SolderKing assembly materials ltd

Technical Data Sheet

CXW-70 No Clean, Lead Free

Cored Solder Wire

Issue No. 1.02 January 2020

Description

A high performing Clear Residue, No Clean Cored Solder Wire for consistent, fast flowing robot soldering for consumer electronics soldering operations where a J-STD 004B flux type ROL1 is considered accepted no clean technologies.

Excellent wetting of all lead-free substrates and component finishes.

Residues can be removed if required using Solderking spray in air, spray under immersion or Ultrasonic cleaning solutions leaving a clean tin salt free, non-whiting finish. Available in lead free alloys SAC405, SAC305, SAC0307, SK100C and Sc100e

Benefits

Very fast soldering

Suitable for fast 'drag soldering' and high speed robot soldering

Powerful wetting even on oxidised copper, brass and tin substrates

Clear, minimal, and non-tacky residue

No-Clean flux type ROL1 to J-STD004B

RoHS compliant / Reach Compliant

Low odour, non-offensive fume

Easy to use

Specification

CXW-70 Cored Solder Wire typical batch information

Flux Classification J-STD 004B	ROL1
Acid Value mg KOH/g J-STD 004B	160-180
Quantitative Halide	<0.5%
Rosin softening point	70-80ºC
Surface Insulation Resistance J-STD-004B	Pass >100 MΩ
Electromigration Resistance GR78 Core	Pass
Electrochemical Migration J-STD 004B TD004B	Pass
Copper Corrosion 10 day J-STD-004B	Pass
Copper Mirror Corrosion J-STD—004B	Pass

Availability

Packaging and modifications are available on request.

Solder Wire	Packaging
CXW-70 No Clean Cored Solder Wire	500g
	250g
	2.5Kg

Solderking Assembly Materials Ltd - Tel: +44 (0) 1262 363088 - Email info@solderking.com

Solder Alloy

CXW-70 is manufactured using high purity virgin metals. Solderking uses due diligence in the manufacture of solder wire and uses metals which are 'conflict free' as per the Dodd-Frank Conflict Minerals Law 1502.

Solderking Part	Alloy	Melting point °C
SAC405	Sn95.5Ag4Cu0.5	217
SAC305	Sn96.5Ag3Cu0.5	217
SAC0307	Sn99Ag03Cu07	221-227
Sc100e	Sc100e	227
SK100C	Sn99.3Cu0.7NiGe	227

Tip Temperature

Solderking Part	Tip Temperature °C
SAC405	350-360
SAC305	350-360
SAC0307	360-380
Sc100e	360-380
SK100C	360-380

Flux Percentage

Solderking Part	Flux Amount %
SAC405	2.2 and 3.3
SAC305	2.2 and 3.3
SAC0307	2.2 and 3.3
Sc100e	2.2 and 3.3
SK100C	2.2 and 3.3

Application

CXW-70 is suitable for hand and robotic soldering applications. Solder wire diameter and soldering iron tip size should be selected to suit the parts/ components to be soldered. Soldering irons should provide enough heat for the solder alloy selected. A typical solder tip temperature should be between 120ºC and 160ºC above the liquidus temperature of the alloy. The ideal temperature will be dependant on the individual assembly. Take care not to overheat the solder as this causes an increase in the depth of inter-metallic layer, which weakens the joint.

Wire Gauge

CXW-70 no clean wire is available in wire diameters from 3.25 mm to 0.315 mm. Below offers a guide for standard wire sizes, as metric, imperial and Standard Wire Gauge (SWG).

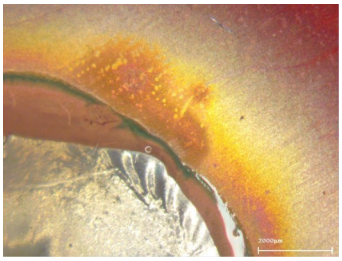
mm	SWG	Inch
3.25	10	0.128
2.95	11	0.116
2.64	12	0.104
2.34	13	0.092
2.03	14	0.080
1.63	16	0.064
1.22	18	0.04
1.02	19	0.040
0.914	20	0.036
0813	21	0.032
0.711	22	0.028
0.599	24	0.022
0.457	26	0.018
0.376	28	0.014
0.315	30	0.012

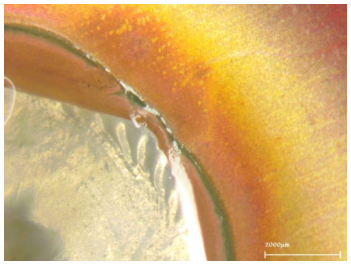
RoHS & REACH Directive

Solderking CXW-70 is RoHS and REACH compliant. The product does not contain any SVHC's as per the current list.

