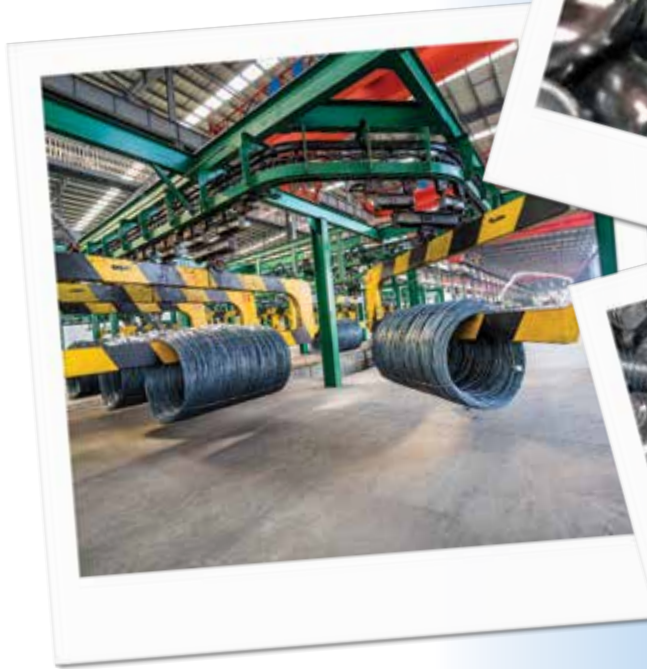


# Cold Heading Wire Processing



Chemetall offers a fully integrated, innovative, and optimized portfolio of products for cold forming. Our wire solutions arise from our comprehensive understanding of the challenges faced by wire producers.

We supply highly efficient and customized processes for cold heading wire drawing. In addition, as part of our dedication to our customers and to sustainability, we offer advanced and original green options to reduce costs and environmental footprint.

## Increase your productivity

- + Extend die life.
- + Faster start-up.
- + Improve drawability.
- + Increase speed.
- + Decrease temperatures.
- + Lower sludge.
- + Reduce energy.

**BASF**  
We create chemistry

**Chemetall**  
expect more+

# Cold Heading Wire Processing

Discover our high-performance products and processes for cold heading wire drawing. The portfolio includes efficient cleaning and phosphate removal products, pickling inhibitors, activators, neutralizing agents, and phosphate-free pretreatment. Many state-of-the-art technologies, with and without nickel, for all types of wire manufacturing — from low-carbon to high-carbon iron and steel wire — are available. Energy-saving low temperature processes, high-performance zinc/calcium processes, and sludge-free electrolytic applications offer efficient, cost-effective, and environmentally responsible methods of manufacture.



Learn about Gardo<sup>®</sup>, our full line of comprehensive solutions to improve productivity and quality.

## Activators

- ⊕ **Gardolene<sup>®</sup> V** — Highly effective activating rinse prior to the application of zinc-phosphate.

## Cleaners/Rust Preventives

- ⊕ **Gardoclean<sup>®</sup>** — Cleans steel and can include in-process rust protection.

## Conversion Coatings

- ⊕ **Gardobond<sup>®</sup> Z** — Includes nickel-free zinc phosphate conversion coatings designed to facilitate cold forming and high-performance drawing.

## Polymer Lubricants

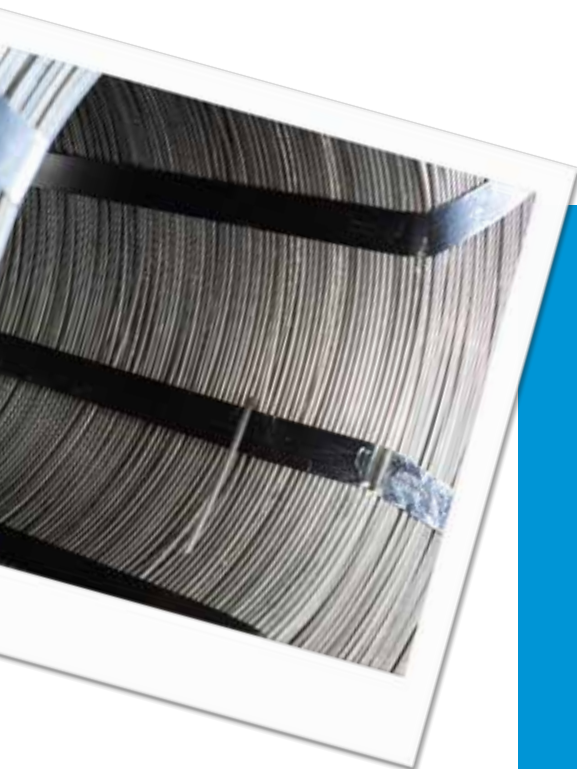
- ⊕ **Gardomer<sup>®</sup> L** — High performance lubricants to facilitate enhanced lubrication during cold heading operations. No heavy metal or mineral oil.

## Reactive Soaps

- ⊕ **Gardolube<sup>®</sup> L** — A reactive soap used over zinc phosphate coatings. A top product for extrusion.

## Salt Carriers

- ⊕ **Gardolube<sup>®</sup> SC** — Lubricant carriers to facilitate the cold forming of bare and phosphated iron and steel wire, and stainless steel.



