

# BONDERITE L-FG 182 ACHESON

## GRAPHITE FORGING LUBRICANT

(KNOWN AS DELTAFORGE 182)

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### DESCRIPTION

**BONDERITE L-FG 182 ACHESON (known as DELTAFORGE 182)** is a versatile, unique graphite in water dispersion that is used as a billet coating or as a die lubricant when forging and/or extruding various metals and alloys at extreme temperatures and pressures. As a billet coating, **BONDERITE L-FG 182 ACHESON (known as DELTAFORGE 182)** remains stable and resists deterioration even when exposed to temperatures in excess of 982°C (1800°F). The maximum exposure time depends on furnace conditions, but can exceed 20 minutes at 982°C (1800°F) without protective atmospheres.

**BONDERITE L-FG 182 ACHESON (known as DELTAFORGE 182)** also can be used as a billet end coating for aluminum extrusion. It can be spray applied directly on the ends of aluminum billets following hot shearing, thus providing effective lubrication.

As a die lubricant, **BONDERITE L-FG 182 ACHESON (known as DELTAFORGE 182)** can be spray applied – even when tooling has attained “color”, which usually indicates temperatures of 677°C (1250°F) or greater.

The inherent lubricating properties of **BONDERITE L-FG 182 ACHESON (known as DELTAFORGE 182)** help reduce die pressure and wear, and aid in die cooling. It is smokeless and non-flammable.

### FEATURES

- Oxidation resistant
- Excellent thermal stability
- Fine graphite providing high lubricity
- Water based

### BENEFITS

- Protects up to 982°C (1800°F) when used as a billet coating
- Effective die lubricant for extreme die temperatures up to 677°C (1250°F)
- Excellent release for high metal movement
- Improved part quality
- Increase die life and lower die cost per forging
- Reduced scrap and rework
- Smokeless, non-flammable

### TYPICAL APPLICATIONS

- Billet coating for warm forging
- Die lubricant for hot die forging
- Billet end coating for non-ferrous extrusions

### PHYSICAL PROPERTIES

(as supplied)

Lubricants	:	processed micro-graphite
Carrier/diluent	:	water
Solids content	:	40-42%
Density	:	1.28 kg/l (10.7 lb/gal)
Freezing point	:	0°C (32°F)
Shelf life	:	12 months from date of qualification under original seal

### METHOD OF USE



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**Billet Coating**

When using **BONDERITE L-FG 182 ACHESON (known as DELTAFORGE 182)** as a billet coating, substrates must be clean, and free of oil, scale, etc. prior to coating. Dilute one part product to one part water for initial trial. No further pre-treatment is required.

For best results, parts should be heated to 121°-149°C (250°-300°F), and then briefly dipped in the **BONDERITE L-FG 182 ACHESON (known as DELTAFORGE 182)** bath. As parts are removed from the bath, the water evaporates rapidly, leaving an extremely adherent film. The bath should be continually agitated to assure uniform film thickness from piece to piece.

**IMPORTANT:** The **BONDERITE L-FG 182 ACHESON (known as DELTAFORGE 182)** bath temperature should not be allowed to exceed 60°C (140°F).

**Die Lubricant**

As a die lubricant, **BONDERITE L-FG 182 ACHESON (known as DELTAFORGE 182)** should be spray applied. Recommendations for suppliers of manual and automatic spray systems are available from Henkel. Consult your local Henkel representative for application equipment information.

**Mixing**

Dilute **BONDERITE L-FG 182 ACHESON (known as DELTAFORGE 182)** at a 1:1 (concentrate : water) ratio for initial trial on tooling in excess of 538°C (1000°F). Always add water to the concentrate, not the reverse. To mix, slowly stir in a small amount of water. When the mixture is homogenous, add the remaining water more rapidly, stirring until the required dilution ratio is reached. Periodic agitation (mechanical) is recommended for diluted product.

**STORAGE/ HANDLING**

Store **BONDERITE L-FG 182 ACHESON (known as DELTAFORGE 182)** in cool place, but do not allow product to freeze. Always tightly reseal the container to prevent evaporation or contamination.

**APPLICATION ASSISTANCE**

Henkel representatives are available to assist you in production start-up with **BONDERITE L-FG 182 ACHESON (known as DELTAFORGE 182)**. For more information, visit our website at [www.henkelna.com/metals](http://www.henkelna.com/metals) for the Henkel global location nearest you.

**HEALTH & SAFETY**

Please consult Material Safety Data Sheet

