

BONDERITE L-FG F 31 ACHESON

Known as Deltaforge F-31
May 2020

PRODUCT DESCRIPTION

BONDERITE L-FG F 31 ACHESON provides the following product characteristics:

Technology	Lubricant
Product Type	Water based graphite lubricant
Application	Forging Die Lubricant

BONDERITE L-FG F 31 ACHESON is the world's most widely used forging die lubricant.

BONDERITE L-FG F 31 ACHESON exhibits excellent stability with no separation or settling in the concentrate. This assures constant quality from top to bottom and results in consistent forging performance.

BONDERITE L-FG F 31 ACHESON is an essentially odourless, 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.

BONDERITE L-FG F 31 ACHESON contains a unique graphite particle size and configuration, along with a special stabiliser and binder system.

These properties produce excellent lubricity and release, faster wetting, higher dilution ratios, and longer die life.

Application Areas:

Due to its high stability this product can be used in hard water without the risk of precipitations.

BONDERITE L-FG F 31 ACHESON is used as a lubricant for hot forging steel, precision forging, warm forging steel and hot forging powder metal.

TECHNICAL DATA

Pigment/Lubricating solid	high purity micro-graphite
Carrier	water
Consistency	medium viscous liquid
Density, kg/m ³	1,090
pH-value	~11.5
Solids, %	~18

DIRECTION OF USE

Preliminary Statement:

Prior to use it is necessary to read the **Material Safety Data Sheet** for information about precautionary measures and safety recommendations. Also, for chemical products exempt from compulsory labeling, the relevant precautions should

always be observed. Please also refer to the local safety instructions and contact Henkel for analytical support.

Dilution:

BONDERITE L-FG F 31 ACHESON is supplied as a concentrate and can normally be diluted with ordinary tap water prior to use.

However, if the tap water is extremely high in mineral content, check with your HENKEL representative for assistance.

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 is reached.

Dilution Ratios:

The recommended dilution ratio depends on the difficulty of the job and the cooling required. For initial trials, a ratio of one part BONDERITE L-FG F 31 ACHESON to ten parts water by volume is proposed. Ratios of 1 : 20 and greater are common during production. Use a more concentrated mixture, 1 : 3 (product:diluent), to lubricate tooling hotter than 320°C.

Application:

For best results, diluted BONDERITE L-FG F 31 ACHESON should be applied by conventional spray techniques. Spray application provides uniform coating thickness, complete die coverage, and lower friction values.

Storage:

- 24 months from date of qualification under original seal.

Store BONDERITE L-FG F 31 ACHESON in a cool place, but do not allow it to freeze.

Product should not be used once frozen.

Always tightly reseal the container to prevent evaporation or contamination.

Classification:

Please refer to the corresponding **Material Safety Data**

Sheets for details on:

Hazards identification
Transport information
Regulatory information

ADDITIONAL INFORMATION

Disclaimer

Note:

The information provided in this Technical Data Sheet (TDS) including the recommendations for use and application of the product are based on our knowledge and experience of the product as at the date of this TDS. The product can have a variety of different applications as well as differing application and working conditions in your environment that are beyond our control. Henkel is, therefore, not liable for the suitability of our product for the production processes and conditions in respect of which you use them, as well as the intended applications and results. We strongly recommend that you carry out your own prior trials to confirm such suitability of our product. Any liability in respect of the information in the Technical Data Sheet or any other written or oral recommendation(s) regarding the concerned product is excluded, except if otherwise explicitly agreed and except in relation to death or personal injury caused by our negligence and any liability under any applicable mandatory product liability law.

In case products are delivered by Henkel Belgium NV, Henkel Electronic Materials NV, Henkel Nederland BV, Henkel Technologies France SAS and Henkel France SA please additionally note the following:

In case Henkel would be nevertheless held liable, on whatever legal ground, Henkel's liability will in no event exceed the amount of the concerned delivery.

In case products are delivered by Henkel Colombiana, S.A.S. the following disclaimer is applicable:

The information provided in this Technical Data Sheet (TDS) including the recommendations for use and application of the product are based on our knowledge and experience of the product as at the date of this TDS. Henkel is, therefore, not liable for the suitability of our product for the production processes and conditions in respect of which you use them, as well as the intended applications and results. We strongly recommend that you carry out your own prior trials to confirm such suitability of our product.

Any liability in respect of the information in the Technical Data Sheet or any other written or oral recommendation(s) regarding the concerned product is excluded, except if otherwise explicitly agreed and except in relation to death or personal injury caused by our negligence and any liability under any applicable mandatory product liability law.

In case products are delivered by Henkel Corporation, Resin Technology Group, Inc., or Henkel Canada Corporation, the following disclaimer is applicable:

The data contained herein are furnished for information only and are believed to be reliable. We cannot assume responsibility for the results obtained by others over whose methods we have no control. It is the user's responsibility to determine suitability for the user's purpose of any production methods mentioned herein and to adopt such precautions as may be advisable for the protection of property and of persons against any hazards that may be involved in the handling and use thereof. In light of the foregoing, **Henkel Corporation specifically disclaims all warranties expressed or implied, including warranties of merchantability or fitness for a particular purpose, arising from sale or use of Henkel Corporation's products. Henkel Corporation specifically disclaims any liability for consequential or incidental damages of any kind, including lost profits.** The discussion herein of various processes or compositions is not to be interpreted as representation that they are free from domination of patents owned by others or as a license under any Henkel Corporation patents that may cover such processes or compositions. We recommend that each prospective user test his proposed application before repetitive use, using this data as a guide. This product may be covered by one or more United States or foreign patents or patent applications.

Trademark usage

Except as otherwise noted, all trademarks in this document are trademarks of Henkel Corporation in the U.S. and elsewhere. ® denotes a trademark registered in the U.S. Patent and Trademark Office.

Reference 0.1