DF 971

DRY FILM LUBRICANT

Product Features

microGLEIT DF 971 provides perfect lubrication for cold metal forming processes.
- Low and constant coefficient of friction
- Good adhesion on most substrates
- No impact on metallurgy or other material properties
- Enables high degrees of deformation
- Clean in use
- Suitable for automated processing
- Environmentally friendly
- Rem.: In case an even higher lubrication capability is needed, please consider microGLEIT TN 9195

Product Application

Using microGLEIT DF 971 will enable high degree deformation but without having the disadvantages of black products based on MoS2 or Graphite. Typical applications are:
Typically DF 971 is used for:
- Calibration
- Bulging, reduction, upsetting
- Cold extrusion
- Hydro-forming

Instructions for Use

- microGLEIT DF 971 usually is used as delivered.
- Please protect from frost!
- Before application microGLEIT DF 971 may be diluted with water (at least drinking water quality). The water is added to the product slowly with constant stirring.
- Stir well before use and also regularly during use – Please take care that the fluid vortex is laminar, so no air will be stirred into the product.
- The surface of the blanks are coated with the liquid product. Following application methods are possible:
  - Spraying – best quality – all industry standard methods are possible
  - Dip-coating – especially effective with bulk material or non scooping parts
  - Dip-spin-coating – the industry standard for bulk materials - also for scooping parts
  - Paint-roller or brush-application – when other methods are not possible
- The parts to be coated have to be free from oil and dirt.
Typical Properties microGLEIT DF 971

<table>
<thead>
<tr>
<th>Test / Feature</th>
<th>Standard/Parameter</th>
<th>Unit</th>
<th>DF 971</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance (as delivered)</td>
<td>visually</td>
<td>—</td>
<td>white liquid</td>
</tr>
<tr>
<td>Density</td>
<td>DIN 51757</td>
<td>g/cm³</td>
<td>~ 0.95</td>
</tr>
<tr>
<td>Viscosity</td>
<td>DIN 53211 / 3 mm</td>
<td>s</td>
<td>20 – 30</td>
</tr>
<tr>
<td>Thinner</td>
<td>—</td>
<td>—</td>
<td>water („drinking water quality or demineralised“)</td>
</tr>
<tr>
<td>pH-Value</td>
<td>—</td>
<td>—</td>
<td>8.5 - 10</td>
</tr>
<tr>
<td>Drying Time</td>
<td>—</td>
<td>min</td>
<td>~40–60 @ 20 °C / 68 °F</td>
</tr>
<tr>
<td>Available Container Sizes</td>
<td>—</td>
<td>—</td>
<td>20 kg closed head pail 200 kg drum – 600/1000 kg IBC</td>
</tr>
<tr>
<td>Usable Life - Closed original container</td>
<td>months</td>
<td>—</td>
<td>12</td>
</tr>
<tr>
<td>Handling Precautions</td>
<td>—</td>
<td>—</td>
<td>see SDS</td>
</tr>
<tr>
<td>Appearance (Applied)</td>
<td>visually</td>
<td>—</td>
<td>semi-matt dry film</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>—</td>
<td>°C</td>
<td>-40 to +120 / -40 to +248 °F</td>
</tr>
<tr>
<td>Layer Thickness</td>
<td>—</td>
<td>µm</td>
<td>~2–5</td>
</tr>
</tbody>
</table>

- For best film building we recommend to preheat the parts to approximately 40–60 °C.
- After wetting of the parts they have to be dried with hot air at ~60 – <80 °C / 140 – <176 °F. Besides speeding up the process this will help to generate a smooth coating.
- Stir well before use and also regularly during use – please take care that the fluid vortex is laminar, so no air will be stirred into the product.
- Avoid burrs or sharp edges on sliding partners.
- The adhesion of the coating can be significantly increased by using pretreatments e.g. sandblasting, phosphating, anodising or oxalating.

The information given and the recommendations made herein reflects our current knowledge and can only provide a first overview. The given values are not eligible for creating specifications. We reserve the right to make changes based on technical developments or changes in legislation. Due to the wide range of possible applications and operating conditions, the product information can only be indicative of possible applications. Therefore, no binding liability and warranty claims can be derived. In any case we strongly recommend to carry out tests before use and thus determine if the product is meeting all requirements and expectations.