Multifunctional oils for cold massive forming operations

From the view of the lubricant manufacturer there are two problems occurring in forming processes on modern multiple stage presses:

The construction design of certain types of presses does not allow a separation between cold forming oil (KFP) and machine oil. The use of conventional machine oils for cold massive forming will then lead to considerably increased tool wear due to the low level of high-pressure additives.

Even if presses are used which allow the separation between machine, slideway and cold forming oil, oil mixtures caused by leakages can never be totally excluded. This problem especially occurs with older machines. The additive level will drastically decrease due to dilution (mixture) whereas viscosity rises (increased drag-out losses). Finally, the performance loss will lead to premature oil change.

With the concept of multifunctional oils BECHEM offers an optimal and approved solution. The BECHEM multifunctional oils are products which ideally support both the forming process and machine lubrication.

The use of oil eliminates the problem of undesired mixing. A constantly high additive level and a consistent viscosity will thus be guaranteed.

In various practical tests (1,000 hours and more) on four and five stage presses identical or even longer tool life could be achieved with BECHEM multifunctional oils than with conventional lubricants. The oil changing intervals could in any case be considerably extended (50–100%).

Based on their well balanced additive content the BECHEM multifunctional oils are also suitable for forming non-ferrous metals.
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With an extensive product range we are able to cover your entire lubricant requirements:

- Cold forming and forming oils
- Gear and hydraulic oils
- Multifunctional oils
- Water miscible coolants
- Cutting and rolling oils
- Drawing lubricants: oils, emulsions and soaps
- Cleaning agents
- Anti-corrosion oils
- Machine cleaning and other services, complete fluid management upon request

[Table with product information]

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Products for cold massive forming operations

In cold forming processes of metal materials (e.g. steel, non-ferrous metals, aluminium) preferably pre-treated work pieces have to be pressed into a defined form under considerable deformation forces. Depending on the geometry of the finished part and the material, several forming steps can be required.

The extreme surface pressures between tool and work piece require high-performance forming agents which are able to build up high-pressure resistant layers during the forming process in order to prevent premature wear, fretting or even breaking of the tools.

For decades, the consequent and continuous development and improvement of forming products in close cooperation with users, machine and tool manufacturers set the standard for most demanding cold forming oils.

BECHEM offers tailor-made products for all forming tasks:

- Production of standard screws, solid, hollow and semi-hollow rivets
- All types of forming processes; for extrusion and cupping operations
- Products for demanding forming operations of tempered and high-quality steels
- Additive packages and forming additives
Lubrication Solutions for Industry

With 180 years of experience, BECHEM is one of the leading manufacturers of premium quality special lubricants and metal working fluids.

Close cooperation with research institutes, industry partners and product users as well as the knowledge, skills and major commitment by our staff are guarantees of new and innovative high performance lubricants, which contribute to the success of our customers at home and abroad.

A powerful network of distributors and several national and international production sites ensure our products are readily available worldwide.

Tomorrow’s technologies. Today.