



NONWOVEN
**RESPONSIVE SERVICE FOR
NONWOVEN CALENDERS**

FOR YEARS TO COME

JANUARY 2021

ANDRITZ

ENGINEERED SUCCESS

OVERVIEW



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SERVICE AGREEMENTS

BROAD SERVICE PORTFOLIO



to keep your calender at peak performance

- Constantly increasing demands for first-class production plants
- Reliable production is essential
- In-depth process expertise and excellent service is key
- Our full service portfolio ensures improved uptime, productivity, product quality and best cost of ownership



ONE ANDRITZ FOR YOUR ENGINEERED SUCCESS



Excellent engineering in an increasingly changing and growing market is key

- Vast know-how, global experience and worldwide service network
- ONE partner to meet your challenges in nonwovens production
- Rely on a competent partner
 - with a passion for nonwovens technologies
 - with spot-on services perfectly suited to your specific needs
 - with engineering as part of its DNA



GLOBAL NETWORK, LOCAL PRESENCE



- Goal of providing the most efficient and active support as possible
- Dedicated teams of skilled experts are located closest to you
- Service competence and support centers, and roll service centers across the world
- Well-represented through a great agents network to support and reach every region



CALENDER SERVICE CENTERS



ANDRITZ SHW, TORRINGTON, USA
(SERVICE AND ROLL SERVICE CENTER)

ANDRITZ INC, SPARTANBURG, USA
(SERVICE AND ROLL SERVICE CENTER)

ANDRITZ KÜSTERS, KREFELD, GERMANY
(COMPETENCE CENTER AND TECHNICAL CENTER)

ANDRITZ TECHNOLOGIES, CHENNAI, INDIA
(SERVICE CENTER)

ANDRITZ CHINA, WUXI BRANCH, WUXI, CHINA
(SERVICE AND ROLL SERVICE CENTER)



REBUILDS & UPGRADES

INCREASE OF PRODUCTIVITY, LINE AVAILABILITY
AND RELIABILITY, AND OPTIMIZED PROCESSES
WITH PROFOUND EQUIPMENT

REBUILDS & UPGRADES



Enhance your machine with state-of-the-art equipment

Increase your productivity, line availability and reliability and optimize processes with:

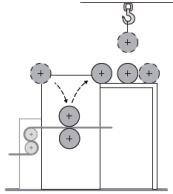



- Quick-change system for rolls
- Rotary joint automatic centering
- Flow control indicator for bearing of engraved rolls
- Upgrade chain drive system for Hot S-Roll
- Speed upgrades
- PLC upgrade
- Jet cooling
- Contactless measuring of roll surface
- Condition monitoring
- NTS („Nano-to-surface“) treatment roll surfaces
- Spot detection



REBUILDS & UPGRADES





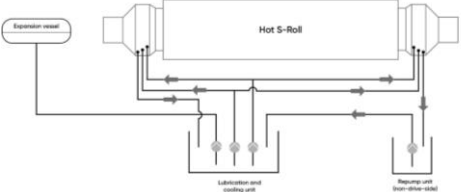
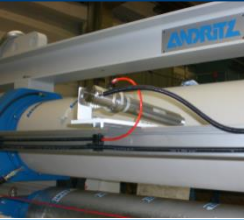
Discover your options

			
<p>Quick-change system for rolls for neXcal twin calender Local positioned roll magazine, situated at outlet, integrated in line layout</p>	<p>Rotary joint automatic centering System for modification of engraved and smooth rolls, periphery drilled and center bored rolls</p>	<p>Upgrade chain drive system for Hot S-Roll</p>	<p>Flow control indicator for bearing of engraved rolls Additional indicator for modification of existing neXcal twin calender and 3-roll stack calender</p>
<ul style="list-style-type: none"> • Quick, easy and safe change of rolls without installation work at the line • Leading roll at the conveyor belt does not cause problems • Easy lubrication of bearings • Economical solution, because only two fully equipped roll positions are necessary 	<ul style="list-style-type: none"> • No manual intervention for maintenance team anymore • Easy adjustment and more precision • Reduced wear and tear • No vibration created by the rotary joint 	<ul style="list-style-type: none"> • State of the art chain type • Improved chain lubrication • Improved tensioning system • Increasing of chain lifetime 	<ul style="list-style-type: none"> • It is now available as retrofit offer for existing machines • Integration of alarm list for each single bearing • Reduced risk of bearing failure • Easier monitoring of lubrication flow

