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## APV ENGINEERED COATINGS M-8 MASKING SYSTEM FOR DIFFUSION COATING PROCESS (TEMPERATURES UNDER 1500°F)

APV Engineered Coatings has developed masking procedures and compounds to offer protection from coating formation on portions of superalloy parts and assemblies, during high temperature metal diffusion processing.

The M-8 Masking System contains a dry powder, binder and diluent. The System components are mixed at the customer's location on an as required basis. All components are tested for satisfactory performance prior to being shipped.

The components are:

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|------------------------|---|
| <b>M-8<br/>Maskant</b> | M-8 Masking powder is designed to protect selected areas of nickel base super-alloy compounds such as roots of blades during aluminum diffusion coating. Its function is to act as a "getter", providing a protective envelope over the selected area. After processing, the hardened M-8* can be easily removed with a wooden, plastic or rubber implement. M-8 is recommended for the PWA-73 process and should only be used where temperatures do not exceed approximately 1500°F. The M-1/M-7 or M-10/M-7 Masking Systems should be used for higher temperatures. |
| <b>B-4<br/>Binder</b>  | A highly effective and unique mixture containing organic binders and a non-explosive, non-flammable solvent which completely volatilizes during the diffusion coating cycle. There is no contamination of the pack mix during this volatilization.  |
| <b>D-4<br/>Diluent</b> | An organic mixture used to replace room temperature volatilized components of the M-8 slurry. The diluent is used as needed to maintain the viscosity of the slurries.  |

\*The APV Engineered Coating System provides excellent self-retention features during the packing and coating phases. When particles of the masking compound were intentionally intermixed with the coating pack, no harmful effects were observed. This feature provides the possibility of reusing pack mixes which previously had to be discarded.



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The following mixing instructions/applications are a *suggested guide* for applying the M-8 Maskant. You may want to add more or less than the number of dips recommended. The diffusion coating process and the alloy used should be the guide in determining the amount of dips needed for proper protection.

- M-8**
- Mix 3000 grams of M-8 powder with approx. 1,000-1,100g of B-4 Binder.
  - Apply three (3) dips of M-8; however, the number of dips can vary depending on the application.
  - Blending should be done with a lightning blender or mixer at a SLOW speed. If mixed too rapidly, a proper mix will not be obtained.

For masking of hardface notches of turbine blades in PWA-73 using ASC Binder and Zirconium Oxide: use 5600 grams Zirconium Oxide with one (1) liter of Binder. Using an eye dropper, apply to the notch allowing a brief drying period until the area is covered. Be certain to remove all masking materials prior to the post diffusion cycle. The coating brushes off easily at this time.

The concentration of the M-8 Maskant can vary depending upon the viscosity desired.

For additional information, pricing and availability of the M-8 Masking System materials, please contact our Sales Department toll-free at 1-866-859-3670.