

## Product Data Sheet

# Activated Flux-Cored Wire for Non-sensitive Electronics and Electrical Applications

### Introduction

Indium Corporation has developed a range of flux-cored wire solutions to meet the needs of virtually every electrical and non-critical electronic assembly and rework operation. Flux-cored wire solutions are created when the desired alloy, cored wire flux, and flux percentage are combined into a void-free, perfectly layer-wound package, which can be easily used for both hand soldering and automated wire feed solder. Indium Corporation prides itself on providing the industry's widest range of flux-cored wire solders for both standard electronic assembly as well as highly specialized needs. No application is too large or too small.

- **CW-207 Activated Rosin for Lead-Free:** CW-207 is similar to CW-201 except that it is formulated using a blend of heat stable clear rosins. It is the standard option for soldering with lead-free alloy core wire when soldering non-sensitive electrical or electronic applications, or when soldering moderately difficult-to-solder metals such as brass or nickel.
- **CW-209 Highly Activated Rosin:** CW-209 is exactly the same as CW-207 except with twice the amount of halogen activator. It is recommended for use where CW-207 or CW-201 are not active enough to solder to highly oxidized metals, or where speed of wetting is a high concern.
- **CW-501 High Activity Rosin-Free No-Clean:** CW-501 is rosin (colophony) free and due to the heat stable nature of the resin used and activator system, shows exceptionally effective soldering on a wide range of assemblies with a wide range of alloys and conditions. The resin used has a different odor than those formulas based on rosin and, while generally non-offensive, will be different than operators typically expect.

### Activated Cored Wire Flux Formulations

- **CW-201 Standard Activated Rosin:** CW-201 is a traditional RA type flux as defined by the legacy Mil-Spec QQ-S-571. It uses traditional grade WW rosin and standard chloride activators. CW-201 is recommended for use with 63Sn/36Pb and 60Sn/40Pb alloys on non-sensitive oxidized copper parts, non-sensitive electrical/electronic assemblies where higher speed wetting is desired, assemblies where the residue is removed after soldering, and for soldering to moderately hard-to-solder metals such as brass and nickel.

| Formula                                | CW-201                              | CW-207                | CW-209                          | CW-501                      |
|--|-------------------------------------|-----------------------|---------------------------------|-----------------------------|
| Application                            | Fully Activated Rosin WRAP WW Rosin | Fully Activated Rosin | Highly Activated Rosin          | Rosin-Free No-Clean         |
| IPC J-STD-004*                         | ROM1                                | ROM1                  | ROM1                            | RELO                        |
| IPC J-STD-004B*                        | ROM1                                | ROM1                  | ROM1                            | REL1                        |
| Rosin Containing                       | Yes                                 | Yes                   | Yes                             | No                          |
| Halogen-Free per JEITA ET-7304**       | No                                  | No                    | No                              | No                          |
| Actual Halogen Content***              | <0.5%                               | <0.5%                 | <1.0%                           | >1500 ppm                   |
| Copper Mirror Corrosion IPC J-STD-004B | Fail                                | Fail                  | Fail                            | Pass                        |
| SIR J-STD-004B***                      | Fail                                | Pass                  | Fail                            | Pass                        |
| Electromigration J-STD-004B***         | Fail                                | Pass                  | Fail                            | Pass                        |
| Color                                  | Amber                               | Clear                 | Clear                           | Clear                       |
| Odor                                   | Mild, rosin                         | Mild, sweet           | Mild, sweet                     | Moderate                    |
| Alloys                                 | SnPb alloys                         | Lead-free alloys      | All common and high-lead alloys | Common and high-lead alloys |

\* J-STD-004 and J-STD-004B vary in the way they measure halogen content. J-STD-004B finds both ionic and non-ionic halogen whereas J-STD-004 will find ionic halogen, but most likely will not find non-ionic halogenated activators. Up to 500ppm combined halogen is considered halogen-free.

\*\* JEITA ET-7304 allows up to 900ppm chloride, 900ppm bromide, and up to 1500ppm combined bromide and chloride to be considered halogen-free.

\*\*\* Data available upon request.

**OVER →**

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### Standard Flux Core Sizes, Alloys, and Shelf Life

| Alloys         | High Flux % | Medium Flux % | Low Flux % | Very Low Flux % | Shelf Life (<26° C & <60% RH) |
|----------------|-------------|---------------|------------|-----------------|-------------------------------|
| SnPb <80% Pb   | 2.7-3.2%    | 1.7-2.2%      | 0.8-1.2%   | –               | 3 years                       |
| Pb-Free Alloys | 3.3-3.7%    | 2.7-3.2%      | 1.7-2.2%   | 0.8-1.2%        | 3 years                       |
| High Lead >80% | 1.7-2.2%    | 1.3-1.7%      | 0.8-1.2%   | –               | 1 year                        |

Indium Corporation can produce many of the alloys on its alloys list as cored wire. Alloys containing greater than 20% bismuth, greater than 8% antimony, gold, or greater than 5% silver cannot be produced as cored wire at this time.

### Standard Diameters and Packaging

| Inches | mm Equivalent | Tolerance | Packaging            | Cartons             |
|--------|---------------|-----------|----------------------|---------------------|
| 0.010" | 0.25          | ± 0.002"  | 1/4 lb.              | 10 - 1/4 lb. spools |
| 0.015" | 0.38          | ± 0.002"  | 1/4 lb., 1 lb.       | 10 - 1 lb. spools   |
| 0.020" | 0.50          | ± 0.002"  | 1 lb.                | 10 - 5 lb. spools   |
| 0.025" | 0.63          | ± 0.002"  | 1 lb.                | per box             |
| 0.032" | ~0.75         | ± 0.002"  | 1 lb.                | –                   |
| 0.040" | 1.0           | ± 0.002"  | 1 lb., 5 lb.         | –                   |
| 0.062" | ~1.5          | ± 0.002"  | 1 lb., 5 lb., 20 lb. | 2 - 20 lb. spools   |
| 0.120" | 3.0           | ± 0.002"  | 1 lb., 5 lb., 20 lb. | per box             |

This product data sheet is provided for general information only. It is not intended, and shall not be construed, to warrant or guarantee the performance of the products described which are sold subject exclusively to written warranties and limitations thereon included in product packaging and invoices.

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