

# technical data

# Semco® Pasa-Jell 107 and 107-M

## bond enhancement/titanium alloys

### Use

To improve the metal bond adhesions of titanium alloy.

### Description

Semco® Pasa-Jell 107 and 107-M are blends of mineral acids, activators, and inhibitors. Semco® Pasa-Jell 107 is inorganically thickened to permit application in localized areas. Semco® Pasa-Jell 107-M does not contain the inorganic thickener permitting immersion of large surfaces. Semco® Pasa-Jell 107 is designed to provide a balanced ratio of components which will maintain the effectiveness of the etch rate and inhibit embrittlement as long as the total acid content is maintained above 20%.

Improvement of bond strength is based on surface activation which provides a receptive surface for adhesion.

Semco® Pasa-Jell 107 and Semco® Pasa-Jell 107-M chemically clean and activate the titanium alloy surface to provide improved chemical bonding of the adhesive. Semco® Pasa-Jell 107 and Semco® Pasa-Jell 107-M leave a clean surface with no trace of residual smut.

Semco® Pasa-Jell 107 and Semco® Pasa-Jell 107-M are formulated specifically for titanium alloys.

The etch life of Semco® Pasa-Jell 107-M is approximately 500 to 1,000 square feet of surface per gallon.

### Physical properties (typical)

#### Color

Semco® Pasa-Jell 107,107-M     Red

#### Weight per gallon

Semco® Pasa-Jell 107             10 lbs.

Semco® Pasa-Jell 107-M        10 lbs.

#### Consistency

Semco® Pasa-Jell 107             Thixotropic gel

Semco® Pasa-Jell 107-M        Liquid

### Purchasing data

Product designation: When ordering this product designate Semco® Pasa-Jell 107 or Semco® Pasa-Jell 107-M.

### Standard packaging

Designation	Container
Quart	Plastic bottle

### Shipping classification

Corrosive Liquid, N.O.S. UN 3264.

### Special shipping instructions

Class 8 - Corrosive label required.

### Application

For optimum results, the titanium alloy surface should be degreased using a solvent, followed by either a wet or, preferably, a dry blast with fine grit of 250 or 320 aluminum oxide to remove all corrosion products and to condition the metal surface before applying the Semco® Pasa-Jell product. Where blasting is not practical, the surface should be sanded lightly with aluminum oxide coated abrasives. Satisfactory results may be obtained with the use of alkaline cleaners.

Apply a layer of Semco® Pasa-Jell 107 to localized areas with a polyethelene, polypropylene or fluorocarbon bristle brush immediately following the abrasive treatment and allow it to stand for about 10 to 15 minutes. The Semco® Pasa-Jell product should then be rinsed off with cool tap water and allowed to dry at room temperature.

For immersion treatment of titanium alloy skins, use Semco® Pasa-Jell 107-M in tanks.

**Note:** Tank linings for Semco® Pasa-Jell products should be made of polyethylene or unplasticized polyvinyl chloride.

The etch rate of a tank solution of Semco® Pasa-Jell 107-M will depend on the metal pre-treatment. The etch rate will be considerably faster and more uniform on an aluminum oxide blasted surface due to greater surface activity.

It is important that the part and the Semco® Pasa-Jell 107-M tank solution be held below a temperature of 100° F. This also applies to any tap water rinsing. Treated parts should be dried with cool air prior to priming.

The time limit for the application of the primer after rinsing should be held to a minimum, and preferably not in excess of one hour because there is a decay rate of the surface activity. Maximum benefit can be derived by priming the surface soon after the Semco® Pasa-Jell treatment.

In the event detergent cleaning and acid pickling are employed prior to the Semco® Pasa-Jell treatment, the following precautions should be observed:

- Make sure the titanium alloy skin is clean before heat treatment.
- Seizure of detergent solution on titanium alloy surface should be avoided. Prevent the part being cleaned from drying. A high-pressure spray rinse is recommended immediately upon removing the part from the detergent tank.
- Check each part as it is removed from the acid pickle solution to make sure a uniform etch has been obtained. If non-uniformity of etch is observed, immerse the part for a longer time period or repeat the entire cycle. Rheology of stretch formed metal may require a longer or more vigorous etching prior to the Semco® Pasa-Jell treatment.
- Should it be necessary to recycle the part after the Semco® Pasa-Jell 107 treatment, first immerse it in a nitric-hydrofluoric acid pickle solution and then repeat the above steps.

### Storage

Semco® Pasa-Jell 107 and 107-M have a storage life of one year without significant loss of activity when stored in a cool, dry area in the original, unopened containers.

### Safety precautions

*Danger: Extremely hazardous liquid and vapors.*

Avoid contact with skin, eyes, and clothing. Causes irritation to skin, eyes, nose, and throat. Avoid breathing vapors. Store in a cool, dry area in tightly closed containers.

### Health precautions

Semco® Pasa-Jell 107 and 107-M have been proven to be a safe material to handle when safety and handling precautions are followed. Avoid contact with skin and clothing. Wear rubber gloves, a face shield, and respiratory protection. Avoid breathing vapors. Always work in a well ventilated area. For complete health and safety information, consult the material safety data sheet.

In case of contact, immediately wash skin with large quantities of soap and water. Flush eyes with large quantities of water for 15 minutes or more. Remove all contaminated clothing and shoes. First aid may be required and a physician should be consulted.

If swallowed, give no emetic. Call a physician immediately. Give large quantities of water at once.

For chemical burns, wash the affected area with large quantities of water. Make sure all the adhering chemical is removed.

### Disposal

Refer to the material safety data sheet.

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