FCT Assembly
LEADERS IN TECHNOLOGY

Product Data Sheet

152N Aqua Flux

INTRODUCTION

152N Aqua Flux is a pH neutral liquid flux formulated for producing defect free assemblies in wave soldering processes employing water cleaning. It provides excellent ionic cleanliness after water cleaning. **152N** contains no free acid but possesses a high activity level. **152N Aqua Flux** is also suitable for surface mount assembly soldering operations.

ATTRIBUTES

- Excellent cosmetics and easy rinsing
- Superior activity offering good solderability on all surface finishes
- Good topside wetting
- Low foaming when rinsing, compared with 150N

APPLICATION

152N Aqua Flux is a low smoking, neutral pH foam flux. Using moderate airflow rates, its fine-bubble foam head is fast breaking and recovers rapidly for effective coverage at high production speeds. This active flux will produce bright shiny solder connections. The residues wash off easily to very low levels of ionic contamination. Water washing can be done without the use of rinse aids. Cleaning can be delayed because the flux has no free acids. The flux is formulated so that the cleaning process water effluent is completely biodegradable. Local regulations may require pretreatment to raise the pH to remove dissolved lead from water effluent.

FLUX CONTROL

The specific gravity of the flux should be maintained between 0.85 and 0.87.

The amount of flux to be applied during foaming applications should be between 800 and 1300 micrograms per square inch of solids. The amount of flux to be applied during spray application should be between 475 and 850 micrograms per square inch of solids.

SPRAY SYSTEMS

Ideally an air knife should be fitted even when using a spray system in order to prevent insufficient capillary action when soldering. Spray system air knives should normally be angled slightly towards the system.

FOAMING SYSTEMS

The air knife hole diameter should be between 1 and 1.5 mm and the distance from the fluxer to the air knife should be approximately 4 to 6 inches. The air knife should be angled between 5 to 12 degrees away from the foam wave so that excess flux can be removed without destroying the foam head.

CONVEYOR SPEED

The ideal conveyor speed is dependent on the type of board and preheat requirements, but a speed between 3.5-6.5 feet will suit most applications.

PREHEAT

A topside temperature between 80-110℃ is recommended. A bottom side temperature should be 35°C higher than the topside.

SOLDER TEMPERATURE

A solder temperature between 230-250°C should be maintained.

THINNING

The consistency of **152N Aqua Flux** should be maintained by the addition of thinner to compensate for evaporation losses. It is recommended that the specific gravity @77°F be maintained between 0.850 and 0.865 by addition of thinner. Only Flux Thinner FT-100 should be used for this purpose to ensure consistency of flux foaming and soldering characteristics.

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ANALYSIS (USING A BURET)

Pipet 5 ml of **152N** into titration flask

Add 40-50 ml of D.I. water or IPA

Add 2-3 drops of Phenolphthalein indicator solution and mix well

Titrate the mixture with 0.1 N base from clear to a pink endpoint

Record the volume of NaOH used

Calculation for acid content of **152N**:

Acid number (mg NaOH/g flux) = (mils of 0.1N base) X 1.38

SAFETY AND HANDLING

Keep away from heat, sparks and open flames. Use in well-ventilated area and observe standard precautions for handling and use. Refer to the Material Safety Data Sheet for further information.

Available in 5-gallon pails and 55-gallon drum

TEST RESULTS

J-STD-004 (IPC Tm-650) Test	Result
Flux Type (per J-STD-004)	ORM1
Copper Mirror	Moderate
Silver Chromate	Fail
Fluoride test	Zero
SIR	Pass after clean
Electromigration	Pass after clean
Physical Properties	**Values**
Solids Content	23 - 24%
Specific Gravity at 20°C	0.84-0.88
pH	7.5-9.0
Color	Clear to Light Amber