different thread intersections and produces different stresses on the reed at fabric beat-up.

Double reeds enable the use of thicker reed dents on the front side of the reed. The disadvantage associated with a poorer shed pitch is compensated with the use of thinner and more flexible dents on the rear of the reed. For tunnel reeds, profiled dents are used on both the front and the rear of the reed.

## Your partner for warp preparation

In addition to reeds, Steven also offers products for warp preparation. Our hinge and leasing reeds, as well as combs and expansion combs, also benefit from our expertise in reed production. Their contact surfaces are extremely gentle on yarns and designed to offer a long useful life. High-quality materials are used for production.



### Customer wishes

We are your contact partner for individual reed solutions and warp preparation requirements.

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