

WS101 Power Core Wire Solder

Introduction

WS101 is a high activity water washable wire solder for soldering through-hole and surface mount assemblies. WS101 flux is formulated to wash away easily using D.I. water. WS101 is low smoking with a mild odor.

Attributes

- Excellent cosmetics.
- Superior activity offering good solderability on all surface finishes.
- Excellent washability using D.I. water.

| Wire Solder Alloys | Diameters | Flux Content |
|--------------------|----------------------------|--------------|
| SN100C | 0.015 to 0.062 inches | 2 to 3% wt |
| SAC305 | 0.020, 0.032, 0.062 inches | 2% wt |

Compatible Products

150N, 152N, 159HF liquid fluxes.
WS888, WS889, WS890 gel fluxes.
TTC100C tip tinner.

Storage and Handling

- Shelf life is 5 years when stored between 50 to 90 °F (10 and 32 °C) in a standard warehouse or office environment.
- Store inside of the original packaging to prevent contamination from dust or moisture.

Application

WS101 Power Core wire solder is suitable for use in any electronic hand soldering application. WS101 Power Core wire solder is ideal for difficult to solder metals such as brass, nickel and oxidized copper.

| Parameter | Setting |
|----------------------------|---------------------------------|
| Soldering iron temperature | 370 - 425 °C (700 - 800 °F) |
| Angle | 45 to 60 degrees to the surface |

- These parameters are general guidelines. The optimum settings may be different depending upon the process, equipment, components and circuit boards.

Cleaning

After heating, WS101 flux residues must be removed from the circuit board. It is recommended to remove WS101 flux residues within 4 hours after soldering using D.I. water heated to 100 - 180 °F in

standard washing equipment. It is possible to wash away WS101 flux residues after multiple heat cycles followed by a 24 hour hold time, although this is not recommended.

Safety

Wear appropriate gloves and safety glasses when using wire solder. Avoid breathing fumes, especially during soldering. Follow the guidelines in the Safety Data Sheet (SDS).

| J-STD-004C & J-STD-006C Standards | Test Method | Result |
|-------------------------------------|------------------------|---|
| J-STD-004C classification | J-STD-004C methods | ORH1 |
| Visual appearance | Visual | White waxy flux residue |
| Flux content | IPC 2.3.34.1 | 2.0 to 3.0% wt |
| Solder pool | IPC 2.4.49 | Excellent spreading and wetting |
| Flux residue dryness | IPC 2.4.47 | Tacky |
| Halide ion content (Br, Cl, F, I) | IPC 2.3.28.1 | 1.7 to 1.8% wt of solids |
| Halogen content (Br and Cl) | EN 14582, IPC 2.3.28.1 | 1.7 to 1.8% wt of solids |
| Halide by silver chromate | IPC 2.3.33 | Halides detected |
| Fluoride by spot test | IPC 2.3.35.1 | None detected |
| Copper mirror | IPC 2.3.32 | High activity |
| Copper corrosion | IPC 2.6.15 | Corrosion present |
| Surface Insulation Resistance (SIR) | IPC 2.6.3.7 | Pass > 1.00E+09 ohms |
| Electro Chemical Migration (ECM) | IPC 2.6.14.1 | Pass, increase of 0.99 Log ₁₀ ohms |

Limited Liability and Warranty Disclaimer

All information, statements, technical data, and recommendations contained in this Technical Data Sheet are based on testing we believe to be reliable. However, the accuracy or completeness thereof is not guaranteed. It is impossible for our lab to account for all manufacturing conditions and variables. Products are warranted to be free from defects at the time sold. To the full extent consistent with applicable law, the exclusive remedy of the user or buyer is to receive replacement product for any product defective at the time sold. FCT Assembly, Inc. makes NO WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Further, FCT Assembly, Inc. makes no other express, implied, or statutory warranties unless otherwise specified in writing and signed by officers of the corporation.