



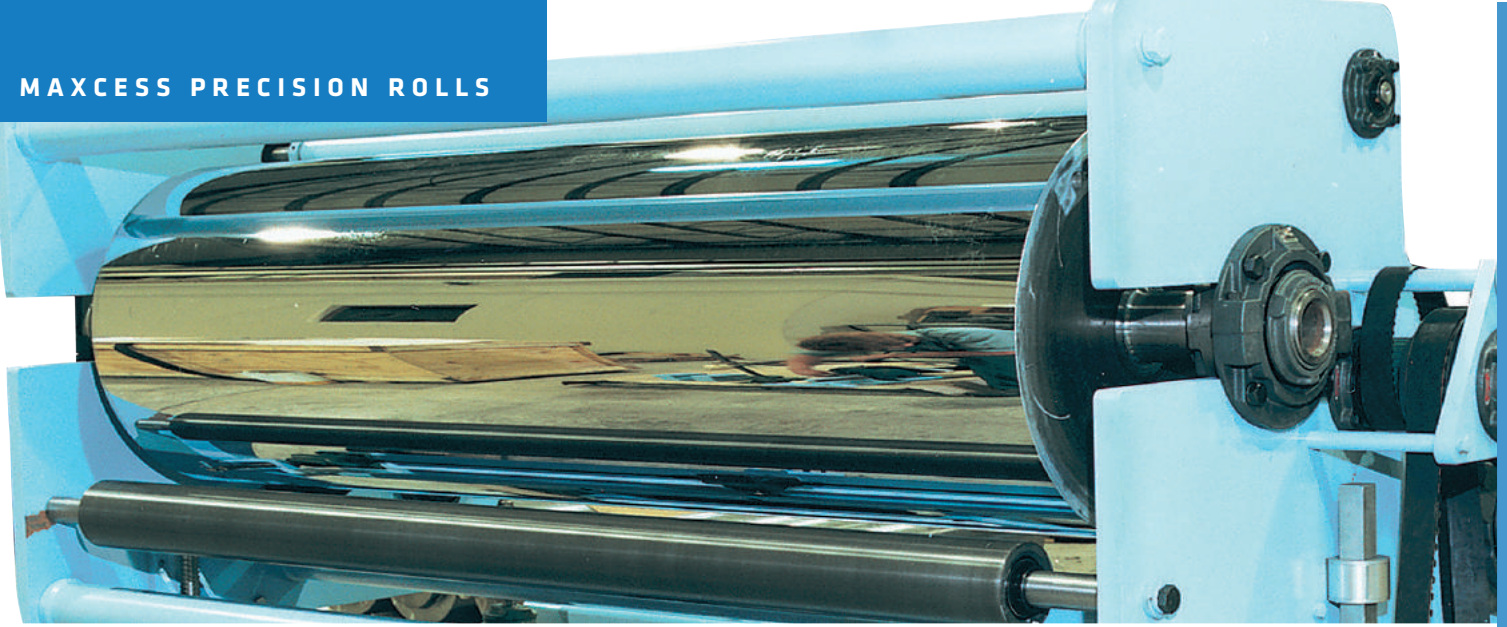
**WEBEX**



# ***MAXCESS PRECISION ROLLS***

Heat Transfer Rolls, Vacuum Rolls, Idler Rolls, Roll Coverings

# MAXCESS



### Industry Leaders Trust Maxcess

We do more than manufacture the premier Precision Rolls of the industry, we provide robust solutions to maintain the critical properties of your web.

Through the expertise of Webex, Valley Roller, Menges Roller and Componex, our engineers have decades of experience in designing and producing Precision Rolls. We have the expertise to understand exactly how our rolls will perform in an application.

Many of the world's leading companies trust us to provide Precision Rolls for their most challenging web handling needs. Maxcess has maintained a solid reputation by understanding the unique needs of our customers, engineering the right solution and manufacturing the highest quality Precision Rolls in the industry. We invest the time in every roll we manufacture to ensure every detail is correct.

**WEBEX**

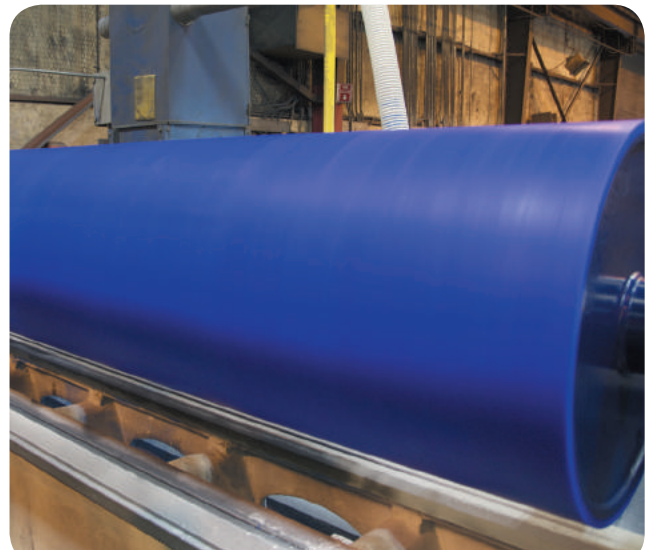
**ValleyRoller**

**MENGES  
ROLLER**

**COMPONEX**

### The Maxcess Precision Roll Advantage

We welcome the opportunity to solve the most difficult web handling challenges. Our design and manufacturing teams have extensive experience with Precision Rolls in a wide range of industries with unique requirements. Whether handling asphalt roofing material or optical grade precision film, every roll we produce has been engineered and built to the exact specifications required to solve an application challenge and exceed expectations. The value our engineers bring to each project is unique in the industry.



### Worldwide Service and Support

As part of the Maxcess team, we offer the most comprehensive array of accessories and complementary equipment in the industry. Thanks to our brands of Fife (Web Guiding & Inspection), Tidland (Shafts, Chucks and Slitting Systems) and MAGPOWR (Tension Control), Maxcess provides a global reach with operations in North America, Europe and Asia.





