

Technical Data Sheet

# **BONDERITE L-FG M 16 ACHESON**

Known as Molydag 16 October 2017

#### PRODUCT DESCRIPTION

BONDERITE L-FG M 16 ACHESON provides the following product characteristics:

Technology	Lubricant
Product Type	Molybdenum disulphide in water
Application	Cold forming lubricant

BONDERITE L-FG M 16 ACHESON is an aqueous dispersion of fine particle size lamellar solid lubricants in a synergistic mixture.

The product is, like its sister product BONDERITE L-FG M 15 ACHESON, predominantly used as a dip applied billet lubricant in cold forging and extrusion of carbon- and alloyed steel.

It also finds application in orbital forging, cold heading and wire and tube drawing as well as spray applied in some warm forming jobs.

BONDERITE L-FG M 16 ACHESON is usually applied over conversion coatings like phosphate or oxalate in place of metal soaps, where superior load carrying capacity or heat resistance is required.

BONDERITE L-FG M 16 ACHESON is particularly recommended in extrusion type jobs or with harder alloys where high specific loads are applied and much heat of deformation is generated.

In experiments with extremely short heating and processing times BONDERITE L-FG M 16 ACHESON has been proven to be effective even at 700°C indicating how much heat of deformation the product can cope with.

#### **Special features**

- Very low coefficient of friction.
- Sustains extreme amounts of heat of deformation.
- Very high load carrying capacity.
- Effectively fights punch wear in cup extrusion.
- Economic in use.
- Easy to apply.
- Very low toxicity.
- Highly tolerant to bath contamination.
- Reduces contamination of transport and transfer equipment.
- No dust formation.

#### **Application Areas:**

- Cold forging and extrusion of carbon- and alloy steel.
- Warm and orbital forging.
- Cold heading and wire and tube drawing.

#### **TECHNICAL DATA**

(as supplied)

Lubricant

synergistic mix of lamellar solid lubricants

Carrier	water
Diluent	water
Solids content, %	28
Density. ka/m³	1.170

### **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.

#### Method of Use:

BONDERITE L-FG M 16 ACHESON is used in a dilution with tap water.

Generally BONDERITE L-FG M 16 ACHESON is called upon for tough, usually extrusion type, jobs which require dry coating weights of between 1 and 2 grams per square meter. Such coating weights are generally achieved when using BONDERITE L-FG M 16 ACHESON diluted 1: 1 by weight with tap water.

For more simple operations, higher dilutions may be sufficient.

#### Handling:

Due to condensation caused by temperature changes during storage and transport, some water may have accumulated on top of the product. For this reason, BONDERITE L-FG M 16 ACHESON should be homogenised before use.

#### Dilution:

Ideally for viscous products, water should be stirred into the concentrate. In view of the practical requirements, BONDERITE L-FG M 16 ACHESON has been designed to allow the addition of the concentrate directly into an agitated hot bath without prior dilution.

#### Dipping of the Billets:

Before dipping the billets must be degreased (using a hot bath degreaser) and then washed well.

For difficult conditions pretreatment by phosphating is recommended.

Dipping and drying can be carried out as follows:

1. After degreasing or phosphating the billets have a temperature of 60 to  $80^{\circ}$ C. They are dipped briefly in the diluted BONDERITE L-FG M 16 ACHESON. Because of residual warmth they dry in a few seconds.

2. Cold billets can be dipped in the BONDERITE L-FG M 16 ACHESON bath (60 to 80°C) and left in until the billets reach the approximate temperature of the bath. After leaving the bath they also dry in a few seconds.



3. If cold billets are dipped in cold BONDERITE L-FG M 16 ACHESON they must be dried in a stream of hot air afterwards.

For continuous production the dipping bath can be placed directly after the cleaning and phosphating equipment. This is suitable for intermittent as well as continuous work. The MoS2 lubricating film has excellent adherence to the billet and is not removed during transport nor transfer. The billets do not have to be kept apart during these operations. Once the billets have been treated they can be stored for an unlimited time but should be protected from moisture.

#### Disposal:

Chemical coating removal or bath poisoning may generate waste.

The usually small amounts may be concentrated into filtercake and disposed of as solid, low hazard chemical waste.

So far recycling seems economically not feasible.

#### Storage:

Recommended Storage Temperature, °C	5 to 25
Shelf life, months	24
(in unopened original packaging)	

Freezing will damage the stability of the product. Avoid excessive temperatures or storage in direct sunlight. Reseal containers after use to avoid 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

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