REBUILDS & UPGRADES





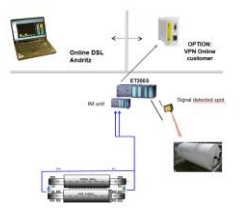

Discover your options

			
<p>Speed upgrades Upgrade your existing calender to achieve a higher efficiency</p>	<p>PLC upgrade</p> <ul style="list-style-type: none"> • Having state-of-the-art PLC • Ready for remote access and condition monitoring 	<p>Jet cooling for Hot S-Roll Strongly recommended for all machines running with higher speed than 400 m/min.</p>	<p>Contactless measuring of roll surface Non-contact temperature measurement of steel rolls during running production, incl. engraved rolls</p>
<ul style="list-style-type: none"> • Increased speed of calender • More productivity 	<ul style="list-style-type: none"> • Pneumatic upgrade replacement of existing mechanic / pneumatic pressure control system into electrical pressure control system • Replacement of obsolete PLC components 	<ul style="list-style-type: none"> • Lifetime extension of the slide ring sealing • Reduced roll repair costs • Tempering of the sealing, thus no overheating of the sealing and the running surface • No contact of the hot leakage oil to oxygen, thus no cracking of oil • Constant rinsing of all oil components, thus very clean environment for the sealing, thus no deposition of residues 	<ul style="list-style-type: none"> • Improved process control and monitoring with precise temperature control • Operator-friendly handling • Improved reliability for production limits • Infrared sensor for temperature measurement from 110°C to 400°C and at any speed

REBUILDS & UPGRADES



Discover your options

		 
<p>Condition monitoring Monitoring the conditions of the machinery equipment at any time and increases line availability</p>	<p>NTS treatment Micro-engraving on top of all uncoated steel roll surfaces e.g., S-Roll, Hot S-Roll, engraved roll</p>	<p>Spot detection Detecting spots in the fabric Reducing waste production</p>
<ul style="list-style-type: none"> • Increased availability – avoidance of unplanned shut-downs and catastrophic damages • Maximum utilization of the working parts • Improved Life-Cycle Management • Reduction of operation & maintenance costs, predictive maintenance • Monthly report with all data 	<ul style="list-style-type: none"> • Reduces the amount of polymers adhering to the engraving valleys and flanks • Reduction of wrap-up risk • Reduced need for cleaning • Increased production time • Increased process reliability 	<ul style="list-style-type: none"> • Detected spots can be erased which helps to keep the quality of the produced material • Avoids additional manual work to find spots



AUDITS & PROCESS OPTIMIZATION

INSPECTION OF YOUR CALENDER, QUALIFIED REPORT
AND RECOMMENDATIONS TO OPTIMIZE YOUR PROCESS

AUDITS & PROCESS OPTIMIZATION



Keep up with the ever changing and more demanding nonwovens market

- Process specialists are available to inspect your calender
- Proposal of improvements to
 - extend the product life of your equipment
 - gain productivity
 - produce even more innovative, higher margin nonwoven fabrics
- Let's discuss what the best option for your operation is!





