

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.

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/37Pb 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.
- 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 cored 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.

Formula	CW-201	CW-207	CW-209
IPC J-STD-004B	ROM1	ROM1	ROM1
Acid Value (mgKOH/gram of flux)	155	270	270
Rosin Containing	Yes	Yes	Yes
Halide Content %	0.33	0.29	0.58
Smoke	Medium	Medium	Medium
Odor	Mild, rosin	Mild, sweet	Mild, sweet
Color	Amber	Clear	Clear
IPC J-STD-006 Compliance	Indium Corporation impurity levels conform to or exceed IPC J-STD-006	Indium Corporation impurity levels conform to or exceed IPC J-STD-006	Indium Corporation impurity levels conform to or exceed IPC J-STD-006
Compatible Alloys	SnPb Alloys	Lead-Free Alloys	All common [†] and high-lead alloys ^{††}
Copper Mirror IPC J-STD-004B	Pass	Pass	Pass
Copper Corrosion IPC J-STD-004B	Pass	Pass	Pass
SIR J-STD-004B*	Pass	Pass	Pass
Electromigration J-STD-004B*	Pass	Pass	Pass

[†] Common Alloys: SAC305; SACm[®]0510; Sn995; SAC105; SAC0307; SAC387; 96.5Sn/3.5Ag; 95Sn/5Sb; Indalloy[®]227; Indalloy[®]254; 63Sn/37Pb; 60Sn/40Pb; 93.5Pb/5Sb/1.5Ag; 43Sn/43Pb/14B, and all similar alloys.

^{††} High-Temp Alloys: 5Sn/95Pb, 5Sn/93.5Pb/1.5Ag, 5Sn/92.5Pb/2.5Ag, 10Sn/88Pb/2Ag, and similar alloys.

* Data available upon request.

From One Engineer To Another[®]



Form No. 98848 R7

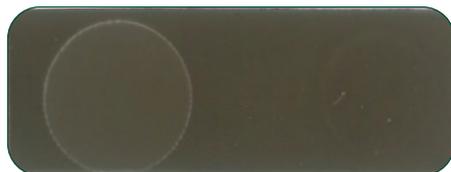
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Copper Mirror

The J-STD-004B copper mirror test is performed per IPC-TM-650 method 2.3.32. To be classified as an “L” type flux, there should be no complete removal of the mirror surface. Activated flux-cored wire shows minor removal of the mirror surface, therefore, can be classified as an “M” type flux.



CW-201 10% Solution in IPA

Control



CW-207 10% Solution in IPA

Control

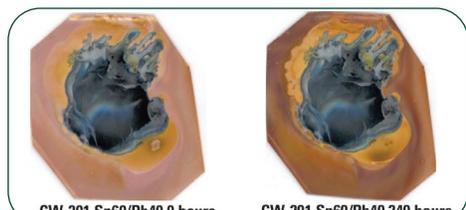


CW-209 10% Solution in IPA

Control

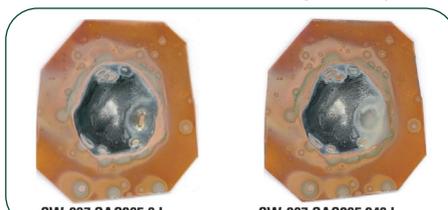
Copper Corrosion

Copper corrosion is tested per IPC-TM-650 method 2.6.15. This test gives an indication of any visible reactions that take place between the flux residue after soldering and copper surface finishes. With activated flux-cored wire, some of the residue darkens over time, but no corrosion is observed. With activated flux-cored wire, there is a minor amount of color change, acceptable for an “M” type flux.



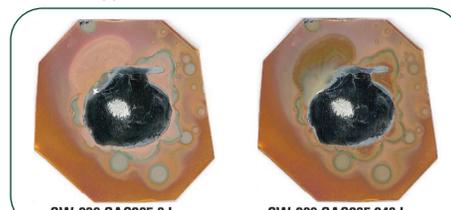
CW-201 Sn60/Pb40 0 hours

CW-201 Sn60/Pb40 240 hours



CW-207 SAC305 0 hours

CW-207 SAC305 240 hours



CW-209 SAC305 0 hours

CW-209 SAC305 240 hours

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%	–	10 years from DOM
Pb-Free Alloys	3.3–3.7%	2.7–3.2%	1.7–2.2%	0.8–1.2%	10 years from DOM
High Lead >85%	1.7–2.2%	1.3–1.7%	0.8–1.2%	–	2 years from DOM

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

Diameters		Packaging	Cartons
Inches	mm		
0.010 ± 0.002	0.25 ± 0.05	¼lb (113g)	(10) ¼lb spools
0.015 ± 0.002	0.38 ± 0.05	¼lb (113g), 1lb (454g)	(10) 1lb spools
0.020 ± 0.002	0.51 ± 0.05	1lb (454g)	(10) 5lb spools
0.025 ± 0.002	0.64 ± 0.05	1lb (454g)	per box
0.032 ± 0.002	0.81 ± 0.05	1lb (454g)	—
0.040 ± 0.002	1.02 ± 0.05	1lb (454g), 5lb (2,268g)	—
0.062 ± 0.002	1.57 ± 0.05	1lb (454g), 5lb (2,268g), 20lb (9,072g)	(2) 20lb spools
0.120 ± 0.002	3.05 ± 0.05	1lb (454g), 5lb (2,268g), 20lb (9,072g)	per box

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All of Indium Corporation's solder paste and preform manufacturing facilities are IATF 16949:2016 certified. Indium Corporation is an ISO 9001:2015 registered company.

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