Technical Data Sheet

381™

October 2009

PRODUCT DESCRIPTION

381™ provides the following product characteristics:

Technology	Solder wire - Cored
Product Benefits	• RMA type flux • Non-Corrosive • Pb-free and SnPb alloys available • Very high surface resistivity in all climates • Good activity on most surfaces
IPC/J-STD-004 Classification	ROL0
Application	Soldering

381™ cored wire has been specially formulated to conform to the QQ-S-571E type Rosin-based Mildly Activated (RMA) specification, and can be used in electronic applications.

MIL-F-14256

381™ meets the performance requirements of Military Specification MIL-F-14256.

TYPICAL PROPERTIES

Solder Cored Wire

Alloys - Tin/lead	• SN63 • SN60 • SN62
Alloys - Lead Free	• 95A • 97SC (SAC305)
Acid Value	150 mg KOH/g
Halide content	0.03%

ALLOYS:

The alloys used in 381™ cored solder wires conform to the purity requirements of the common national and international standards.

FLUX:

381™ solid flux is based on modified rosin and carefully selected activators. In practice they exhibit a mild rosin odor and leave a small quantity of clear residue.

DIRECTIONS FOR USE

Soldering with 381™ does not require any special methods or deviation from standard hand soldering practices.

Soldering Iron:

- Good results can 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.
- Care should be exercised to avoid unnecessarily high tip temperatures for extensive periods of time.
- The tip of the soldering iron should be properly tinned. Severely contaminated soldering iron tips should be cleaned with Multicore® Tip Tinner/Cleaner.

Soldering Process:

1. Apply the soldering iron tip to the work surface. The iron tip should contact both the base material and the lead at the same time to heat both surfaces properly. It should take no more than a fraction of a second to heat both surfaces adequately.
2. Apply 381™ flux cored wire to a part of the joint surface away from the soldering iron and allow to form a joint fillet. This will be virtually instantaneous. Do not apply excessive solder to the joint as this will not improve joint integrity and it will leave excess flux residues on the surface.
3. Remove solder from the work piece and then remove the iron tip.
4. The total process will be very rapid, depending upon thermal mass, tip temperature, tip configuration and the solderability of the surfaces to be joined.

Cleaning:

381™ flux cored solder wire has been formulated to leave amber flux residues and resist spitting and fuming. In most industrial and consumer electronics applications, cleaning will not be required. The product may, therefore, be used to complement a no-clean wave soldering or reflow process or to allow repairs to cleaned boards without the need for a second cleaning process. In high-reliability applications, the residues should be removed.

Should cleaning be required, this is best achieved using SC-01™ cleaner.

RELIABILITY PROPERTIES

Corrosion	DTD 599-A	Pass
	BS 5625	Pass
	Copper Mirror	Pass
SIR (without cleaning)	Bellcore TR-TSY-000078	Pass

PACKAGING

381™ is available in various diameters, flux percentages, and reel sizes.

DATA RANGES

The data contained herein may be reported as a typical value and/or a range. Values are based on actual test data and are verified on a periodic basis.

GENERAL INFORMATION

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

Not for 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.

Conversions

(°C x 1.8) + 32 = °F
kV/mm x 25.4 = V/mil
mm / 25.4 = inches
µm / 25.4 = mil
N x 0.225 = lb
N/mm x 5.71 = lb/in
N/mm² x 145 = psi
MPa x 145 = psi
N·m x 8.851 = lb·in
N·m x 0.738 = lb·ft
N·mm x 0.142 = oz·in
mPa·s = cP

Note

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