## Heat Transfer Rolls

Menges and Webex have compiled a wide range of design options to manufacture the most efficient Heat Transfer and Chill Rolls. Our engineers evaluate roll size, internal geometry and fluid dynamics to develop the most efficient roll for each application.

### How to maintain the perfect temperature across the entire width of your web

Our engineers rely on industry experience and computerized software analysis to predict what the exact thermal performance of each Heat Transfer Roll will be. By controlling the diameter and flow of fluid velocity, our Heat Transfer Rolls can be accurate to within  $\pm 0.5^{\circ}\text{C}$  ( $\pm 1^{\circ}\text{F}$ ).

-Menges Roller provides award-winning Computational Fluid Dynamics Modeling (CFD) to design Heat Transfer Rollers. All factors and inputs such as physical properties, chemical factors, fluid properties, motion data, material properties and more are considered.

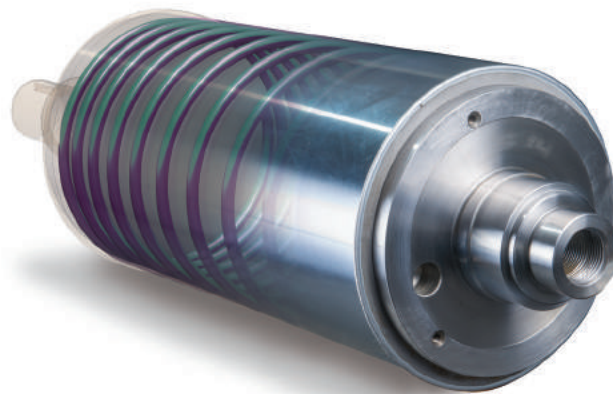
-Mirror chrome or "super finish"

-Double shell and Copper Chill rollers available

-Manufactured from prints or reverse-engineering

-Finite Element Analysis

-Combined 95+ years of experience



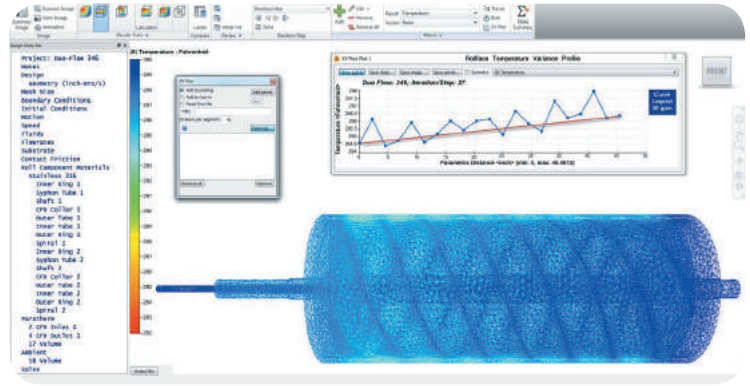
### Quality and consistency are backed by rigid certification

- ASME Certification at Webex demonstrates our ability to meet and uphold the most stringent manufacturing standards
- ISO Certification at Webex demonstrates a long-standing dedication to maintain documented processes adopted by the international manufacturing community
- A global focus on Lean Manufacturing processes ensure that your Precision Roll is manufactured in an efficient environment, where experienced machinists and certified welders can focus on producing the highest quality rolls.



### Advanced Software

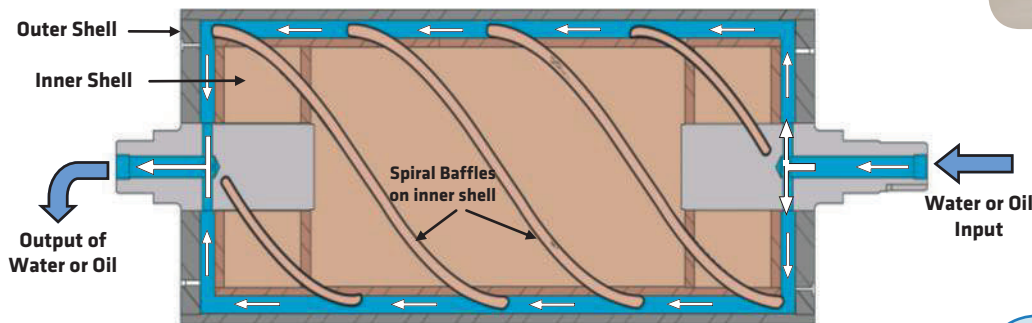
Our advanced simulation and design software considers every possible parameter to take the guesswork out of predicting roller performance. Our Computational Fluid Dynamics software is able to generate an accurate image to see how much hot or cold energy a roll will generate. We can see how a roller will perform before we build it.



### Double-Shell Mono-Flow Configuration

With the mono-flow design, thermal transfer fluids enter one journal bore and exit the opposite journal bore.

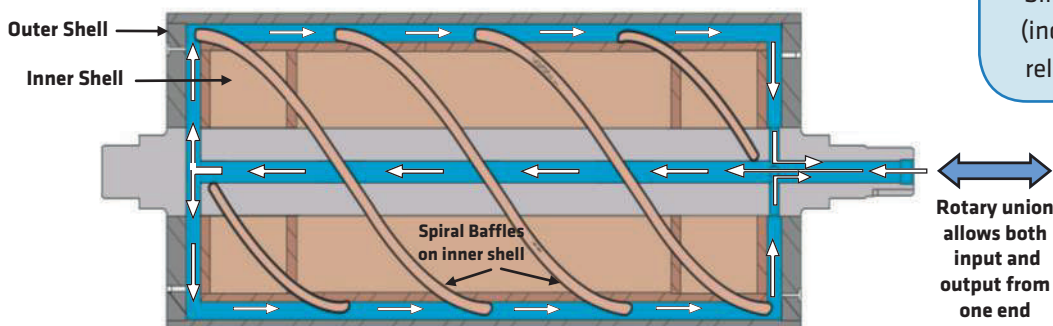
This configuration provides high flow rates and outstanding temperature control. Our expertise in fabricating these rollers is unsurpassed.



### Double-Shell Duo-Flow Configuration

With the duo-flow, thermal transfer fluid flows both in and out of the same journal bore. This is made possible by a special rotary union.

