



Copper Chill Rollers

The Only Industrial Roller Source You'll Ever Need

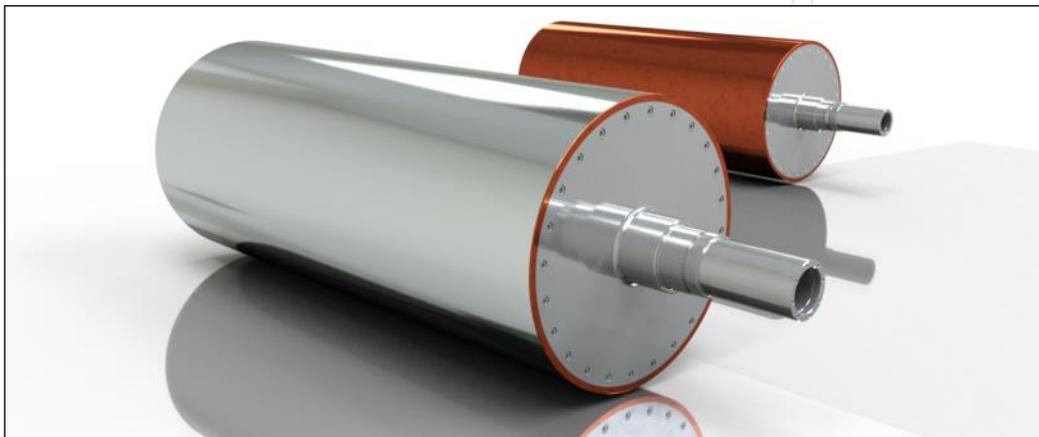
COPPER CHILL ROLLERS COOL MORE EFFICIENTLY THAN STEEL CHILL ROLLERS

Chill rollers made of copper can greatly increase line-speeds and allow converting companies to produce product up to 10X more efficiently. High quality finishes and reduced cooling costs are why leading converting companies around the world are switching from steel chill rollers to copper chill rollers.

Menges Roller can produce copper chill rollers for laminators, film producers and leaders in the paper industry. Our customers are always pushing the limits of line-speeds. With copper chill rollers from Menges, processors can increase line-speeds while becoming more efficient. Our seamless copper outer shells can be chrome plated to your specifications. And our construction techniques provide the strength your plant is looking for. Converters and OEMs worldwide trust Menges to help them increase line-speeds and improve efficiency.

Why Copper Chill Rolls?:

<ul style="list-style-type: none"> • Cool The Web More Efficiently 	Faster & more complete transfer of cold energy from the roller face to the web, compared to traditional steel rollers.
<ul style="list-style-type: none"> • Increase Line-Speeds 	Copper decreases the amount of time needed to cool the web. With decreased dwell times, line-speeds can be increased!
<ul style="list-style-type: none"> • Greatly Reduce Energy Consumption 	Copper requires about 40% less cold water (or glycol) vs. steel. Converters can reduce fluid flows or reduce chiller output.
<ul style="list-style-type: none"> • Chill Rolls Don't Have to Be So Cold 	Steel might require you to run at 30°F, but you can get the same cooling (Delta-T to your web) from copper running at 40°F. This also reduces the condensation that forms at roll/web ends.



There's no substitute for copper, and there's no substitute for Menges.

Copper delivers next-generation performance to today's converters.

If your plant needs to increase speeds, while reducing energy & waste, then you need to call Menges Roller and discuss copper chill rollers.

The Science of Copper and Thermal Transfer

Copper's thermal transfer coefficient can be up to 10x that of steel. This means you can transfer cooling (or heat energy) at almost 10x the rate by using copper rolls instead of steel.

For example: If a plant runs 40°F fluid through 2 rollers (1 steel, 1 copper) at 100 GPM each, and each roller is subjected to the same heat load, the copper roller would run, in this case, 40% cooler on the body. This would allow the converter's substrate to cool more quickly. Line-speeds can be increased, cooling can be decreased, and profit margins optimized.