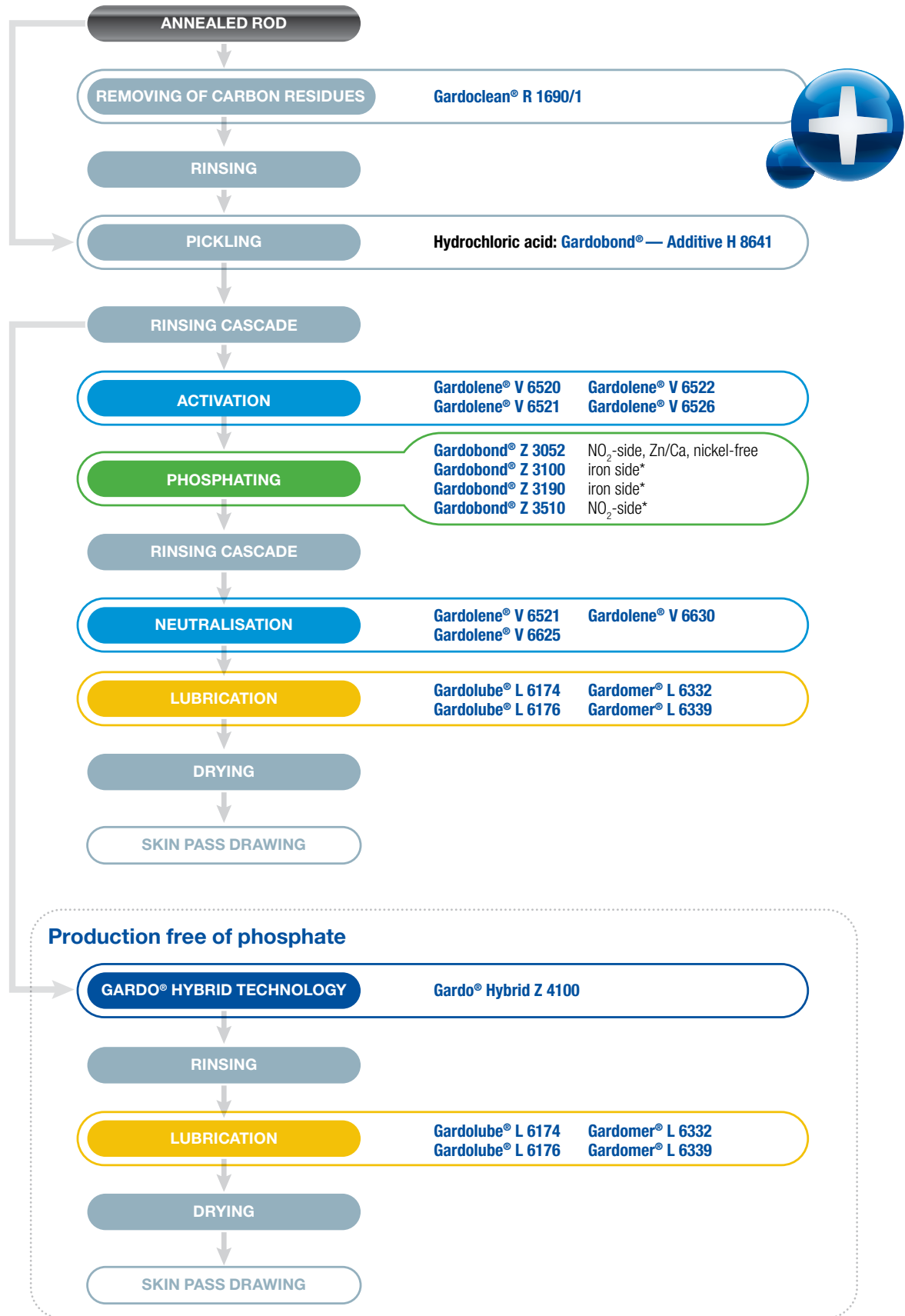
## Gardo<sup>®</sup> Hybrid

Chemetall is proud to offer the first ever cold forming process for steel without phosphates, based on a conversion coating. This technology replaces the zinc-phosphate layer with a phosphate-free metal-organic layer. This innovative conversion layer provides the same excellent properties, but at an overall reduced carbon footprint.

***Experience our commitment to Innovation, Sustainability, and the Environment.***

***Ask us for a demonstration today!***

# Cold heading wire drawing processes and products



\*Nickel-free available

Trust Chemetall's expertise, reliability, proactive strategies, and core competencies in cold forming to increase your process efficiency.

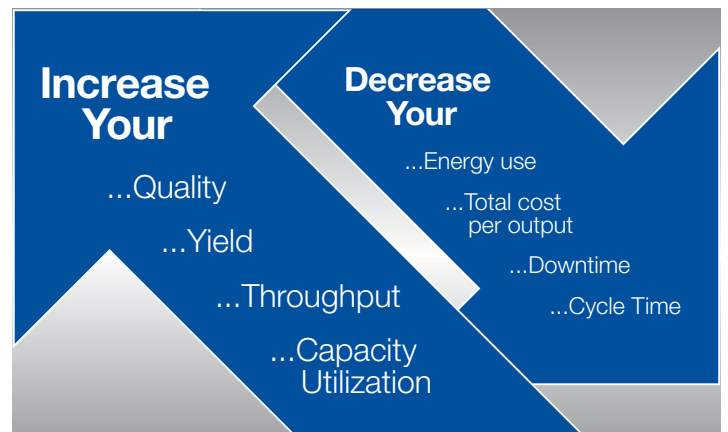
*Our focus is you, our cold forming customer.*



**Cut it. Clean it. Coat it. Control it. Conserve it.® with us!**

We are the Surface Treatment global business unit of the Coatings division of BASF, operating under the Chemetall brand, a leading supplier of applied surface treatments and services for metal, plastic, and glass substrates in a vast range of industries and end markets.

Our global specialists are locally available. Our experts provide focused, passionate, and accountable support. You can expect the highest quality from our integrated portfolio of innovative products. Our labs are fast and accurate. We will collaborate with you to increase the efficiency of your process performance.



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