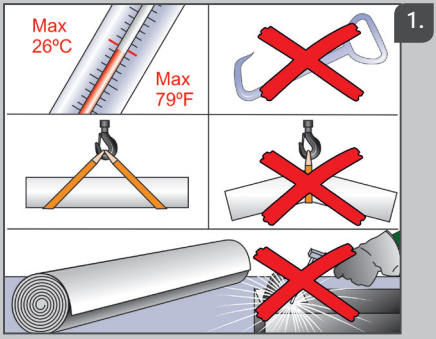
Storage and Installation
of fiber line shrink fabrics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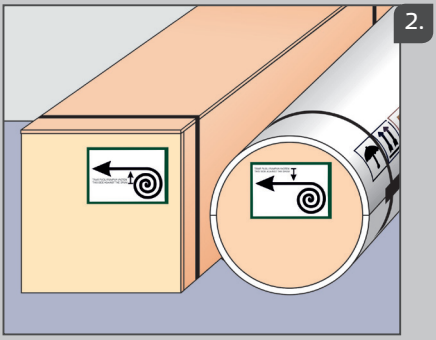
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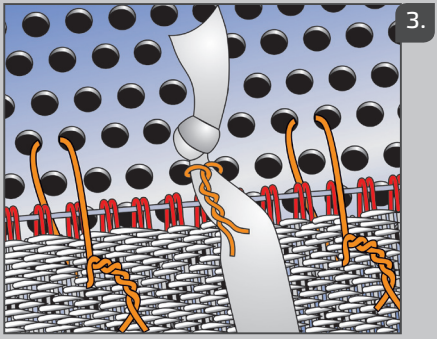
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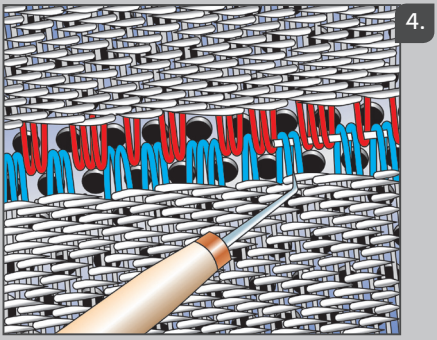
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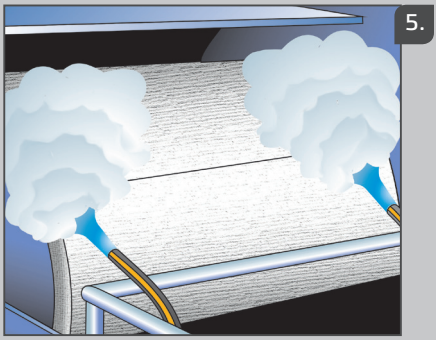
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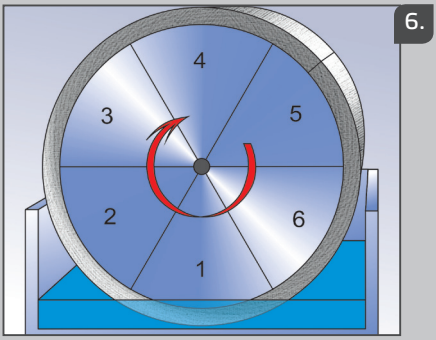
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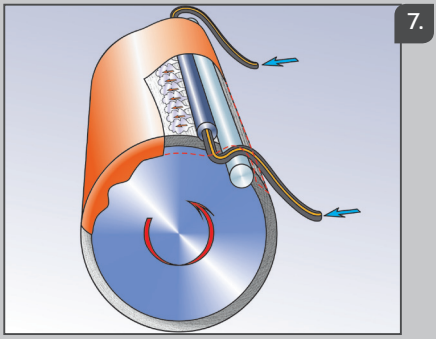
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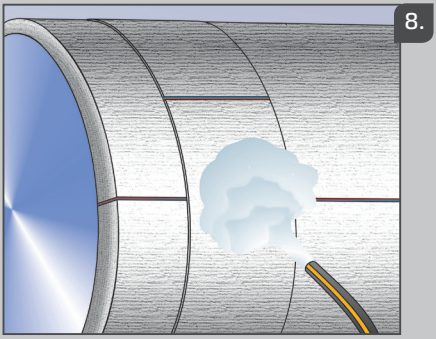
8.

Storage, installation and shrinking

Following these storage, installation and shrinking instructions ensures desired performance for your Valmet fiber line shrink fabrics.

Storage (pic. 1)

Always store shrink fabrics in the original packing. To avoid shrinkage during storage, the temperature in the storage area must be in the range of min. -50°C, max. +26°C (min. -58°F, max. +79°F).

Sparks from welding or grinding can cause irreparable damage to the fabric. Do not bend or fold shrink fabrics, and do not store goods on top of them. When lifting a fabric, always lift at two separate points.

Please note the opening direction remarks at the ends of the packaging box (pic. 2).

Prior to installation

If a metal wire has been used previously, remove all traces of weld and ensure the drum surface is smooth. Ensure that an adequate steam supply is available (2–3 steam hoses, Ø 5–7 cm, 2–3" each). Empty the filter and clean it carefully. Any pulp left on the bottom of the vat can easily get caught between the fabric and the drum, and is then very difficult to remove.

Removing pulp: If pulp does slip between the fabric and the drum it is best to be removed immediately, in order to prevent damage to the fabric.

If pulp lumps remain between the fabric and the drum after the fabric is shrunk, they should be softened with hot water and then washed away from the outside through the fabric using a high pressure water hose, max. 120 bar (1700 psi).

