



ANDRITZ teXcal Raconip TT calender

ANDRITZ presents new generation of textile calendering

The latest development in textile calendering from ANDRITZ looks good, but the real beauty lies on the inside. The teXcal Raconip TT calender sets a new standard in smart, safe, top quality textile production.

With more than 150 years experience in developing and supplying calenders for textile applications, ANDRITZ leads the way in quality, performance and reliability. With the launch of its latest development, the teXcal Raconip TT, a new phase in the industry has begun where top performance, quality and safety, combine with the latest in smart, operation utilizing IIoT and digital solutions. This new calender was developed in cooperation with Rolf Ramisch, a well-known specialist in textile calender technology.

The production of technical textiles, such as sports wear, workwear, canvas and parachute fabric demands the most

vigorous of parameters for process technology and minimum tolerances for the end product. Consistency of quality is essential. Christian Meyer, Product Expert Textile Calender, says, "There are various added features on the teXcal Raconip TT, but one feature that truly stands out is the introduction of the latest smart technology that documents all elements of the operation including pressure, web tension control and temperature.

"This takes out the chance of operator error and results in much more consistent quality. And of course, it also means that information for previous recipes for products can be stored and easily accessed for the repeat run of products."

The new calender comes complete with an innovative, deflection-controlled roll – the newly developed Raconip roll. It offers maximum flexibility thanks to unrestricted profiling across the entire

fabric width by means of hydrostatic pistons. This guarantees the highest quality, such as absolute flatness and precise air permeability.

"The pistons are able to be individually adjusted according to the product requirements. This is based on a smart control system to ensure higher flexibility in zone correction and the highest possible correction potential especially at the fabric edges," says Josef Kohnen, Head of Technical Product Management.

Another important feature ANDRITZ has added to the teXcal Raconip TT calender is a "safe area" which has been created on the calender where the operator is able to touch and check the fabric web by hand with the added feature of a light bar that illuminates the entire infeed area.

Meyer says, "With the new calender, the operator now has excellent visibility

through the introduction of transparent guards that allow a visual at the exact moment when the fabric passes the nip, this has removed the danger of operators' fingers being caught by rotating rolls."

In terms of new technical innovations, ANDRITZ has introduced a new sleeve to the calender, the Racoflex plus. Josef Kohnen, says, "The Racoflex plus is an excellent new feature of the teXcal Raconip TT calender. It is made out of homogeneous composite material, which means it has an excellent bending behaviour. Also, and most importantly, this is combined with a high hardness. We are able to deliver Racoflex plus with up to 94 Shore D necessary for technical textiles.

"The benefits of these new sleeve types bring means that the hardness keeps constant no matter what the temperature conditions on the roll are. A very smooth surface ensures high compression and gloss development in the fabric web."

Technical Aspects of the texcal raconip TT

As mentioned, the new calender was developed in cooperation with Rolf Ramisch, a well-known specialist in textile calender technology. The product name teXcal Raconip TT is composed of "Ra" (Ramisch) "Co" (controlled) "Nip" (Nip) "TT" (Technical Textiles).

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The rotating sleeve of the Raconip deflection-controlled roll is supported on hydrostatic elements (pistons). The uniform, infinitely adjustable line force is transmitted to the sleeve via an oil film

For this type of roll a wide variety of covers and sleeves can be used:

Polyamide sleeve: Racolan, glass-fiber reinforced plastic shell with cover: Racoflex, and a homogeneous composite sleeve: Racoflex plus. Variable adjustment of pressure zones according to fabric width is ensured with all sleeve types.

The Racolan (polyamide) sleeve features high elasticity and high resilience. This sleeve is characterized by a

