



Rev. 2

LSR-H2O SIALOY* Application Instructions

LSR-H2O Sialoy (Water Based)

1.0 Safety Precautions

Consult the MSDS for appropriate precautions for use, handling and storage.

2.0 LSR-H2O SIALOY Storage

Shelf life: 6 Months from date of manufacture when stored between 40° - 80° F.

3.0 Pre-Spray Operation

3.1 Mixing of LSR-H2O SIALOY Prior to Spray Application

Open the container of LSR-H2O SIALOY immediately prior to spray application. Remove the lid and scrape off any sediment into the container. Mix the slurry with a medium speed (300-500 RPM) impeller style mixer. Mix the slurry until it is homogenized, taking care to scrape the bottom intermittently to lift off sediment. Once homogenized, the slurry may be sprayed, however keep mixing the slurry until the spray process is complete to ensure a homogenized slurry is used throughout the process.

3.2 Thinning of LSR-H2O SIALOY

Thinning of LSR-H2O-SIALOY is not recommended.

3.3 Part Cleanliness

Ensure that parts to be sprayed are free from oils, dust and other contaminants immediately prior to coating.

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4.0 Spray Application

It is intended that half of the coating's final thickness be applied in the first layer. Allow the coating to flash off before applying the second layer (parts will go from shiny grey to flat grey). This normally takes less than 10 minutes. Once the first layer has flashed off, apply a second layer that is intended to be half the coating thickness again. Within one hour of the second layer being applied, place the parts into an oven for drying. It is intended that the total green coating thickness be 0.002" to 0.0035" such that a final diffused coating thickness of 0.0015-0.003" is achieved.

5.0 Drying Procedure

Dry in an oven ramping from room temperature to 167F at 3F/minute. Hold at 167F for 20 - 40 minutes. Remove from the oven. At this point the parts may be inspected, small defects (<0.08") may be touched up with the homogenized slurry; dry any touched up parts (167F, 20 minutes). After drying, the slurry is able to be scraped from surfaces where coating is not desired and masking can be removed. Check coating thickness after drying. It is intended that the coating be 0.002" to 0.0035" thick.

6.0 Diffusion Heat Treatment

For Nickel alloys: It is recommended that diffusion heat treatment be performed in a vacuum furnace. Vacuum the furnace to a minimum of 10⁻³ torr. Once the vacuum is attained, ramp from room temperature to 1625F at 18F/minute maximum. Hold at 1625F for 2 hours. Cool by argon quench.

For Cobalt alloys: It is recommended that diffusion heat treatment be performed in a vacuum furnace. Vacuum the furnace to a minimum of 10⁻³ torr. Once the vacuum is attained, ramp from room temperature to 1796F at 18F/minute maximum. Hold at 1796F for 6 hours. Cool by argon quench.

Note: Although we recommend that diffusion be carried out under vacuum many of our customers achieve excellent results by diffusing in an inert (argon) atmosphere.

* LSR-H2O SIALOY (Also referred to as LSR 421) Liburdi Slurry Repair – Patent US 6,805,906 B2