

Product Data Sheet

Flux-Cored Wires CW-809, CW-217, and CW-219

Introduction

Indium Corporation has developed a range of flux-cored wire solutions to meet the needs of virtually every 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.

Over time, cored wire formulas have evolved to mask both rosin and chemical odors with artificial fragrances, and mask halogen content by using complex activator systems. Indium Corporation's new line of flux-cored wires goes back to the basics by adapting simple and traditional cored wire fluxes to today's assembly needs by eliminating the added fragrances and activators. An additional benefit of this line of flux-cored wires is that spattering is reduced when compared to other formulas.

- **CW-217 Activated Rosin Flux:** **CW-217** is similar to Indium Corporation's CW-207 formula, with an activation level capable of soldering oxidized copper, brass, bronze, nickel, and similar metals. **CW-217** was designed for electrical and non-electronic applications, however, it is also suitable for use in non-sensitive electronic assembly applications and sensitive electronic applications where the residue will be removed. This formula has been tested to conform to both J-STD-004 and J-STD-004B as type ROM1.
- **CW-219 Highly-Activated Rosin Flux:** **CW-219** is the exact same formula as CW-217, but with twice as much halogen activator. It is designed for soldering to very oxidized copper, nickel, brass, bronze, zinc coatings, tin-plated steel, and similar surfaces. Some customers prefer **CW-219** to CW-217 for non-sensitive applications where they would like to increase the speed of wetting to achieve higher throughput. **CW-219** has been confirmed to meet the requirements of J-STD-004 and J-STD-004B type ROM1.

Cored Wire Flux Formulations

- **CW-809 Halogen-Free No-Clean Rosin Flux:** This formula is a simplified version of Indium Corporation's popular CW-807 cored wire flux formula. As with CW-807, it provides a balance of properties needed for high reliability no-clean soldering and rework. CW-809 has high reliability, is considered halogen-free, has low smoke and a non-offensive odor, has clear residue, and is fast wetting to clean copper and solder-coated surfaces. CW-809 meets the requirements of J-STD-004 and J-STD-004B as a ROL0.

Removing Flux Residues

CW-809, CW-217, and CW-219 flux residues are non-corrosive, however some applications require the removal of flux residues for cosmetic, reliability, or secondary operations. The residues can be removed with most solvents and saponifiers. Please contact Indium Corporation for specific recommendations with your chosen residue remover.

Formula	CW-809	CW-217	CW-219
Application	Halogen-Free, No-Clean	Fully Activated Rosin	Highly Activated Rosin
IPC J-STD-004*	ROL0	ROM1	ROM1
IPC J-STD-004B*	ROL0	ROM1	ROM1
Rosin Containing	Yes	Yes	Yes
Halogen-Free per JEITA ET-7304**	Yes	No	No
Actual Halogen Content***	<500ppm	<0.5%	<1.0%
Copper Mirror Corrosion IPC J-STD-004B	Pass	Fail	Fail
SIR J-STD-004B***	Pass	NA	Fail
Electromigration J-STD-004B***	Pass	NA	Fail
Color	Clear	Clear	Clear
Odor	Mild, rosin	Mild, rosin	Mild, rosin
Solder Alloy Compatibility	All common alloys, including 63/37 and SAC305	All common and specialty alloys	All common and specialty 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.

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Form No. 98904 R0

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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.	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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