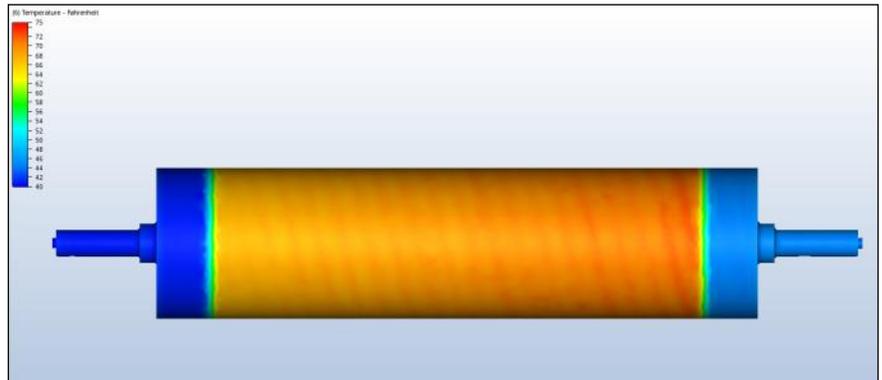
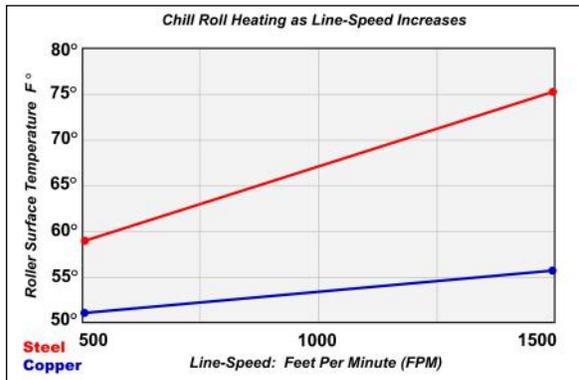
By purchasing copper chill & heat rollers from Menges Roller Company, you'll see a domino effect of savings throughout your film or paper line!

Copper Gives But It Doesn't Take:

Copper-shelled chill rollers have the unique characteristic of pushing their energy (hot or cold) onto the web, all the while not letting the temperature of the web take away from the roller's own temperature. Steel cannot do this; its temperature is easily affected by the web, so you have to flow huge amounts of hot or cold fluids through large rollers just to keep up. The below charts illustrate the benefits of copper shelled chill and heat transfer rollers.



Chill Roll Simulation - Copper vs. Steel: In this CFD Model, all factors are the same (line-speed, heat load, flow-rate, etc.), except the roller shell material. The copper roll is running up to 30 degrees (F) cooler! Now the converter has the option of increasing his line-speed.



As line-speeds increase, steel roller temps go way up. But copper stays relatively cool, even at triple speed.

The Menges Engineering Team has the tools to configure copper rollers to meet your exact specifications, factoring in line-speeds, temps, flowrates and more.

Better Long-Term Performance:

In addition to its thermal properties, copper does not rust. With steel rollers, water pH levels, oxidation, and scaling can reduce performance. Copper virtually eliminates these concerns.

- Reduction of calcium deposits inside roller
- Flowrates remain strong over long-term
- Little or no need for acid flushing
- Reduction of debris in fluid loop

Menges Roller - 50 Years of Helping Converters and OEMs Succeed:

For over 50 years, Menges Roller Company has led by example, with innovations that help converters run faster, reduce waste, and save money. And our latest advancement, the copper chill roller, is no exception.

We are leaders in designing and manufacturing high-performance heat transfer and chill rollers for the plastics, film and paper converting industries. We offer many design options, from economical singles shells for basic temperature control, to corrosion-resistance hybrid designs featuring rubberized inner shells.

Our most popular design is the double-shell, spiral-baffle heat transfer / chill roll. And we have an award winning engineering department. In 2014, Menges Roller won the AIMCAL Technology of the Year Award for our use of computational fluid dynamics. So don't take chances with companies that don't understand these complex technologies. Work with Menges Roller and work with one of the most respected names in heat transfer.

Menges Roller Company
www.mengesroller.com

Tel: 847-487-8877
Info@MengesRoller.com

260 Industrial Drive
Wauconda, IL 60084

