PRODUCT PROFILE

ELECTROLOY NO CLEAN LEAD FREE WIRE

Product Name	Product Code
#53 FLUX CORED SOLDER -LEAD FREE ALLOY-Sn99.3/Cu0.7+Ni	**EM#53-801W**

The information and statements herein are believed to be reliable but are not to be construed as a warranty or representation for which we assure legal responsibility. Users should undertake sufficient verification and testing to determine the suitability for their own particular purpose of any information or products referred to herein. No warranty of fitness for a particular purpose is made. Properties are typical and not to be used as specifications.

PRODUCT DESCRIPTION

EM#53-801W* is a no clean cored flux lead free wire with alloy composition 99.3%Tin, 0.7%Copper and Nickel. This RA type of cored flux wire provides fast wetting action. This is a RoHS compliance lead free solder wire.

*Nihon Superior Patent

CHEMICAL COMPOSITION OF ALLOY

Quality of Electroloy's EM#53-801W lead free solder wire in terms of composition of alloy is controlled strictly under Electroloy's Lead Free Specification LF-801.

Elements		Specification (%wt/wt)
Tin	Sn	Remainder
Lead	Pb	Max 0.050
Aluminium	Al	Max 0.002
Antimony	Sb	Max 0.050
Arsenic	As	Max 0.030
Bismuth	Bi	Max 0.030
Copper	Cu	0.5 – 0.7
Iron	Fe	Max 0.020
Zinc	Zn	Max 0.002
Cadmium	Cd	Max 0.002
Silver	Ag	Max 0.050
Nickel	Ni	Max 0.100
Indium	In	Max 0.100
Gold	Au	Max 0.050
Sulphur	S	Max 0.005

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CHEMICAL COMPOSITION OF FLUX

The standard flux content for this type of solder wire is 2.5 +/- 0.2%. However, other percentages of flux are available upon request. The range for the flux percentage is 2.2% – 3.3%.

FEATURES OF CORED FLUX

Flux Cored Type	Features	Cleaning Method
No- Clean EM#53	Fast wetting action RA cored-flux for consumer electronics assemblies. Flux residue is neither corrosive nor conductive under normal condition of use. Cleaning not necessary for most consumer assemblies	Bi-polar solvents

CHARACTERISTICS OF CORED FLUX EM#53

Physical Properties and Reliability Data	Specification	Test Method	Result (Typical)
Flux Type	-	-	RA – No Clean
Class Type	Refer to J-STD-004	-	ROL1
Color/Appearance	-	-	Light Yellow
Odor	-	-	Mild
Halide Content (%) (Chloride and Bromide)	Max 0.44 %	JIS Z 3197, Method 8.1.4.2.1	0.30-0.40 %
Corrosion Test	Pass	J-STD-004, IPC-TM-650, Method 2.6.15	Pass
SIR,IPC(Typical) 85°C / 85% RH After 168 hours	Min $1\times10^{8}\ \Omega$	J-STD-004, IPC-TM-650, Method 2.6.3.3	$\geq1.0\times10^{9}\ \Omega$
Spreading (%)	Min 70% Lead Free Solder (JIS 3283:2006)	JIS Z 3197, Method 8.3.1.1	≥83%

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PHYSICAL APPEARANCE

Electroloy's solder wire exhibits a shinning appearance and in grey uniform color. A wide range of diameter for the wire is available, 0.2– 2.4mm (+/-0.05mm) , 2.5mm – 3.5mm (+/-0.1mm)， 3.6mm – 4.5mm (+/-0.2mm) and ≥4.6mm(+/-0.3mm).

CLEANING

The flux residue is not conductive and is not corrosive to metal parts. Therefore, cleaning is not required in most application. However, if removing post-residue is desired, cleaning can be performed by using Electroloy's bi-polar solvent.

APPLICATION

Solder iron tip temperature should be between 350 – 430^{o}C. Hold the solder iron tip at a 45^{o} to 60^{o} angle with work surface. The solder iron should contact both the component lead and PCB pad surface.

PACKAGING

Each spool of solder wire is approximately 0.5kg or 1.0kg and shall be secured by paper and rolling tape. The solder wire shall be packed in carton boxes of about 10kg per box. Other special size and packaging requirement can be requested. The traceable information will be shown on the box such as vendor's name, alloy composition, net weight and lot number.

DELIVERY

Each shipment shall be accompanied with Certificate of Analysis for each lot, which indicate the amount of constituents and impurities.

STORAGE AND SHELF LIFE

Electroloy's EM#53-801W lead free solder wire has limited shelf life which is 18 months from the date of manufactured when handled properly. Dry and non-corrosive storage environment is needed to minimize the wires from further oxidation. Ensure that the packaging is not damaged and the wires are not exposed to dust and other foreign materials.

HEALTH AND SAFETY

Refer to the MSDS for guidance on safety and health issues.

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