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Deltaforge™ F-31

Forging Die Lubricant

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DESCRIPTION

Deltaforge F-31 is the world's most widely used forging die lubricant. **Deltaforge F-31** exhibits **excellent stability** with no separation or settling in the concentrate. This assures uniformity from top to bottom and results in consistent forging performance. **Deltaforge F-31** is an essentially odorless, smokeless, water-based graphited die lubricant. It is formulated to provide excellent lubricity and release when used on difficult press work and highly automated processes including hot, warm, and precision forging.

Deltaforge F-31 contains a unique graphite particles size and configuration, along with a special stabilizer and binder system. These properties produce excellent lubricity and release, faster wetting, higher dilution ratios, and longer die life.

ADVANTAGES

- Uniform lubricant film formation on dies up to 700°F (371°C)
- Reduced scrap and rework
- Improved part quality
- Less billet material needed
- Improved productivity
- Reduced press downtime
- Lower waste disposal costs
- No buildup in die cavity
- Lowest die cost per forging

TYPICAL APPLICATIONS

Hot Forging Steel	Precision Forging
Warm Forging Steel	Hot Forging Powder Metal

TYPICAL PROPERTIES

Lubricant	: processed micro-graphite
Fluid component	: water
Consistency	: liquid
Density	: 9.2 lb/gal (1.10 kg/l, typical)
pH	: 10-11
Freezing point	: 32°F (0°C)
Shelf life	: 6 months under original seal

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APPLICATION DETAILS

Dilution

Deltaforge F-31 is supplied as a concentrate and can normally be diluted with ordinary tap water prior to use. However, if the tap water is high in mineral content (hard), please contact Acheson Colloids Company for application assistance.

IMPORTANT: Add water to the concentrate, not the reverse. Stir the concentrate thoroughly, then add one part water slowly while stirring until the mixture is homogenous. The remaining water may be added rapidly while stirring until the desired dilution and consistency are reached.

Dilution Ratios

The dilution ratio varies according to the difficulty of the job and the degree of cooling required. For initial trials, a ratio of one part **Deltaforge F-31** to ten parts water by volume is suggested. Ratios of 1:20 (product:water) and greater are common during production. Use a more concentrated mixture (1:3/product:water) to lubricate tooling hotter than 600°F (316°C).

Application

For best results, diluted **Deltaforge F-31** should be applied by conventional spray techniques. Spray application provides uniform coating thickness, complete die coverage, and lower friction values. Manual and automatic spray systems especially designed for application of die lubricants are available from Acheson Colloids Company under the Dag® Lubriplate name. Please contact Acheson Colloids Company for more information.

APPLICATION ASSISTANCE

Acheson's **Application Specialists** are available to assist you in production start-up with **Deltaforge F-31**. For more information, please contact Acheson Colloids Company, (800) 255-1908, fax: (810) 984-1446, web.mail@nstarch.com, or visit our website at www.achesonindustries.com.

HEALTH & SAFETY

Harmful if swallowed, inhaled, or absorbed through skin. May cause eye irritation. Wash thoroughly after handling. Keep away from heat, sparks, or flame. Keep container tightly closed when not in use. Use with adequate ventilation. Avoid breathing vapor. Empty containers may retain hazardous properties. Follow all MSDS/label warnings even after container is emptied.

STORAGE/SHIPPING/ HANDLING

Store **Deltaforge F-31** in a cool place, but do not allow product to freeze. Product should not be used once frozen. Always tightly reseal the container to prevent evaporation or contamination. See Acheson Material Safety Data Sheet for current safety and first aid instructions.

NOTE

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