This type of roller offers excellent temperature control, and our team excels at manufacturing this complex design.



### Finish Options

- Chrome Plated
- Nickel Plated
- Grit/Shot-Blasted Matte Finish
- Standard Lathe Finish
- Machine-Cut Grooved
- Tempered and Hardened Treatments
- Matte and Croydon Finishes
- Thermal Spray and Plasma Coating (including Tungsten Carbide)
- Silicone or Thermal-Plastic Rollcovers (including heat-resistant, high-release silicone)



### Vacuum Rolls

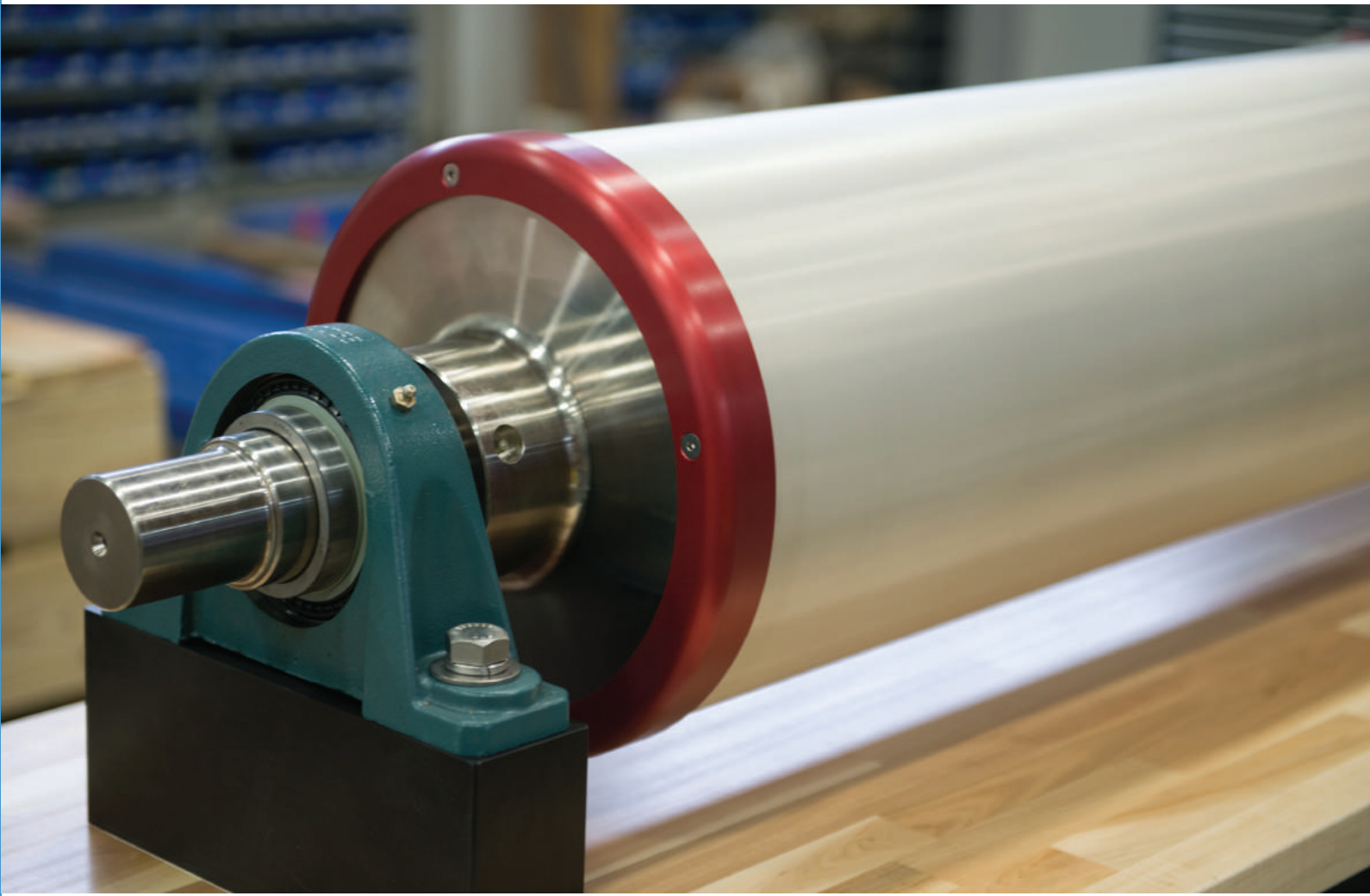
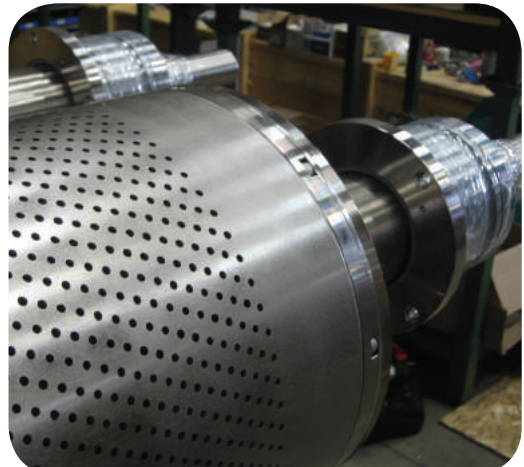
Webex Vacuum Rolls are an ideal solution for applications in which nip rolls or contact with both sides of a web is not possible or desired. They are also an excellent tension isolation and control point ahead of flotation ovens where webs are coated on both sides. By drawing one web surface into contact with the roll, Vacuum Rolls increase friction forces and help prevent web slippage.

### Optional Seamless Screens

Webex Vacuum Rolls incorporate a smooth, ultra-fine, seamless nickel screen that provides consistent grip across the entire width of the web without damaging even the most delicate coated materials. The roll surface carries and supports the web while the vacuum grid gently holds the web evenly in all directions.

Our Vacuum Rolls have proven themselves in some of the harshest environments possible while continuing to maintain accurate and delicate web control.