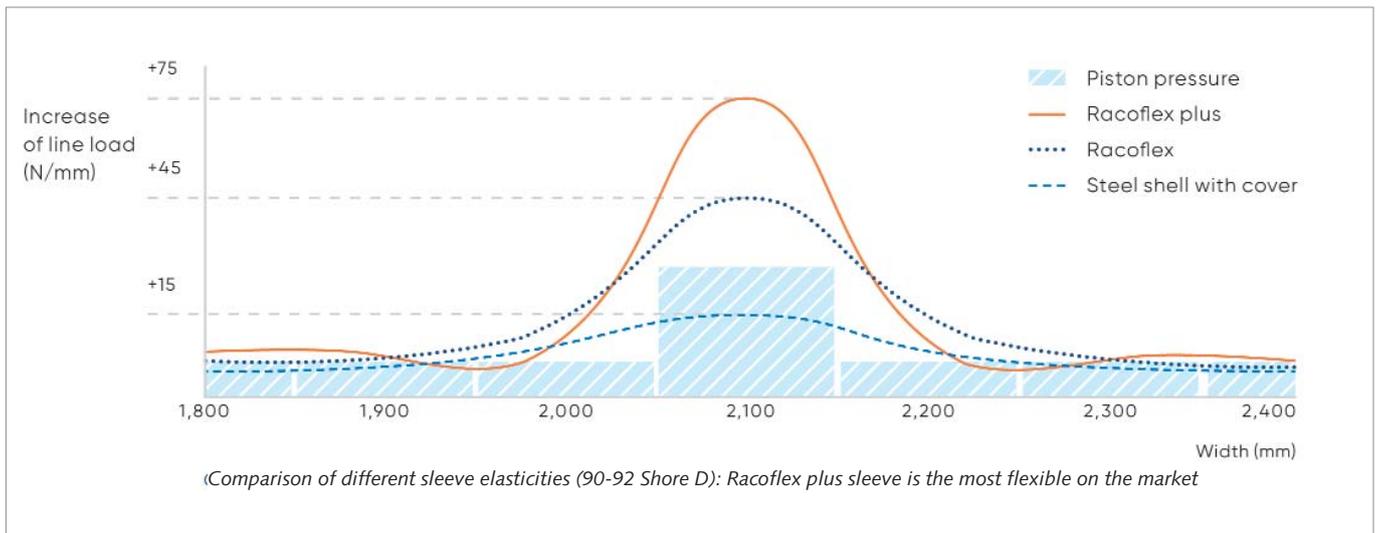
large resistance against indentations by seams, textile web edges and individual threads. Small scratches and surface defects can be equalized under pressure and temperature. Due to in-house manufacturing process (centrifugal casting) it offers an improved surface hardness.

The Racoflex sleeve is a composite cover carried by a glass-fiber reinforced



ANDRITZ teXcal Racoflex plus sleeve.





plastic shell (GRP-shell). The sleeve is characterized by a good adaptability to pressure relief and retraction forces in the edge area. It can be used as a carrier for a wide range of different covers and surface hardnesses. Also the use of a very soft rubber cover is possible.

Available exclusively from ANDRITZ, the Racoflex plus is a special composite sleeve made of a homogeneous composite material that provides excellent flexibility and bending. A very smooth surface ensures high compression and gloss development in the fabric web. The shell hardness is in the range of 90 – 94 Shore D, combined with high temperature resistance. Constant

hardness also at high operating temperature and small markings can be equalized easily under pressure and temperature. This has been proven by several stress tests in order to secure the reliability of the new sleeve.

The elasticity of the Racoflex plus sleeve is even higher when compared to the GRP-shell (Racoflex). The Racoflex plus sleeve is the most flexible sleeve on the market in terms of product deviations. In addition, with the same edge retraction pressures as a GRP shell (Racoflex), the nip relief at the Racoflex plus sleeve is much more sharp-edged. The edges are completely “unloaded”.

Besides two-roll calenders with individual configuration options, ANDRITZ also offers an innovative three-roll textile calendering concept which can also include the new Racoflex plus sleeve. The complete teXcal trike calender including the innovative sleeve, Racoflex plus, can be viewed in operation at ANDRITZ’s technical center for textile calendering in Krefeld, Germany. The installations at the technical center together with highly skilled process engineers are available to develop and ensure reliable technologies, optimize processes, evaluate new processes, and define parameters for product guarantees, as well as conduct trials before making an investment.



Getting Technical

Features of the teXcal Raconip TT

- ❖ Fabric web – tension control
- ❖ Pre-heating of the textile fabric
- ❖ Safety concept
- ❖ Operator-friendly handling of machinery during production
- ❖ Constant, stable and repeatable production conditions and product quality

Technical features calender

- ❖ Infinitely adjustable line force of 30 – 400 N/mm, means up to 150 tonnes total load
- ❖ Standard roll surface width: up to 3,600 mm (larger width possible for special applications)
- ❖ Adjustable pressing width to suit change in web width
- ❖ New C-frame with optimized web infeed
- ❖ Innovative Raconip deflection controlled roll with new Racoflex plus sleeve technology
- ❖ Contactless temperature measurement of steel roll

Technical features Raconip roll

- ❖ Piston control within several zones
- ❖ Infinitely adjustable line force 30 - 400 N/mm
- ❖ Variable adjustment according fabric width
- ❖ Retraction of pistons for edge relief

Technical features Racoflex plus sleeve:

- ❖ Excellent bending behaviour for edge retraction and local corrections
- ❖ Temperature insensitivity
- ❖ Highest product quality based on a high roll smoothness. ♦