

## phreeco<sup>®</sup> – THE PHOSPHATE-FREE, FUTURE-READY COATING FOR COLD FORMING

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voestalpine Wire Technology's innovative coating technology combines sustainability with maximum process reliability and efficiency.

The coating is a 100 % heavy metal-free, phosphate-free, and PFAS-free wax-based solution designed for top environmental and performance standards. Its organic-inorganic hybrid bond ensures strong adhesion, long-term stability, and excellent resistance to mechanical stress during cold forming – delivering reliable performance in demanding applications.

### Product Highlights:

- » Phosphate-free, PFAS-free, heavy-metal-free
- » Designed to maintain integrity during multi-step cold forming processes
- » No delta-ferrite formation, ensures optimal mechanical properties after heat treatment
- » Direct compatibility with standard cold forming oils
- » Superior corrosion resistance thanks to its hydrophobic properties
- » Storage stability >6 months, offers high logistical flexibility
- » Suitable for linked production lines → forming + thread rolling without intermediate treatment



Permanent monitoring in our laboratory



Coating of coils



Finished coil

## PRODUCT DESCRIPTION

<b>Product type</b>	Water-diluted, phosphate-free lubricant based on inorganic binder matrix and organic waxes
<b>Product properties</b>	The coating enables high forming performance with low lubricant application
<b>Areas of application</b>	Lubricant for cold forming of wire
<b>Colour of the dry coating layer</b>	Colourless to slightly milky appearance
<b>Processing temperature of the coated wire at machine inlet</b>	20-80 °C

## TECHNICAL HIGHLIGHTS AND BENEFITS

Highlights	Benefits
No phosphate wastewater	Resource conservation, lower disposal costs
Fewer washing steps	Shorter lead times, reduced manufacturing costs
No machine cleaning effort	Higher equipment availability
Excellent adhesion for hard metal layers	Quality improvement in subsequent processes

### Handling of the wire

Wires treated with this innovative, phosphate-free coating can be processed using the same auxiliary materials and protective agents commonly used for zinc phosphate-coated wires. This includes drawing soaps, forming oils, and other lubricants – allowing for a smooth transition without the need for specialized media.

### Contact:

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### Typical applications

- » Multi-step cold headed parts
- » Hoist chain production
- » Products from integrated cold forming and thread rolling machines

Detailed information – including details of our certificates – can be found in the Download Center on our website at [www.voestalpine.com/wire](http://www.voestalpine.com/wire). Alternatively, you can simply scan the QR code.