- Ultra-thin coated films
- Pressure-sensitive papers
- Decorative products
- Adhesive tapes and optical film for the aerospace, biomedical and pharmaceutical industries



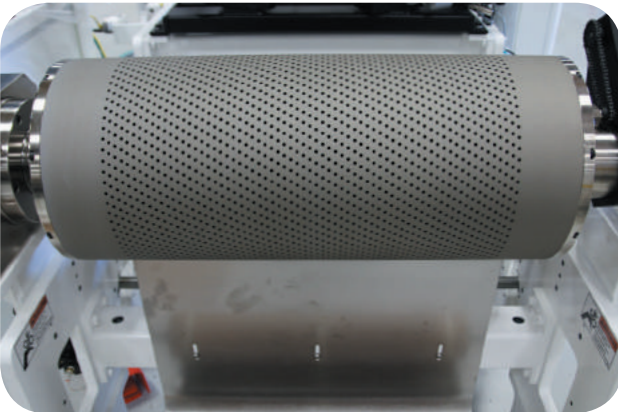
### Every Webex Vacuum Roll is designed for your unique application

- Vacuum zone angles configured to match the web wrap
- A wide variety of custom options
- Adjustable vacuum zones for varying web widths
- Flame spray coatings for release and traction
- Clean room and cantilevered designs

Protective screens provide consistent grip across the entire width of the web, and extra protection for sensitive materials. We offer a wide variety of screens and coverings to prevent marking of delicate webs.

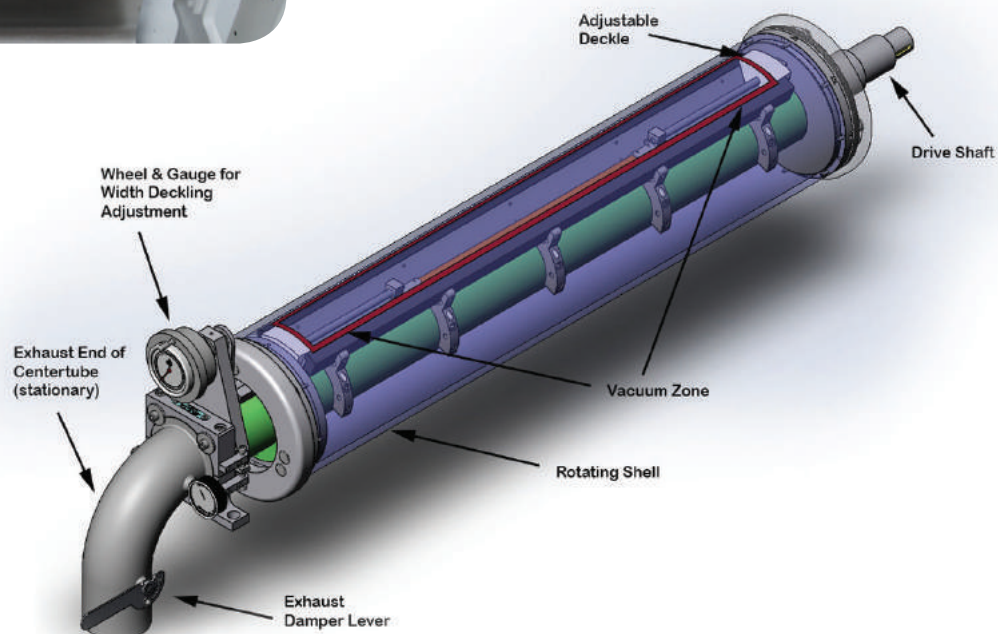
These includes:

- Ultra-fine, seamless, nickel screen for the most delicate coated materials
- Wool felt covers
- Fine stainless steel wire mesh screens
- Standard tungsten carbide plasma for an all-purpose finish with good traction and release properties
- Rubber (polymer compound) coatings available



### The non-slip, single side grip of Webex Vacuum Rolls make them ideal for:

- Controlling/transporting webs with coating or adhesives on one side
- Controlling webs made of sensitive materials, such as optical film
- Web positioning and control at high speeds
- Handling and stabilizing webs in low-tension operations
- Webs requiring a pull roll without a nip
- Separating layers of a web
- Web tension isolation
- Replacing nip rolls and S-wraps for improved safety and reduced scrap



### Webex Bowed Rolls

Our rugged Bowed Rolls provide effective control of slit web separation and wrinkle removal. Bowed Rolls are available in both permanent bow and adjustable bow models. Webex's proven mounting solutions ensure ease of installation, as well as extended versatility in web control.

These precision Bowed Rolls are ideal for separation of slit webs, the elimination of web wrinkles, slack edges or loose centers caused by inconsistent tension across the width of the web. Exceptional performance of Webex Bowed Rolls is evidenced by the even distribution of lateral web tension and vibration-free operation at all specified speeds.

### Bowed Roll Models Available

#### Adjusta-Bow

Highly versatile rolls with adjustable bow to meet varying web conditions:

- Adjustable bow to accommodate different product weights, tensions and materials
- Standard diameters from 89 to 165 mm (3.5 to 6.5 inches)

#### Perma-Bow

Rugged fixed Bowed Rolls engineered for consistent, stable performance:

- Amount of bow is engineered for each application
- Standard diameters from 38 to 165 mm (1.5 to 6.5 inches)

### Rubber Covered Spreader Rolls

Grooved rubber-covered spreader rolls remain one of the most cost-effective and frequently used solutions to eliminate web wrinkling. A partnership with Valley Roller, these idlers are covered with a rubber elastomer and are precision machined with angled, outward spiraling grooves across the roll surface. There are different elastomers available for use, each with different physical properties such as solvent resistance, heat resistance and hardness. In addition, various groove patterns are available to meet your specific application needs.



