



TECHNICAL BULLETIN

152N

Water Soluble Liquid Flux Lead and Lead-Free Compatible

DESCRIPTION

152N is a pH neutral water washable liquid flux formulated with the enhanced activity for soldering hard-to-wet alloys associated with the lead free wave soldering processes. 152N will produce no to ultra-low foaming within the wash process, and provides excellent ionic cleanliness after water cleaning. 152N contains no free acid but possesses a high activity level. Combine this with a wide activation range you get excellent wetting and spread characteristics and bright/shiny solder joint production compatible with a wide array of assemblies. 152N is also suitable for surface mount assembly soldering operations.

BENEFITS

- pH Neutral
- Compatible with virtually all lead-free alloys
- No to ultra-low foaming during cleaning
- Excellent ionic cleanliness
- High activity level for hard-to-wet alloys
- Enhanced wetting and spread
- Produces bright/shiny solder joints

APPLICATION

152N can be foamed, sprayed dipped or brush applied.

In foaming applications, the amount of flux to be applied should typically be controlled between 800 and 1300 micrograms per square inch of solids. Using moderate airflow rates, 152N produces a fast breaking, fine-bubble foam head, and recovers rapidly for effective coverage at high production speeds.

For spray applications, the amount of flux to be

applied should be controlled between 475µg and 850µgm/sq-in of solids.

FLUX CONTROL

Because 152N is an alcohol-based flux, consistency will be maintained by monitoring specific gravity. Specific gravity test results indicate whether the addition of flux or thinner are required to compensate for normal usage, and evaporation losses. It is recommended that the specific gravity @77F be maintained between 0.840 and 0.880 by addition of thinner. Only FCT Flux Thinner FT-101 should be used for this purpose to ensure consistency of flux foaming and soldering characteristics.

CLEANING

152N is completely soluble in plain water. Cleaning can be accomplished with in-line and batch cleaners or can be performed manually. Under typical conditions, the addition of a saponifier or other chemical cleaners is not required to facilitate residue removal.

It is recommended that the temperature of the cleaning bath be above 100°F, with a window of 100°F ~ 150°F to ensure efficient residue removal. A final rinse with de-ionized water will ensure maximum cleanliness.

Because post-process residues from 152N flux have a neutral pH, you may delay cleaning of your assemblies for up to 8 hours after soldering and not cause corrosion of the assembly.



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HANDLING

152N should remain sealed prior to, and after every use. Store in a cool dry location away from sunlight, and do not allowed to flux to freeze.

PROCESS CONTROL

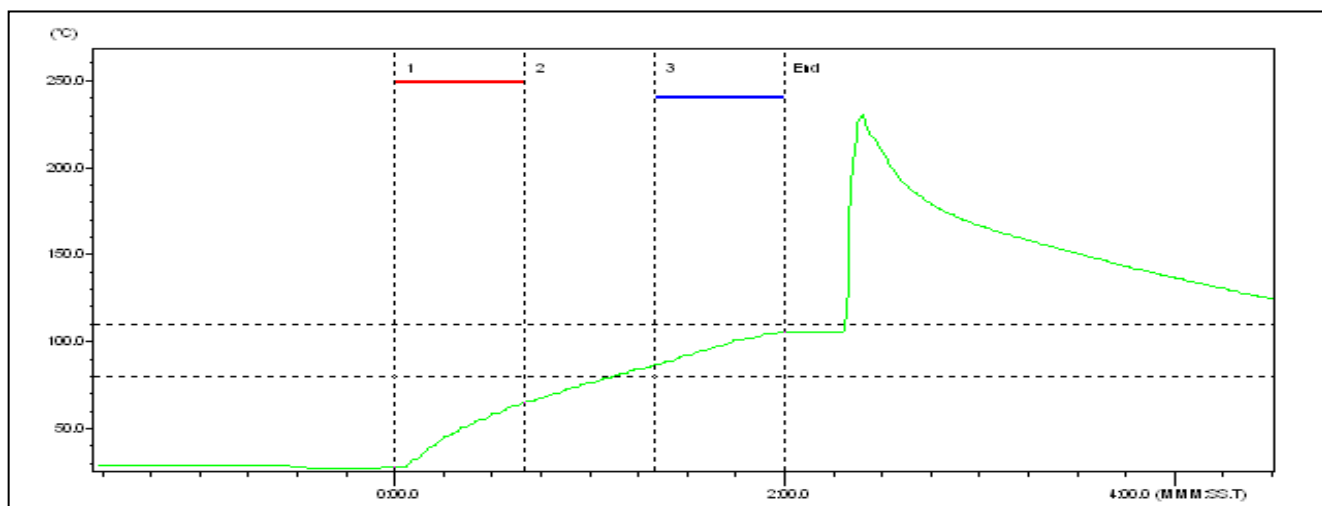
A recommended starting point for top-side board surface temperature is between 80°C~110°C.

Contact time in the wave should be controlled to between 4~6 seconds.

Recommended Solder Pot Temperature:

Sn/Pb: 240°C ~ 255°C
SN100C (Sn/Cu/Ni+Ge): 245°C ~ 270°C

TYPICAL THERMAL PROFILE



RAMP RATE:
2° ~ 3°C/SECOND

TOP-SIDE BOARD TEMPERATURE:
80°C ~ 110°C JUST BEFORE WAVE

PHYSICAL PROPERTIES

Specific Gravity: 0.84 ~ 0.88
pH (5% Solution) 6.5 ~ 7.9
Flash Point: 61°F
% Non-Volatiles 24%
Color: Clear to light amber

PACKAGING

152N is available in 1 gallon jugs, 5 gallon pails, and 55 gallon drums. Other container sizes may be available upon request.

HEALTH and SAFETY

Refer to the associated MSDS for guidance on safety and health issues and for any specific emergency information.

Keep 152N away from heat, sparks and open flames. Use in well-ventilated area and observe standard precautions for handling and use.