SPARE & WEAR PARTS

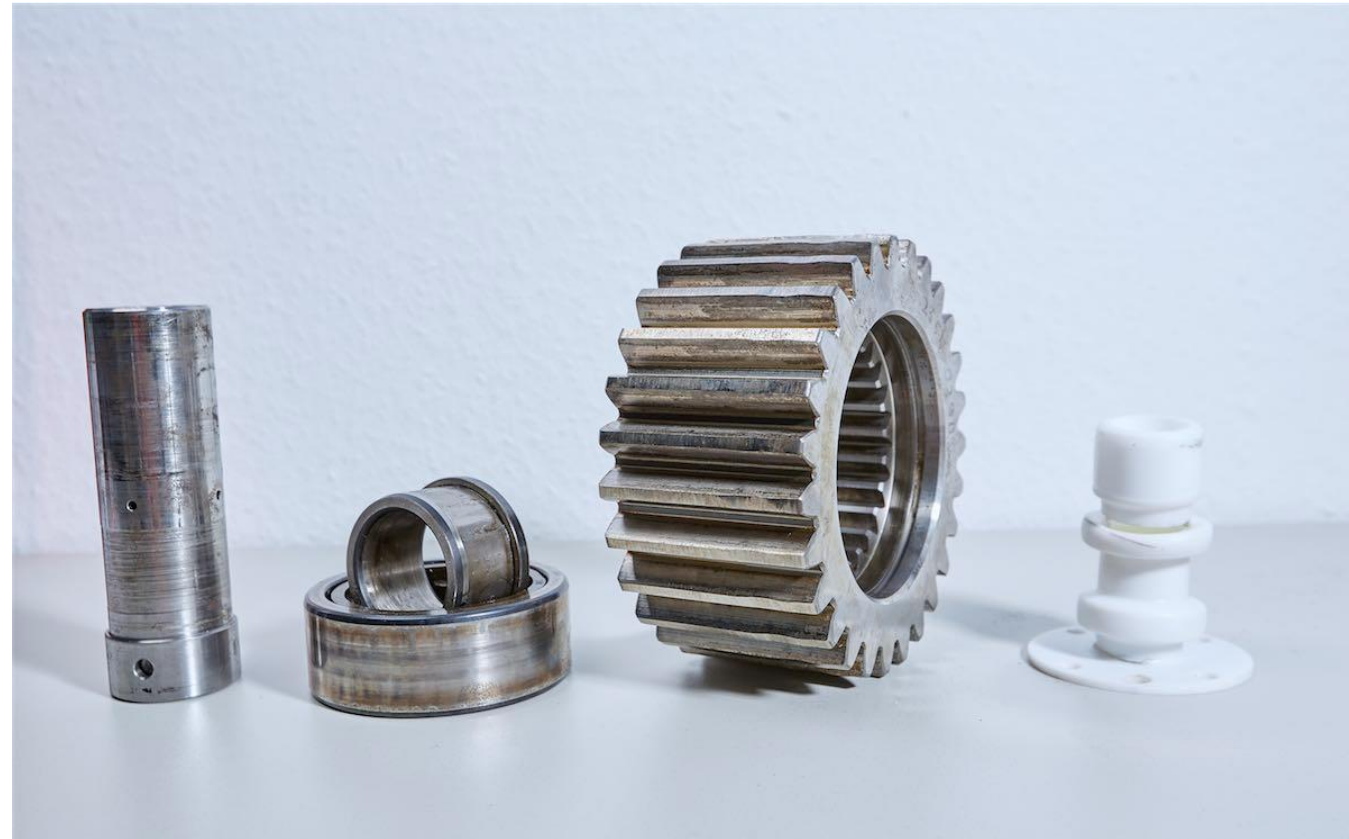
GENUINE SPARE AND WEAR PARTS, INSTALLATION
SERVICE, INSPECTION AND AUDITS, AND TAILORED
SPARE PART KITS

SPARE & WEAR PARTS



Not only a critical but also a strategic issue to avoid downtimes

- Ensure the integrity and performance of your equipment, we recommend using only original parts from ANDRITZ
- A sales team for is at your disposal to
 - inspect and audit your parts
 - help you to make your choice
 - recommend tailored spare part kits
 - install the parts on your calender



SPARE PART KITS



Ensure an increased uptime with the right parts onsite

- Our experts tied up special spare part kits, with essential parts necessary for your production.
- Tailored packages for each machine type in an intelligent combination for each important device

Your benefits:

- Operational reliability
- Spare parts are available in critical situations
- Increased uptimes
- Replacement of all relevant parts per sub-equipment increases the reliability of the entire system





LOCAL & ONSITE SUPPORT

RESPONSIVE LOCAL SERVICE CENTERS AND FIELD SERVICE TECHNICIANS

LOCAL & ONSITE SUPPORT



Highly trained field and service engineers around the globe

- Qualified team available to provide best service at your own site
- Perfect know-how based upon installed base and continuous R&D
- Scope of onsite services comprises
 - Erection and installation
 - Inspections and online diagnosis
 - Maintenance and predictive maintenance
 - Retrofits
 - Training of operating and maintenance personnel





ROLL SERVICE

ORIGINAL SPARE ROLLS, ROLL REPAIRS AND
RECONDITIONING OF DAMAGED ROLLS

ROLL SERVICE



Keep your profits rolling

- Our core competence for decades
- Ensured top performance and a reliable partner
- Roll specialists around the globe have the expertise and tools to upgrade, recondition and repair all types of rolls
 - Complete overhaul of rolls from all suppliers
 - Roll grinding (cold and hot)
 - Repairs as well as new engravings of steel rolls
 - New covers for elastic rolls



ROLL SERVICE



Roll service centers cut long roads short and extend the life-time of your rolls

- Special roll service centers in Krefeld, Spartanburg, and Wuxi with highly skilled personnel
- Well-equipped with milling and drill processing centers, grinders, lathes, roll balancing equipment, and roll test stands
- Expertise and specialized tools to recondition and repair of damaged rolls, roll inspection and modernization.