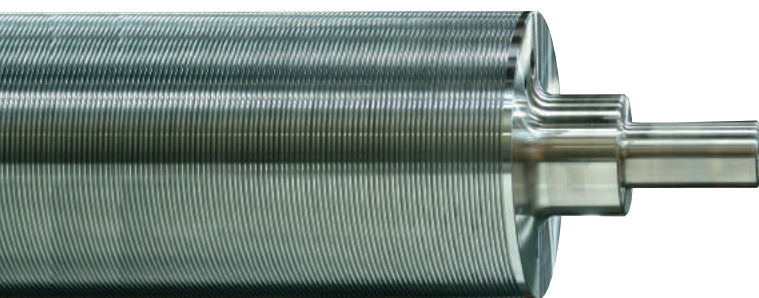
- Separating
- Spreading
- Dewrinkling
- Non-slip
- Tracking
- Air Elimination





### Process-Critical, Heavily Loaded Rolls

We handle extreme specifications in a wide array industries, from paper to food and pharmaceutical. Webex and Menges rolls are designed for the tightest tolerances, largest diameters, strongest designs and fastest line speeds. Our teams work with a diverse array of materials, coatings, and machined patterns to address specific process requirements.



- Rolls built in accordance with ASME Boiler and Pressure Vessel Code (Stamps U, UM and R)
- Embossing Rolls
- Flaker Rolls
- Pleating Rolls
- Dancer Rolls
- Coating Rolls
- Nip Rolls
- Calendering Rolls
- Laminating Rolls

In addition to setting the standard for idler rolls, Webex and Menges Roller have unique capabilities in the industry to produce large custom rolls unequaled by competition. Through our specialized design and manufacturing capabilities, we are able to produce rolls in excess of 1400 mm (55 inches) in diameter and 13,208 mm (520 inches) in length at Webex and rolls up to 1473 mm (58 inches) in diameter and 10 meters (33 feet) in length at Menges Roller.





### Industry leaders trust Webex and Componex for Idler Rolls that perform in the most challenging environments

Throughout a combined 65 years of producing Idler Rolls, Webex and Componex have been the premier supplier for the web handling industry. Our rolls are configured to your requirements by a knowledgeable staff who understand your application and what roll properties will provide the best solution. From proper bearing selection, construction materials and final coatings, our Idler Rolls are built with the precision and robustness to make your application a success. In addition, our WINertia™ Dead Shaft Idler Rolls offer the shortest lead times in the industry, with a five-day delivery guarantee.

### Ease of Selection

Our engineers have the expertise to assist in the selection of the perfect idler roll solution. When an application requires high speeds, heavy loads, tight tolerances or all three, we have the solution that you require. The selection and ordering process is further streamlined through the availability of over 400 standard configurations. Our designers can develop the ideal solution from nearly limitless combinations. With the ability to choose from multiple options for coating, plating, finish, groove patterns, shaft style, and environmental capabilities such as high temperature or clean room requirements, the selection of an idler roll can be made with the confidence that it will perform reliably for a very long time.



Our products evolve with the needs of our customers. Count on Webex and Componex Idler Rolls to meet your most demanding speed, rolling resistance, tension and width requirements. Chances are, we've been there before.

- High line speeds
- Heavy loads
- Tight tolerances
- Challenging environments; clean room, corrosive chemicals, intense heat

#### Machined Surfaces

- Chevron Groove
- Spiral V Groove
- Herringbone Groove
- Micro Groove
- Reverse Taper

#### Coatings and Coverings

- Hardcoated Aluminum
- Electroless Nickel Plating
- Rubber Covering
- High Release Tungsten-Carbide



### Webex Standard Aluminum Live Shaft Idlers

Webex Aluminum Live Shaft Idlers can handle substantially elevated temperatures with proper venting. This makes Live Shafts ideal in ovens where an elevated temperature or solvent atmosphere would quickly destroy dead shaft roll bearings.



### Webex Carbon Composite Idler Rolls

Unmatched for their combined strength and low weight, advanced carbon fiber composite tubing gives these rolls nearly twice the load bearing capacity of standard aluminum rollers, with only a third of the weight. Every roll is dynamically balanced for high speeds and exceptionally smooth performance.

- High strength and low weight
- Lowest inertia ratings
- Superior tension control
- Run wider webs at higher critical speeds
- Higher load capacity than comparable aluminum rollers

### Webex Custom Aluminum Idlers

Webex custom Dead Shaft Aluminum Idlers are some of the most versatile and hardworking idlers on the market today. Weighing nearly half as much as comparable steel rollers, aluminum idlers still provide exceptional performance across a broad range of applications. This reduced weight makes them ideal for applications requiring lower web tensions and minimal web wrap.

- Lower inertia when compared to a steel idler
- Ideal for lower web tensions
- More corrosion resistant than steel
- Dynamically balanced for high speed operation



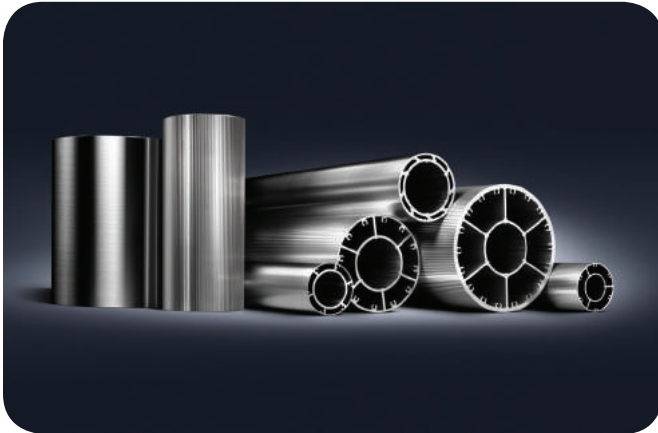


## WINertia™ Idler Rolls by Componex

**5 Day Delivery! The fastest lead time in the industry**

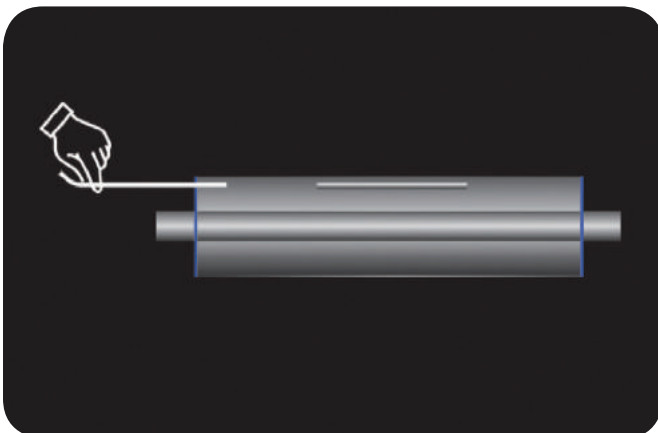
### WINertia™ Tubing

Our extruded aluminum profiles match each idler application, designed to maximize strength and minimize rotational inertia. In addition, the Tube ID matches the bearing OD and includes built-in balancing chambers



