



Bulk Forming Steel

Single- or multistage forming processes serve to create simple-to-highly complex netshapes. A suitable coating for lubrication will also need to be extremely pressure and shear-resistant at temperatures of up to 750°C. Various suitable coating systems with different properties are available for this. The choice depends on the requirements which are primarily defined by the degree of forming, enlargement of the surface and complexity of the shape.

ZWEZ-Lube lubricants are sold around the world for decades. Their performance has been continuously upgraded and meets the highest requirements in all areas of forming technology.

A great number of varieties are available, from reactive soaps via polymers through to solid lubricants, virtually all of which can be used single- or double-layered, i.e. with or without a phosphate coating. There are all manner of applications, from classic dipping through to inline press flooding in time with the press cycle (**ZWEZ-SLS**: Short Lubrication System with treatment times of a few seconds).

ZWEZ is one of the world's most innovative manufacturers with a broad range of products. Experienced experts are available for technical support of your application.

| | Steel | | | |
|---|--|--|--|---|
| ■ = standard □ = alternative ◆ = if required | Low to medium degree of forming, e.g. upsetting, reducing, ironing, swaging. | High degree of forming for <i>small bulk parts</i> with small friction surfaces. With sharp edges and contours. Lateral extrusion. | High degree of forming for <i>large bulk parts</i> with large friction surfaces. Cold extrusion: full forward, forward hollow, backward cupping. | ZWEZ-SLS process <u>without phosphating</u> . For all kinds of parts and forming. Also <i>inline</i> application in time with the press cycle. |
| Blasting | ◆ | ◆ | ◆ | ■ |
| ZWEZ-Clean Cleaning/degreasing | ■ | ■ | ■ | |
| ZWEZ-Acid Pickling | ■ | ■ | ■ | |
| ZWEZ-Cond Activating | ■ | ■ | ■ | ◆ |
| ZWEZ-Coat Zinc phosphate - thin - medium - thick | □ ■ ■ | ■ | □ ■ | |
| ZWEZ-Rinse Neutralizing | ■ | ■ | ■ | |
| ZWEZ-Lube Soap lubricant Polymer lubricant MoS ₂ lubricant | ■ □ □ | □ □ ■ | ■ □ □ | ■ ■ |