ROLL SERVICE



Roll service centers cut long roads short



ANDRITZ Küsters
Spartanburg, USA

The service center encompasses:

- Roll repair, reconditioning and upgrades
- Three cutting-edge grinders and a lathe
- Roll balancing equipment
- State-of-the-art dynamic roll test stand



ANDRITZ SHW
Torrington, USA

The service center encompasses:

- Roll repair, reconditioning and upgrades
- Cutting-edge grinders and a lathe
- Roll balancing equipment
- State-of-the-art dynamic roll test stand



ANDRITZ (China) Ltd.,
Wuxi branch

The service center encompasses:

- Roll repair, reconditioning and upgrades
- Grinding equipment
- State-of-the-art roll test stand



ANDRITZ Küsters,
Krefeld, Germany

The service center encompasses:

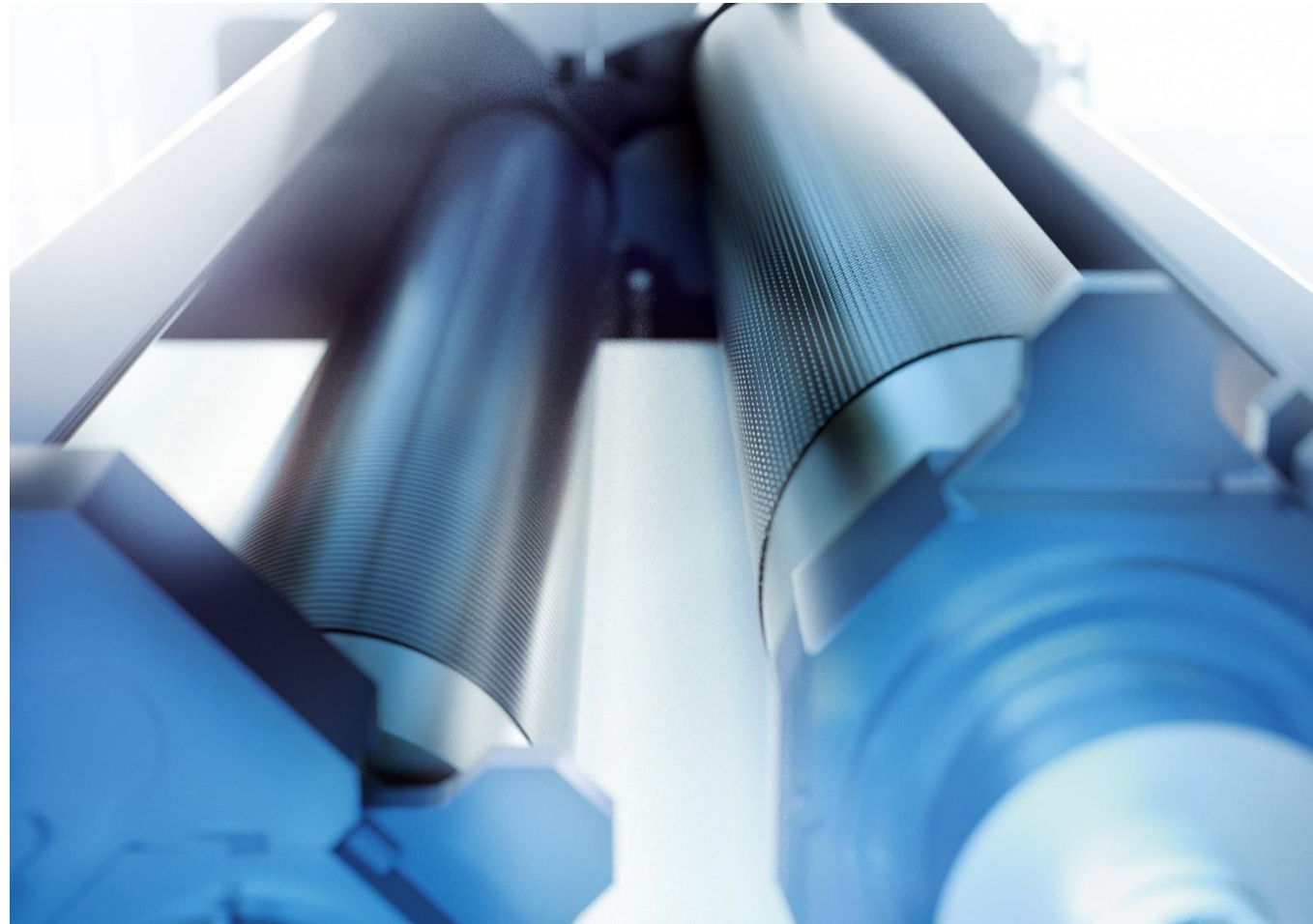
- Roll repair, reconditioning and upgrades
- Five cutting-edge grinders and six lathes
- Two Milling and drill processing centers
- Two state-of-the-art dynamic roll test stands