Installation (pic. 3)

Put the fabric on the drum with the pulp side up and the arrow pointing in the direction of rotation. Use short lengths of wire to fasten the front edge of the fabric temporarily to the drum surface. Fasten through the fabric. Take care not to damage the seam loops. The fastening points should be spaced at about 30–60 cm (1–2 ft).

To make it easier to support the fabric, three or four strips of webbing or similar material can be used. These should be tied to the drum surface and fed around the drum with the fabric. Hold the fabric tight to prevent it from falling into the vat.

Rotate the drum slowly. Take special care to ensure that the seam loops are not damaged by the pick-up roll, doctor blade, or the bolts below the doctor. The flap must remain straight under the steam.

Working in stages, pull out the two seam reinforcing wires about 50 cm (2 ft) at a time. Position the two sets of seam loops so that they interlock and insert the seam wire through the loops. Seaming is easier if the fabric is lifted slightly using the supporting strips.

Seaming (pic. 4)

When seaming the fabric it is not necessary that the seam loops alternate uniformly (like a zipper). It passes through every loop. However, one missed seam loop does not weaken the seam but two or more missed loops in a row have to be corrected either by reseaming or by mending with suitable yarn.

Valmet recommends that the seam wire be inserted gradually. When it starts jamming (can no longer be pushed through the seam), pull the whole of the remaining free length out between two loops, then feed the wire back in and continue. This process should be repeated until the whole seam is joined.

Important
Pull the seam wire slowly and steadily to avoid friction (friction generates heat and damages the loops).

After joining the seam, tie knots in the seam wire ends at a distance of approx. 10 cm (4") from the edges of the fabric.

Shrinking with hot water (pic. 5–6)

Start by using steam to shrink the edges of the fabric at the ends of the drum. Shrink both edges at the same time to set the fabric properly on the drum and to prevent pulp from entering between the drum and the fabric. If pulp does enter between the drum and fabric, remove it as described earlier.

Fill the vat with water so that aprox. 1/6 of the fabric is under the water. Heat the water by bubbling steam into it. When the temperature has reached 60–65°C(140– 149°F), start rotating the drum and shrink the next 1/6 section of the fabric. Keep the temperature rising by maintaining the supply of steam into the water, and repeat the procedure until the whole fabric has been shrunk once. Each section should be shrunk for 2–3 minutes.

When the temperature has reached about 80°C (176°F) shrink the whole fabric again, as above. Once again, work in sections, shrinking each section for 2–3 minutes.

The final shrinking must be done at a temperature of 93–100°C (199–212°F) by rotating the drum so that all parts of the fabric are immersed in the water for 3 min.

If the drum has fabric fastening clamps at the ends, use a soldering iron to melt holes in the fabric for the bolts, and then fasten the clamps. Excess fabric can be cut off if necessary. Kynar fabrics should always be secured onto the drum ends, preferably using steel clamps. If no clamps are available, use resin or a two-part adhesive that withstands the filtration conditions. Expanding Kynar plugs can also be used to anchor the fabric to the drum ends.

Shrinking with steam (pic. 7)

We recommend shrinking with hot water whenever possible. Shrinking with steam is also quick and effective, provided that there is an adequate supply of pressurized steam (min. 3–4 bar, 44–58 psi) so that the temperature at the fabric is min. 95°C (203°F).

For good results, two steam hoses should be available.

The edges of the fabric are shrunk first with direct application of steam from the hoses (previous page).

Once the edges have been shrunk, work can begin on shrinking the fabric around the drum. A steam pipe Ø 7–13 cm (3–5") is required: this should preferably be the same length as the drum. The two steam hoses are attached to the ends of the pipe. One side of the pipe is drilled with a row of holes 1.5–2 mm (2/32–3/32") and spaced at approx. 3 cm (1 3/16"). The purpose of this pipe is to ensure the steam is applied evenly to the surface of the drum.

The steam pipe should be fixed approx. 10 mm (3/8") from the surface of the fabric, with the steam holes pointing directly at the fabric. The steam pipe should be secured so that it remains in the same position throughout the shrinking process.

For effective results a thick cover (consisting of a piece of felt, tarpaulin, or similar) should be used to concentrate the steam against the fabric. This cover should be at least the same axial lenght as the drum, and it should cover the steam pipe and approx. 2–3 m (6–10 ft) of the fabric around the drum. Secure one edge of this material to prevent it from turning with the fabric when the drum is rotated.

Working in sections of about 1 m (3 ft) at a time, ensure each part of the fabric is exposed to the steam for at least 3 minutes. This can best be ensured by rotating the drum at least two revolutions during the shrinking process.

Valmet always recommends shrinking with hot water whenever possible.

Fabric repairs (pic. 8)

A repair strip, 300–500 mm (approx. 12–20") wide and of the correct lenght to fit the drum, is positioned over the damaged part of the fabric and shrunk onto the drum. The shrinking force of the fabric is sufficient to hold it in place.

Other installation methods

Shrinking the fabric with hot water through pulp washing showers

This is a good method if there is hot enough water available. Be careful to see that the fabric does not move until it has shrunk onto the drum.
Work in sections of about 1 m (3 ft) at a time, and ensure all parts of the fabric are shrunk under the washing showers for 3 minutes. The water temperature should be 93–100°C (199–212°F). If hot enough water is not available, a lower water temperature can be used in the beginning, provided that the steam is applied throughout the process to raise the water temperature.

Not recommended: electric heaters

Electric heaters should not be used to shrink fabrics, as this method can easily cause damage to the yarns.

Our 11,000 professionals around the world work close to our customers and are committed to moving our customers' performance forward - every day.

For more information, contact your local Valmet office. www.valmet.com

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