PRODUCT DATA SHEET

No-Clean Flux-Cored Wire

for Circuit Board Assembly and Rework

Introduction

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

No-Clean Cored Wire Flux Formulations

- **CW-807 Standard Halogen-Free No-Clean:** This formula provides a balance of properties needed for high-reliability no-clean soldering and rework—high-reliability, considered halogen-free, low smoke, non-offensive odor, clear residue, and fast wetting to clean copper and solder-coated surfaces. CW-807 meets the requirements of J-STD-004 and J-STD-004B as a ROL0.
- **CW-807M Higher Activity No-Clean:** CW-807M has the same characteristics as CW-807, but with a small addition of halogen activator for more difficult-to-solder assemblies. This formula is considered ROL0 by J-STD-004, but ROL1 by the updated J-STD-004B.
- **CW-807H No-Clean for High-Temp Alloys:** CW-807H has very similar characteristics to CW-807, except that a high-temperature modified rosin has been substituted for the lower melting point rosin used in CW-807. This change makes the CW-807H slower wetting with standard solder alloys, but provides heat stability when soldering with high-lead content, high-temperature alloys for applications such as "down-hole" electronics, while still maintaining the same reliability characteristics.
- **CW-802 Low Activity No Halogen Added No-Clean:** While very small amounts of halogen (<500ppm) are perfectly fine and considered halogen-free for virtually all electronic assemblies, some electronic assemblers want a formula that eliminates as much halogen as possible. CW-802 was created with this in mind. However, it is recommended only for applications where no halogen is a must, the surfaces to be soldered are in pristine condition, and the process is well-controlled.

Formula	CW-807	CW-807M	CW-807H	CW-802
Application	Halogen-free No-clean	Halogen-containing No-clean	High-temp Halogen-free No-clean	Halogen-free No-clean
IPC J-STD-004*	ROL0	ROL0	ROL0	ROL0
IPC J-STD-004B*	ROL0	ROL1	ROL0	ROL0
Meets MIL-F-14256f Type RMA or QQ-S-571f Type RMA	Yes	Yes	Yes	Yes
Rosin Containing	Yes	Yes	Yes	Yes
Halogen-Free per JEITA ET-7304**	Yes	Yes	Yes	Yes
Actual Halogen Content***	<500ppm	<1,500ppm	<500ppm	<50ppm
Copper Mirror Corrosion IPC J-STD-004B	Pass	Pass	Pass	Pass
SIR J-STD-004B***	Pass	Pass	Pass	Pass
Electromigration J-STD-004B***	Pass	Pass	Pass	Pass
Color	Clear	Clear	Amber	Clear
Odor	Mild, sweet	Mild, sweet	Mild, sweet	Mild, sweet
Alloys	All common alloys†	All common alloys†	High-temp alloys††	All common alloys†

† Common Alloys: 63Sn/37Pb, 60Sn/40Pb, 62Sn/36Pb/2Ag; SAC405, SAC387, SAC305, SAC105, SAC0307, SACm®105, SACm®0510, 96.5Sn/3.5Ag, 96Sn/4Ag, 95Sn/5Sb, 50Sn/50Pb, 43Sn/43Pb/14Bi, 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.

* 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 1,500ppm combined bromide and chloride to be considered halogen-free.

*** Data available upon request.

From One Engineer To Another®

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Standard Flux Core Sizes, Alloys, and Shelf Life

Alloys	High Flux %	Medium Flux %	Low Flux %	Shelf Life (<26°C & <60% RH)
SnPb <80% Pb	2.7–3.2%	1.8–2.5%	0.8–1.2%	3 years
Pb-Free Alloys	2.7–3.2%	1.8–2.5%	0.8–1.2%	3 years
High-Lead >80%	1.8–2.5%	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

Diameters		Packaging	Cartons
Inches	mm		
0.010 ± 0.002	0.25 ± 0.05	¼ lb (113g)	(10) ¼ lb spools
0.015 ± 0.002	0.38 ± 0.05	¼ lb (113g)	(10) 1 lb spools
0.020 ± 0.002	0.51 ± 0.05	1 lb (454g)	(10) 5 lb spools
0.025 ± 0.002	0.64 ± 0.05	1 lb (454g)	per box
0.032 ± 0.002	0.81 ± 0.05	1 lb (454g)	—
0.040 ± 0.002	1.02 ± 0.05	1 lb (454g)	—
0.062 ± 0.002	1.57 ± 0.05	1 lb (454g), 5 lb (2,268g), 20 lb (9,072g)	(2) 20 lb spools
0.125 ± 0.002	3.18 ± 0.05	1 lb (454g), 5 lb (2,268g), 20 lb (9,072g)	per box

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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