

Bringing chemical technology to the printed wiring board industry

Lackwerke Peters Via Hole Filler SD 2361

INTRODUCTION

The via hole fillers of the series SD 2361

The Peters SD 2361 is a one-pack screen printing ink that provides the safe closing of holes. The purpose of closing the vias with the SD 2361 is to:

- Avoid solder from encroaching to the component side
- Avoid flux residues from remaining in the vias
- Ensure a proper seal for in-circuit electrical test

The SD 2361 is based on 100% solids content and contains no volatile solvents. This is a major benefit to conventional hole plugging materials that shrink after curing. This shrinkage will allow fluxes and other materials to seep along the plug leading to potential electrical failures and electromigration.

CHARACTERISTICS

The SD 2361 is green in color and has viscosity of 26,000 mPas +_ 8000.

It is possible to jointly cure the SD 2361 with soldermask, either two pack solder resists or liquid photoimageable types.

Figure 1-cross section showing via hole fill

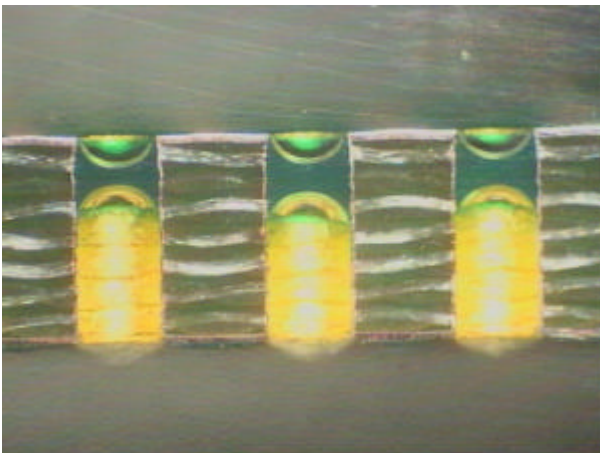
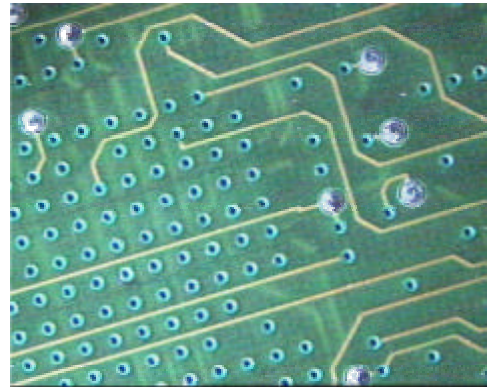


Figure 2-Board plugged with SD 2361



PROCESSING

The SD 2361 does not require any adjustment to its viscosity.

Screen Printing

- Use 35-43 T polyester fabric or corresponding steel mesh
- When making screen stencil, ensure that the holes in the mesh are slightly larger than the drilled hole diameter
- High stencil build-up is not necessary since the ink only needs to be printed in the holes
- Use rubber squeegee with a shore-A hardness of 65
- In holes are not closed completely, multiple passes may be required. Printing should be done "wet to wet"
- Perform preliminary tests to optimize process for off-contact, pressure, and squeegee angle

DRYING AND CURING

Via hole fillers of the series 2361 are cured under the following conditions:

30-45 minutes at 150 °C.

Note: curing time is measured from when actual temperature reaches the listed curing temperature.

SD 2361 THERMO-MECHANICAL PARAMETERS

The SD 2361 has a Tg of 77° C and a CTE<Tg of 63 ppm. The CTE above the Tg is 160 ppm. This shows very low Z-axis expansion, which is a very critical parameter.

SD 2361-NASA APPROVAL

The SD 2361 has met the requirements of the outgassing tests in accordance with ASTM E-595-93 section 1.5. In order to meet NASA approval for this requirement, the following criteria must be met:

TML (total mass loss) < 1.00%

VCM (volatile condensable material) < 0.10%

SD 2361:

TML= 0.649%

VCM= 0.000%

The SD 2361 approval is listed on the NASA website

STORAGE CONDITIONS

The SD 2361 should be stored in a cool dry area. The shelf life of this product is four months from manufacturing date. The label on the container will show the expiration date.

PACKAGING

The SD 2361 is available in 4 tins X .5 kg. Total selling unit is 2 kilograms.

Figure 3-SD 2361 for the safe closing of vias

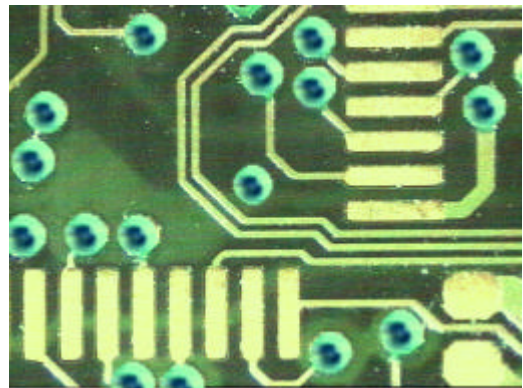


Figure 4-Mission to Mars-Sojourner and SD 2361 was there



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