



# AMTECH

Advanced SMT Solder Products

**INVENTEC**  
500 Main Street, Suite 18  
PO Box 989  
Deep River, CT 06417 USA

Toll Free: 800.435.0317  
Phone: 860.526.8300  
Fax: 860.526.8243  
www.amtechsolder.com

## NC-559-V2, No-Clean Solder Paste

### Product Data Sheet

#### Product Highlights

- ROL0 flux classification
- Exceptional print definition at high printing speeds up to 100mm/sec
- Long stencil life
- Wide process window
- Clear residue
- Low voiding
- Excellent wetting compatibility on most board finishes
- Compatible with enclosed print heads
- Print & Dispense grade solder paste available

#### Available Alloys

Alloy	Temp °C	Temp °F
63Sn/37Pb	183	361
62Sn/36Pb/2Ag	179	354
62.8Sn/36.8Pb/0.4Ag	179-183	354-361
60Sn/40Pb	183-191	361-376
43Sn/43Pb/14Bi	144-163	291-325
42Sn/58Bi	138	280

#### Packaging

- 500 gram jars
- 700 gram cartridges
- 35 or 100 gram syringes
- ProFlow cassettes

#### Test Results

Test J-STD-004 or other requirements (as stated)	Test Requirement	Result
Copper Mirror	IPC-TM-650: 2.3.32	L: No breakthrough
Corrosion	IPC-TM-650: 2.6.15	L: No Corrosion
Quantitative Halides	IPC-TM-650: 2.3.28.1	L: <0.5%
Electrochemical Migration	IPC-TM-650: 2.6.14.1	L: <1 decade drop (No-clean)
Surface Insulation Resistance 85 °C, 85% RH @ 168 Hours	IPC-TM-650: 2.6.3.7	L: 100 M (No-clean)
Tack Value	IPC-TM-650: 2.4.44	35g
Viscosity - Malcom @ 10 RPM/25 °C (x10 <sup>3</sup> mPa/s)- Sn63 T3/T4	IPC-TM-650: 2.4.34.4	Print: 195-300 Dispensing: 100-140
Visual	IPC-TM-650: 3.4.2.5	Clear and free from precipitation
Conflict Minerals Compliance	Electronic Industry Citizenship Coalition (EICC)	Compliant
REACH Compliance	Articles 33 and 67 of Regulation (EC) No 1907/2006	May contain up to 1% w/w of ethoxylated 4-nonylphenol

# NC-559-V2, No-Clean Solder Paste

## Printer Operation

The following are general guidelines for stencil printer optimization with NC-559-V2. Some adjustments may be necessary based on your process requirements.

Print Speed: 25-100 mm/sec

Squeegee Pressure: 70-250g/cm of blade

Under Stencil Wipe: Once every 10-25 prints, or as necessary

## Stencil Life

>8 hours @ 30-45% RH and 20-25 °C  
~ 4 hours @ 45-75% RH and 20-25 °C

## Cleaning

NC-559-V2 is a no-clean solder paste that can be left on the board for many SMT assemblies. For applications requiring cleaning, NC-559-V2 can be cleaned using flux residue removers such as Inventec Disper 607 and Disper 610.

## Recommended Profile

This profile is designed to serve as a starting point for process optimization using NC-559-V2. To achieve better results with voiding or to reduce tombstoning, consider using a longer soaking zone, (140-180 °C) for 60-90 seconds, with a more rapid pre-heat stage. If there is evidence of solder de-wetting, consider lowering the peak reflow temperature, or reduce the time above liquidus to <60 seconds.

## Amtech Low Oxide Powder Distribution

Micon Size	Type	Pitch Requirement
45 - 75µ	Type-2	24 mil and above
25 - 45µ	Type-3	16 - 24 mil
20 - 38µ	Type-4	12 - 16 mil
15 - 25µ	Type-5	8 - 12 mil
5 - 15µ	Type-6	5 - 8 mil
2 - 11µ	Type-7	< 5 mil

Note: Type-6 and Type-7 may not be available in certain alloys. Other powder distributions are available on request.

## Storage

Solder paste should be stored between 3-8 °C (37-46 °F) to obtain the maximum refrigerated shelf life of six months. Unopened solder paste stored at room temperature, 25 °C (77 °F) will have a one month shelf life. Syringes and cartridges should be stored vertically in the refrigerator with the dispensing tip down. Allow 4-8 hours for solder paste to reach an operating temperature of 20-25 °C (68-77 °F). Keep the solder paste container sealed while warming the solder paste to operating temperature.

**NEVER FREEZE SOLDER PASTE.**