No Evidence of Corrosion

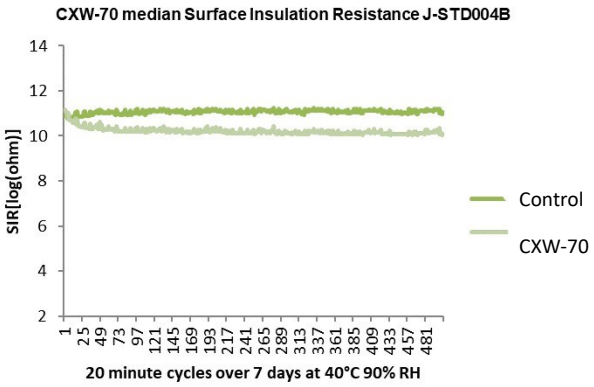
J-STD 004B 10 day corrosion test.40°C 93% RH





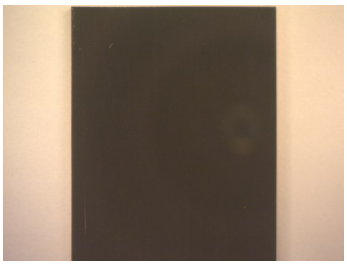
Before Conditioning After Exposure

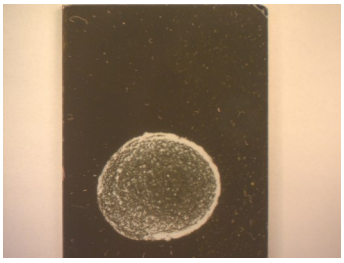
No evidence of corrosion or green/blue discolouration



Copper Mirror Test

J-STD 004B copper mirror test. 24 hr 23°C 50% RH requirement for type L (low corrosion) is no evidence of breakthrough of the copper mirror

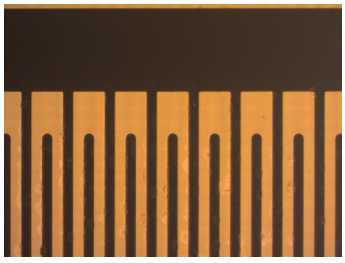




CXW-70 Type L flux (non corrosive)

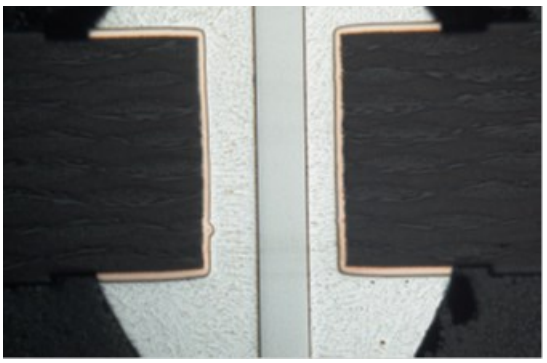
Competitor Type M flux (corrosive)

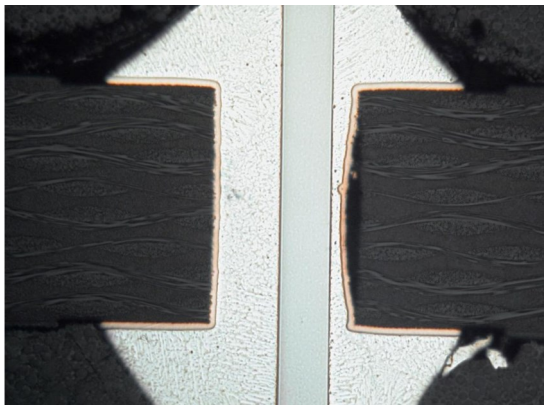
Surface Insulation Resistance



J-STD004B Surface Insulation Resistance test showing no conductive anodic filament (CAF) migration or dendritic growth after 168 hours at 40° C 90% relative humidity

In Surface insulation tests 7 day continuous tests to J-STD 004B, testing cycles every 20 minutes at 5V. Showing no dendrite formation and far exceeding J-STD 004B requirements of greater than 100 MΩ.





Microsection of CXW-70 lead free alloy, showing a good even fill and even with poor pin placement

Safety information

Always read safety data sheet before use. For any further information please contact:

info@solderking.com.