SPARE ROLLS



Be on the save side with our spare rolls

- Avoid extensive production downtime with a full set of original spare rolls
- Prepared for emergency situations without loss of revenue
- Our roll specialists assist you with the selection of original spare rolls





REMOTE ASSISTANCE & 24/7 HOTLINE

VIRTUAL GUIDANCE, REMOTE SUPPORT AND VERY
PROMPT SUPPORT VIA SERVICE HOTLINE OF YOUR
CALENDER FROM A DISTANCE

REMOTE ASSISTANCE & 24/7 HOTLINE



Save time and money with our remote diagnostic support

- Dedicated teams of experts located in all nonwoven service hubs, are ready to support you concerning
 - Mechanical
 - Electrical
 - Process
 - Complete remote connection service
- Prompt support by our hotline 24/7
Call: +33 4 26 700 500





TRAININGS

OPERATOR TRAINING AND TAILORED SEMINARS
FOR OPERATING AND MAINTENANCE PERSONNEL

TRAINING



Join our product and process trainings and seminars

- Seize the opportunity to
 - Learn how fibers become fabrics
 - Develop your own products
 - Find out the latest news on calendering processes
 - Get to know all about the operation and maintenance of your calender
- Experienced staff provide the best and unique know-how drawn from our installed base and continuous R&D

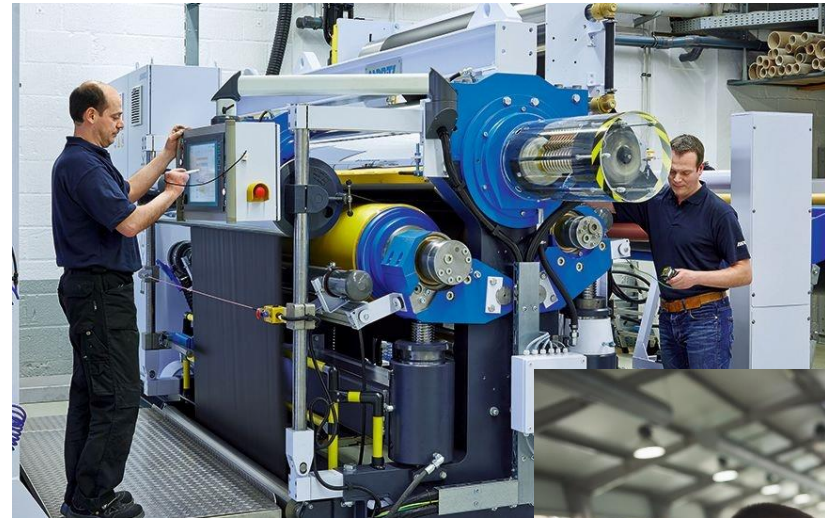


TRAINING



Available at ANDRITZ Küsters, at customer side or as online meeting

- The right mix of theory and practice
- Direct relation to your professional field of application
- Transfer of a high level of expertise in calender and roll technology
- Practical training at ANDRITZ calender pilot plant and/or at customer side
- Extensive communication possible through small training groups (six persons per group)





TECHNICAL CENTER

TRIALS ON NONWOVEN AND TEXTILE CALENDERS
AND EXPERIENCE OF NEW PRODUCTS IN OUR
TECHNICAL CENTER IN KREFELD, GERMANY

TECHNICAL CENTER



for calendering processes

The technical center is well-equipped to handle many fields of application:

- Embossing for wipes
- Calibration for melt-blown material
- Laminating of roofing material or filters
- Thermobonding, perforating of top-sheets
- Compacting of wetlaid fabrics
- Comparisons between thermal and ultrasonic laminating
- Textile finishing...