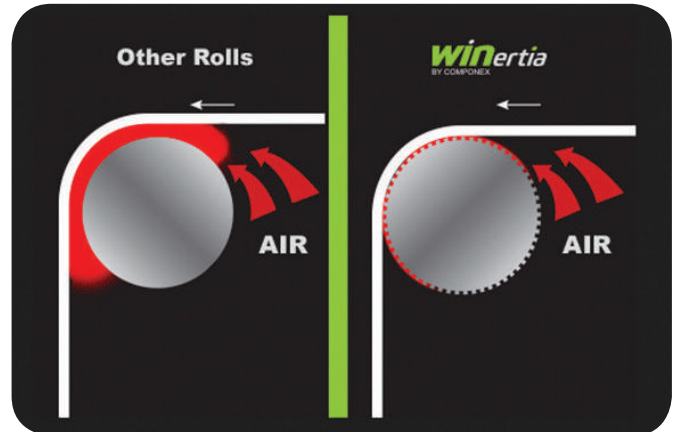
### Dynamic Center-WIN Balancing

Balancing weights are placed at the center of the roll and are locked into the balancing chambers by design, ensuring they cannot fall out. By balancing across the entire face of the roll, you will see a reduction in whip and vibration. Our dynamic balancing spec is ISO 1940 G6.3 at 2000 FPM.



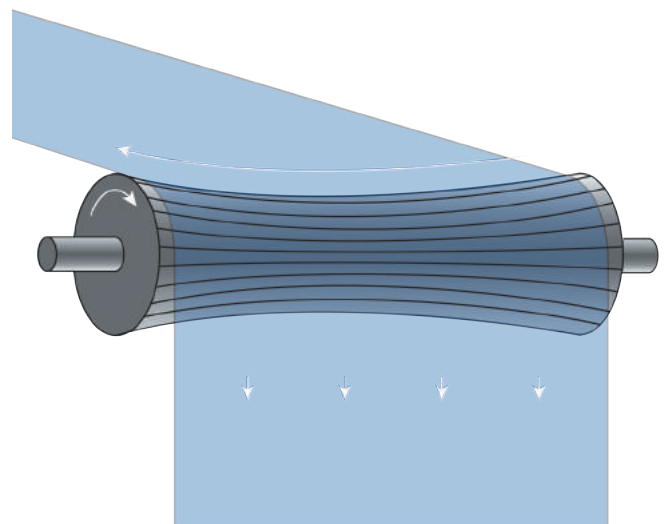
### WINertia™ AV

Our WINertia AV Idler Rolls include built-in “air vents”- lateral grooves that remove trapped air. This maintains constant web traction at speeds up to 3400 FPM. In addition, it prevents web scratching, slipping, sliding and outperforms smooth and spiral grooved rolls.



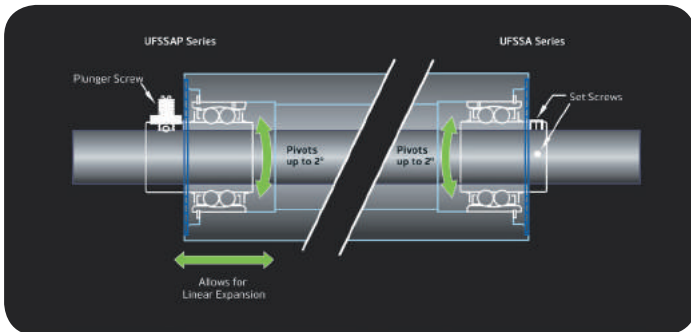
### WINertia™ AV Reverse Crown Spreader

Our WINertia AV Reverse Crown Spreader is designed with a center taper profile that is machined with a smaller diameter in the center than at the ends. This spreads the web from the center out, removing wrinkles and improving web quality.



### WINertia™ Self-Adjusting Bearings

Our bearings self-adjust radially to compensate for deflection. They also self-adjust linearly to compensate for thermal expansion and contraction, helping the roll maintain constant free spinning rotation and prevent bearing failure.



### WINertia™ Calculator

Our WINertia calculator uses your application parameters to display both roll and shaft deflection calculations to quickly recommend a WINertia roll and shaft size to match your application, reducing engineering time and cost.



### WINtrac™ Thermal Spray Coatings

We offer a durable, environmentally-friendly base coat with high-release top coatings. These offer in-line integration with WINertia roll manufacturing.

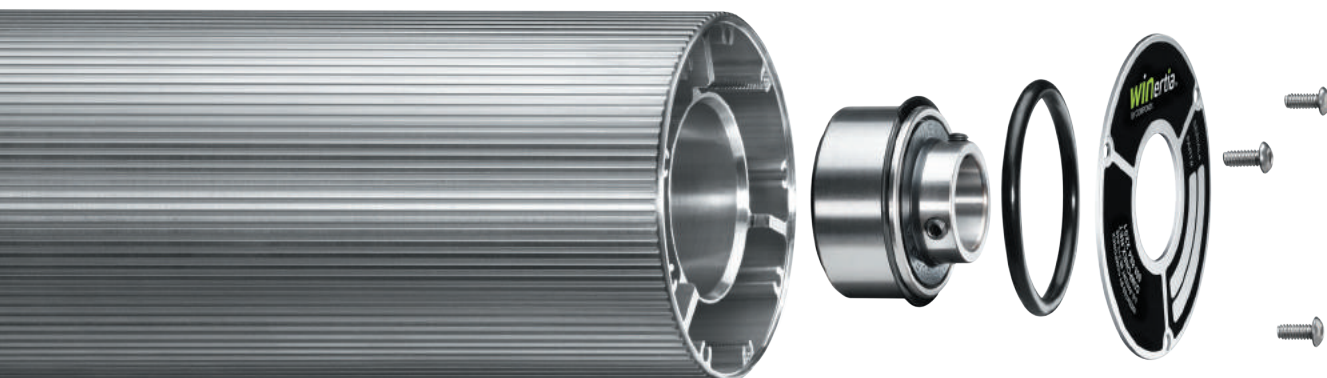


**WINtrac™ 5 Ultrasmooth Ink Release-** High performance, smooth fluoropolymer coating designed for easy roller clean up.

