



MULTICORE 311

May 2007

ROSIN BASED CORED SOLDER WIRE FLUX

Properties of Multicore 311 solid flux for cored wires:

- **Wide application field**
- **Very pale residues**
- **Fast soldering**
- **Prolonged activity**
- **Excellent spread on a wide variety of substrates**
- **Heat stable - low fuming**
- **Non-corrosive formulation**
- **Very pale residues**
- **Low spitting formulation**
- **Mild rosin odour**

PRODUCT RANGE

Multicore 311 cored wires are manufactured as standard with a nominal flux content of 2.2%. Multicore 311 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. Alternative flux contents and alloys may be manufactured to special order.

TECHNICAL SPECIFICATION

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 311 solid flux is based on modified rosins and carefully selected activators. In use it has a mild rosin smell and leaves a small quantity of pale residue. It may be classified as DIN F-SW26 according to DIN 8511, RA according to MIL-F-14256 and 1.1.2 according to EN29454-1.

TYPICAL FLUX PROPERTIES		
TEST	RESULT	
Acid value	170 KOH/g	
Halide content	0.8%	
Corrosion Test	IPC-SF-818	Pass (10 days)
	BS 5625	Pass
	DIN 8516	Pass

SPECIAL PROPERTIES

Multicore 311 flux cored wires easily exceed the spread factor requirement for F-SW26 products in DIN 8516. The following table compares performance with a popular RA cored wire tested under comparable conditions.

TEST	RESULT	
	Typical RA	Multicore 311
Spread on brass at 300°C, mm ²	145	405
Wetting balance test on copper at 235°C. Time to ² / ₃ max wetting force, sec	1.96	0.74

Multicore 311 flux cored wires also pass the electrical resistance test in the DIN 8516 specification which is a requirement for F-SW31 and F-SW32 products.

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.

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.

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 311 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

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 **Technologies**