TECHNICAL CENTER



For nonwoven and textile applications

PILOT CALENDERS (various roll combinations and configurations can be applied)

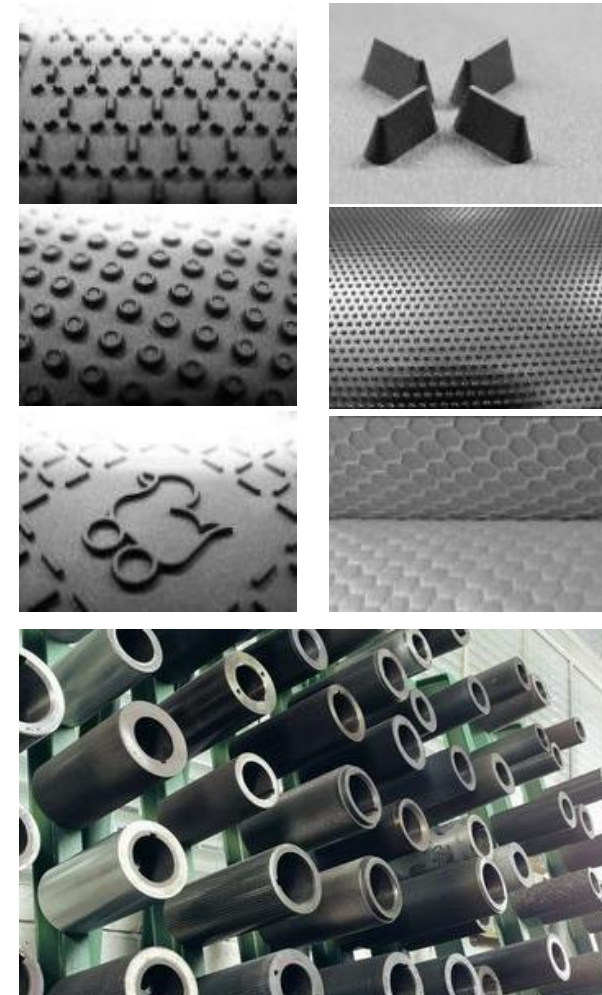
- 3 roll laboratory calender (1) with pressure up to 300 N/mm and speed 300 m/min
- 3 roll laboratory calender (2) with pressure up to 400 N/mm and speed 1 - 500 m/min
- 2 roll laboratory calender (3) with pressure up to 300 N/mm and speed 5 – 80 m/min
- 3 roll production calender (4) with pressure up to 400 N/mm and speed 5-85 m/min

ROLLS AND SLEEVES

- More than 200 engraving rolls and shells
- Various sleeves and coatings e.g. polyamide, composite, cotton, rubber and silicone with a hardness range of Shore A-D and a width of 300mm can be chosen
- Special rollers available for aramid papers and automotive upholstery in roll width 300mm

ADDITIONAL EQUIPMENT

- Air-permeability measurement
- 3D microscope





SERVICE AGREEMENTS

PREVENTIVE MAINTENANCE, CONTRACTS FOR
SPARE PARTS, MAINTENANCE, INSPECTIONS,
REPAIRS, UPGRADES, ETC.

SERVICE AGREEMENTS



Partnership is key

- Commitment to clear quality and profitability goals for constant progress
- Perfectly suited to your service needs
- Preventive and predictive maintenance
 - saves your time
 - increases the plant availability
 - increases the plant flexibility





SERVICE CONTACTS

YOUR DIRECT CONTACT TO OUR CALENDER EXPERTS



SPARE PARTS

p: +49 2151 34 11 17

service.kuesters@andritz.com

ROLLS AND REBUILDS

p: +49 2151 34 17 93

service.kuesters@andritz.com

ON-SITE SERVICE AND TRAININGS

p: +49 2151 34 11 36

service.kuesters@andritz.com

HOTLINE 24/7

p: +33 4 26 700 500

CHINA

ANDRITZ (China) Ltd.

Wuxi branch office

p: +86 510 8536 1269

nonwoven-china@andritz.com

INDIA

ANDRITZ Technologies Pvt. Ltd.

Chennai, India

p: +91 44 4293 9393

nonwovenservice.india@andritz.com

USA

ANDRITZ Inc.

Spartanburg, USA

p: +1 864 587 4848

nonwoven-america@andritz.com

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