**WINtrac™ 40 High Traction Adhesive Release-** High release silicone top coat provides ultimate adhesive release properties while maintaining traction.

### WINlock™ Bearing Protection

Our unique end caps and gasket design lock the bearing in while locking out the dirt! In addition, our WINclip bearing retention prevents bearing walkout.





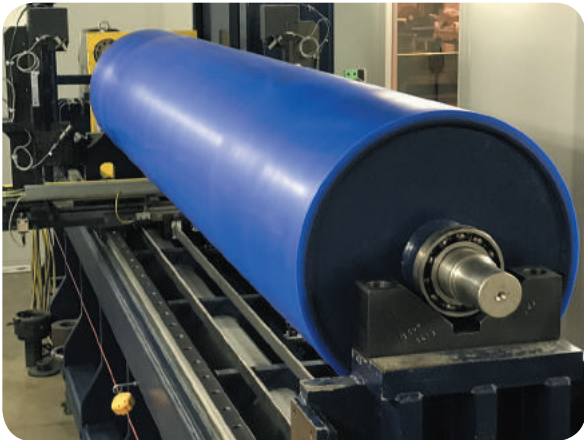
Valley Roller and Menges operate six large programmable-controlled autoclaves around-the-clock to cure all new and rebuilt rolls. Computer-controlled temperature and pressure ramping creates exacting physical properties in each rubber compound. In addition, each temperature history is recorded as part of the manufacturing process.



### Setting New Standards in Industry Tolerances

Roll finishing is performed using one of 14 different roll grinders. Here, we can do more than just the standard shop tolerances. Our computerized grinders are capable of producing any industrial crown specification, with precision grinding tolerances that far exceed industry standards. Whatever your application, we can help specify the best possible rubber compound and the right tolerances to ensure better roll performance.

For applications requiring a near perfect grind profile, Valley Roller offers a laser inspection system. This system offers non-contact measurement for highly accurate, .001" or better, diameter, TIR and grind profile measurements.



### Fully-Equipped Facilities

- Three manufacturing sites
- Computer-controlled autoclaves
- Computerized grooving
- Computerized crowning
- Large elastomer inventory with custom compounds
- Drive-through bays for safe, controlled loading and unloading of your rolls
- Overhead cranes to handle staging and positioning of rolls up to 20 tons

### Complete Computerized Grooving and Crowning Capabilities

Valley Roller provides a wide assortment of surface grooving needed for advanced web handling, including:

- Spreading
- De-wrinkling
- Non-slip
- Tracking
- Air elimination, circumferential
- Herringbone
- Lateral Fluted
- Vent-a-nip
- Spiral/worm



**5- Excellent****4- Above Average****3- Average****2- Fair****1- Poor**

	NBR or Buna N	NBR / PVC Blend	Neoprene	EPDM	Carboxylated Nitrile	Hypalon	Epichlorohydrin	Natural Rubber	Butyl	Polybutadiene	Ester Urethane	Ether Urethane	SBR	Silicone	Fluoroelastomer	HNBR
Hardness Shore A	25-90	25-90	25-90	30-95	50-97	30-95	40-95	30-90	40-70	40-80	40-95	40-95	40-95	30-95	50-90	50-99
P&J Hardness	30-250	30-250	30-300	30-270	10-160	5-270	NA	3-30	NA	1-230	3-230	3-230	5-180	NA	30-160	5-160
Tensile Strength	3	3	4	2	5	3	3	4	2	4	5	5	3	2	3	5
Modulus	3	3	4	3	5	4	3	3	2	3	5	5	4	3	3	5
Elongation	3	3	3	3	3	3	3	5	4	5	4	4	3	4	3	4
Tear Strength	3	3	3	2	5	3	3	5	2	5	5	5	3	2	3	5
Cut Resistance	3	3	3	2	5	3	3	4	2	4	5	5	3	2	3	5
Compression Set Resistance	4	3	3	3	2	4	3	3	2	3	3	3	3	5	3	5
Permanent Set Resistance	5	4	4	3	3	3	3	4	2	4	4	4	3	4	3	5
Resilience	4	4	4	3	2	2	3	5	2	5	4	4	3	5	3	5
Hysteresis	5	2	3	2	1	3	3	4	2	4	5	5	3	5	2	5
Abrasion Resistance	3	3	3	3	5	5	3	5	2	5	5	5	3	1	3	5
Ozone Resistance	3	3	4	5	1	5	4	1	1	1	4	4	1	5	5	3
Hydrolytic Stability	5	5	5	5	5	5	5	5	5	5	1	2	5	5	5	5
Dielectric Strength	1	2	2	1	1	5	1	2	2	1	2	2	1	5	3	2
Release	3	3	3	1	1	4	1	2	1	3	2	2	2	5	5	3
Maximum Service Temp.	250	250	250	350	275	300	300	212	225	225	212	212	250	500	650	350
Acids	2	3	4	5	2	5	4	3	4	3	1	1	3	4	5	3
Caustics	3	3	4	5	3	5	4	3	4	3	1	1	3	4	5	4
Aliphatic Hydrocarbons	5	5	3	1	5	3	5	1	1	1	5	2	1	2	5	5
Aromatic Hydrocarbons	3	4	2	2	3	2	2	1	1	1	5	1	1	3	5	3
Chlorinated Hydrocarbons	1	1	1	1	1	1	2	1	1	1	2	1	1	3	5	1
Esters	1	1	3	5	1	3	2	5	5	4	2	1	4	3	2	1
Alcohols	5	5	4	5	4	4	4	5	5	5	4	3	5	4	2	5
Water	4	4	3	5	3	4	4	5	5	5	1-4	2-4	5	4	4	5
Glycols	5	5	4	5	3	4	4	5	5	5	2	2	5	4	4	5
Ketones	2	1	3	5	2	3	2	5	5	5	2	1	4	3	1	2

**Use this chart to find rubber compounds that best suit your application needs.**

**For assistance, please call your local support team (listed on the back cover) or visit [www.maxcessintl.com](http://www.maxcessintl.com)**

**WEBEX**

**ValleyRoller**

**MENGES  
ROLLER**

**OMPONEX**



## Industry Leaders Trust Webex, Menges Roller and Valley Roller

Let us refurbish your rolls to an “as new” condition.

