Lubricants and coatings

Pan Chemicals produces high-tech drawing lubricants, coatings and chemicals for the wire industry. It sells worldwide, either directly or through its network of agents and distributors, and branch companies Pan Chemicals Bosphorus in Turkey, and Pan Chemicals Americas in Mexico.

Looking for innovative ways to give customers a comprehensive range of products necessary for wire drawing, its research and development department explores new products and concepts, challenging current technologies and offering a base to improve performance and efficiency.

With this aim, Pan Chemicals has added many new products to its portfolio, including ashless lubricants for high-quality surface after annealing; polymer-based pre-coating for cold forming applications; polymer pre-coat-lubricants for heavy-duty bar drawing; and nanotechnology-based protective coating for galvanised wires. It has also added pre-coating for high-tensile galvanised steel wire drawing; special nano-dispersion water-based lubricants for fine and extra-fine drawing of high tensile wires; new concept drawing technologies based on special diamond dies; and new high-performing compact pressure dies.

The production programme also includes:

- Panlube S dry drawing lubricants: a full range of calcium, sodium, aluminium, zinc, lithium and combined products for low and high carbon steel and stainless steel
- Panlube L wet drawing lubricants: a complete range of oils, greases and pastes for wet drawing of low and high carbon, welding wire, stainless steel and non-ferrous wire
- Pancover lubricant carriers: phosphates and non-reactive coatings
- Panflux flux for galvanising, developed to improve the efficiency of the galvanising process by the uniform control of the reaction between the two metals, improving the quality of the zinc coating
- Panchem auxiliary products, including degreasing agents, pickling inhibitors, anti-rusting and protective products, activated charcoal, wiping pads and spiral brushes

Pan Chemicals SpA
http://panchemicals.com

Self annealing microrolling

In 1949, a couple of years after founding Continuus Company, Ilario Properzi introduced the continuous cast and rolled (CCR) aluminium rod to the world's aluminium industry.

For several decades Properzi EC rod has been a commodity, but in recent years a higher percentage of aluminium rod is destined for more sophisticated products. Fine wires, enamelled conductors, modern overhead compositions, and a variety of mechanical alloys and welding alloys in various diameters make the new Properzi rod lines – a mix of sturdy equipment complete with know-how from furnaces to coilers – a choice for the demanding market niche.

While Continuus-Properzi has maintained its position as a supplier of aluminium rod lines, it also produces copper equipment. Since 1963, when the first continuous copper rod was produced by a new Properzi System in the USA, Properzi has contributed to the wire industry through the optimisation of numerous CCR lines for ETP (electrolytic tough pitch) copper rod (from cathodes), and for FRHC (fire-refined high-conductivity) copper rod (from scrap).

Eng Giulio Properzi, son of the founder and current president of Continuus-Properzi, has contributed to the latest technological innovations in copper. The patented Properzi Self Annealing Microrolling® (SAM) method makes use of the Properzi Microrolling technology and replaces the conventional drawing/annealing processes while providing energy savings.

The SAM method processes 8mm copper rod down to a final diameter of 1.8 or 2mm through the Properzi Microrolling mill using a three-roll configuration, resulting in a round-triangle-round rolling sequence while maintaining constant flow of material from stand to stand.

From 8mm rod to 1.8mm wire, the reduction in area is 94.93 per cent with only eight stands. On average, the elongation in each pass is approximately 50 per cent greater than in a drawing machine.

The energy of the rolling process is transformed into heat, increasing the wire temperature, step by step, to a level that provides the desired characteristics of an annealed wire ready for subsequent processing in multi-wire drawing applications. This avoids the energy-intensive resistance annealing process.

Continuus-Properzi SpA
www.properzi.com

▼ *Copper wire obtained with Properzi's self-annealing method*