



Multicore X39

September 2007

NO CLEAN CORED SOLDER WIRE FLUX

Properties of Multicore X39 solid flux for cored solder wires:

- No clean
- Low residue
- Eliminates cost of cleaning
- Halide free
- Non-corrosive formulation
- Negligible residues
- Fast Soldering on copper and brass

PRODUCT RANGE

Multicore X39 cored wires are manufactured as standard with a nominal flux content of 1%.

Multicore X39 cored wires are available in a variety of alloys conforming to J-STD-006 and EN 29453 or alloys conforming to similar national or international standards. For details refer to document "Properties of Alloys used in Cored Solder Wires". A wide range of wire diameters is available.

TECHNICAL SPECIFICATIONS

A full description of test methods and detailed test results are available on request.

Alloys: The alloys used for Multicore flux cored solder wires conform to the purity requirements of the common national and international standards. A wide range of wire diameters is available manufactured to close dimensional tolerances. For details refer to document "Properties of Alloys used in Cored Solder Wires".

Flux: Multicore X39 solid flux is based on modified rosin and halide free carboxylic acid activators. In use it has a mild rosin smell and leaves a small quantity of clear residue. It may be classified as RO L0 according to J-STD-004 (January 1995), LR3CN according to IPC-SF-818 or DIN F-SW32 according to DIN 8511. It meets the requirements of Bellcore TR-NWT-000078 issue 3 (December 1991).

FLUX PROPERTIES

TEST		RESULT
Acid value		215mg KOH/g
Halide content		Zero
Copper mirror		Pass
Chromate paper		Pass
Corrosion Test	J-STD-004	Pass
	IPC-SF-818	Pass (10 days)
	BS 5625	Pass
	DTD 599A	Pass
	DIN 8516	Pass
JIS-Z-3197		Pass

SPECIAL PROPERTIES

The uncleaned residues PASS SIR testing to the Bellcore TR-NWT-000078 issue 3 (December 1991) and IPC Class 1,2 and 3 protocols. They also pass the electromigration test specified by Bellcore TR-NWT-000078.

BELLCORE TR-NWT-000078 ISSUE 3

SIR TEST RESULTS ON UNCLEANNED COMBS

Test conditions	35°C, 85% RH	
Test time, h	24	96
Surface insulation resistance, ohms	3.17×10^{11}	3.52×10^{11}
Passmark, ohms	-	10^{11}

IPC-SF-818

SIR TEST RESULTS ON UNCLEANNED COMBS

Test conditions	85°C, 85% RH			
Test time, h	0	24	96	168
Surface insulation resistance, ohms	1.63×10^{12}	1.68×10^9	3.37×10^9	3.43×10^9
Passmark, ohms	-	10^8	10^8	10^8

BELLCORE TR-NWT-000078 ISSUE 3

ELECTROMIGRATION TEST RESULTS ON UNCLEANNED COMBS

Test conditions	85°C, 85% RH	
Test time, h	96	500
Bias, V (DC)	No bias	10
Surface insulation resistance, ohms	1.16×10^9	5.43×10^9
Unfluxed control, ohms	5.09×10^9	8.91×10^9

PRODUCT SPECIFICATIONS

THE TECHNICAL INFORMATION CONTAINED HEREIN IS INTENDED FOR REFERENCE ONLY. PLEASE CONTACT HENKEL TECHNOLOGIES TECHNICAL SERVICE FOR ASSISTANCE AND RECOMMENDATIONS ON SPECIFICATIONS FOR THIS PRODUCT.

RECOMMENDED OPERATING CONDITIONS

Soldering iron: Good results should be obtained using a range of tip temperatures. However, the optimum tip temperature and heat capacity required for a hand soldering process is a function of both soldering iron design and the nature of the task and care should be exercised to avoid unnecessarily high tip temperatures for excessive times. A high tip temperature will increase any tendency to flux spitting and it may produce some residue darkening. The soldering iron tip should be properly tinned and this may be achieved using Multicore cored wire. Severely contaminated soldering iron tips should first be cleaned and pre-tinned using Multicore Tip Tinner Cleaner, then wiped on a clean, damp sponge before re-tinning with Multicore cored wire.

Soldering process: Multicore cored wires contain a careful balance of resins and activators to provide clear residues, maximum activity and high residue reliability, without cleaning in most situations. To achieve the best results from Multicore solder wires, recommended working practices for hand soldering should be observed as follows:

- Apply the soldering iron tip to the work surface, ensuring that it simultaneously contacts the base material and the component termination to heat both surfaces adequately. This process should only take a fraction of a second.
- Apply Multicore flux cored solder wire to a part of the joint surface away from the soldering iron and allow to flow sufficiently to form a sound joint fillet – this should be virtually instantaneous. Do not apply excessive solder or heat to the joint as this may result in dull, gritty fillets and excessive or darkened flux residues.
- Remove solder wire from the work piece and then remove the iron tip.

The total process will be very rapid, depending upon thermal mass, tip temperature and configuration and the solderability of the surfaces to be joined.

Multicore flux cored solder wires provide fast soldering on copper and brass surfaces as well as solder coated materials. The good thermal stability of Multicore fluxes means they are also well suited to soldering applications requiring high melting temperature alloys.

Cleaning: Multicore X39 flux cored wires have been formulated to leave minimal quantities of flux residue and to resist spitting and fuming.

Cleaning will not be required in most situations but if necessary this is best achieved using Multicore MCF800 Cleaner (see separate technical data sheet). Other proprietary solvent or semi-aqueous processes may be suitable. Saponification may be viable but customers must ensure that the desired level of cleanliness can be achieved by their chosen system.

GENERAL INFORMATION

For safe handling information on this product, consult the Material Safety Data Sheet, (MSDS).

Note

The data contained herein are furnished for information only and are believed to be reliable. We cannot assume responsibility for the results obtained by others over whose methods we have no control. It is the user's responsibility to determine suitability for the user's purpose of any production methods mentioned herein and to adopt such precautions as may be advisable for the protection of property and of persons against any hazards that may be involved in the handling and use thereof. In light of the foregoing, **Henkel Corporation specifically disclaims all warranties expressed or implied, including warranties of merchantability or fitness for a particular purpose, arising from sale or use of Henkel Corporation's products. Henkel Corporation specifically disclaims any liability for consequential or incidental damages of any kind, including lost profits.** The discussion herein of various processes or compositions is not to be interpreted as representation that they are free from domination of patents owned by others or as a license under any Henkel Corporation patents that may cover such processes or compositions. We recommend that each prospective user test his proposed application before repetitive use, using this data as a guide. This product may be covered by one or more United States or foreign patents or patent applications.

Americas

Henkel Corporation
15350 Barranca Parkway
Irvine, CA 92618 U.S.A.
949.789.2500

Europe

Henkel Loctite Adhesives Ltd
Technologies House, Wood Lane End
Hemel Hempstead
Hertfordshire HP2 4RQ, United Kingdom
+44 (0) 1442 278 000

Asia

Henkel Loctite (China) Co. Ltd
No. 90 Zhujiang Road
Yantai Development Zone
Shandong, China 264006
+86 535 6399820