Our team has decades of experience in precision roll refurbishing and repair. That’s why the web handling and converting industries turn to Webex, Menges and Valley Roller for innovative engineering, high-precision manufacturing and personalized support.



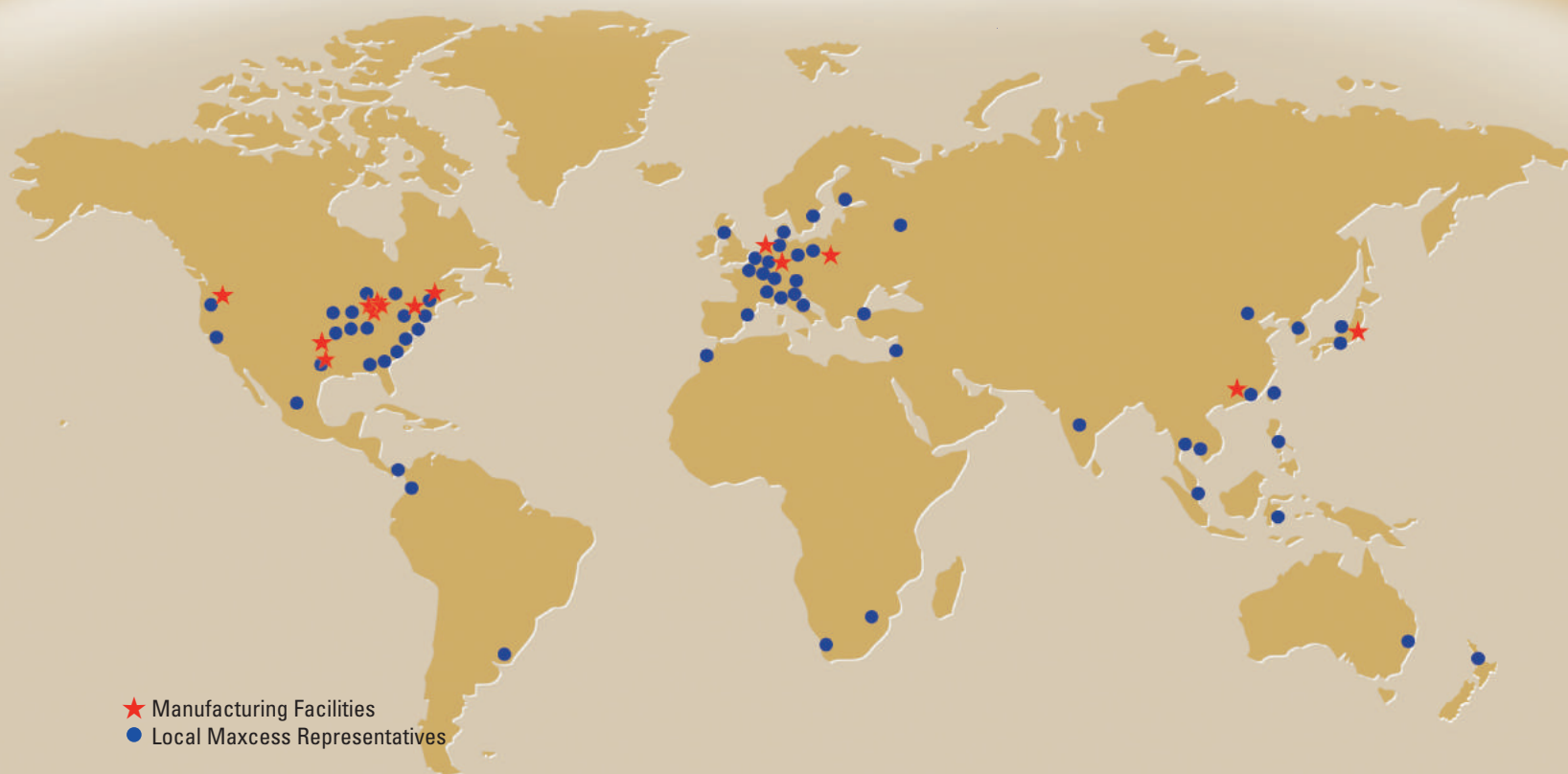
### Roll Repair

- Precision roll grinding to your specified TIR
- Dynamic and static balancing of rolls
- Weld buildup of roll shells with mild steel or 420 stainless steel (to return roll size to original diameter)
- Acid flushing of Heat Transfer Rolls to improve fluid flow
- Environmentally-friendly soy flushing
- Repair and recertification of ASME Certified Pressure Vessels
- In-house engineering
- Reverse engineering capabilities
- Knowledgeable field support
- Journal repair/replacement
- Bearing replacement
- ISO (Neenah) and ASME (Chicopee)
- Certified quality systems
- NDT (non-destructive testing) services available
- Size capacity to 48" dia. x over 300" long
- Remove and replace roll shells (replaces damaged shells to improve heat transfer)
- Roll face coating options- chrome plating, hardcoat anodize, electroless nickel plating, ceramic and tungsten carbide coating, rubber covering
- Machine roll face refinishing- mirror superfinishing (0-1 Ra) capabilities, matte finishes, variety of grooving options, taper and crown profiles

### Problem Solvers

We are known as a leading manufacturer of **Idler Rolls, Bowed Rolls, Heat Transfer Rolls (Chill Rolls), Vacuum Rolls and Precision Rolls**. With this capacity also comes the ability to refurbish existing rolls to an “as new” condition.





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