

Mildly Activated No-Clean Flux

Lead Free Alloy

 multicomp



Features:

- Halide free version-Typ 400.
- Mild odour.
- Fast soldering-range of activities to suit all applications.
- Clear residues.
- Good spread on copper, brass and nickel.
- Heat stable-low spitting.

Multicomp Typ 400, 505 and 511 solid fluxes for cored solder wires have been specially formulated to complement no clean wave and reflow soldering processes. They are also applicable to repair operations carried out after a cleaning process, eliminating the need for further cleaning.

Product Range:

Multicomp Typ 400 is designed for users who require a halide free formulation. The remaining products in the range contain higher halide levels to maximise soldering power.

Multicomp Typ 400, 505 and 511 cored wires are manufactured with a range of flux contents. Although users will normally be using products with a nominal flux content of 3%, the superior performance of the Multicomp Typ 400, 505 and 511 products may allow a lower flux content to be specified e.g. 2.2%. This will further improve residue appearance by reducing the quantity. All are available in alloys conforming to national and international standards, including lead free alloys.

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 Multicomp Typ 400, 505 and 511 cored wire.

Severely contaminated soldering iron tips should first be cleaned and pre-tinned using a soldering iron tip tinner, then wiped on a clean, damp sponge before re-tinning with Multicomp cored wire.

Soldering process:

Flux cored wires Typ 400, 505 and 511 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 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 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 workpiece 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.

Multicomp flux cored solder wires provide fast soldering on copper and brass surfaces as well as solder coated materials. Activity of the halide activated versions on nickel is also good depending on the state of oxidation of the nickel finish. The good thermal stability of fluxes Typ 400, 505 and 511 means, they are also well suited to soldering applications requiring high melting temperature alloys.

The resin and flux systems are designed to leave relatively low residues and to minimise residual activity. This is achieved by ensuring some decomposition and volatilisation takes place during the soldering process. In some situations, this may generate visible fuming but in all cases, rosin fumes must be removed from the breathing zone of operators.

 multicomp

Mildly Activated No-Clean Flux

Lead Free Alloy



Cleaning: In most industrial and consumer electronics applications cleaning will not be required and 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.

Should cleaning be required, this is best achieved using a special solvent cleaner. Cleaning through saponification is not recommended.

Technical Specification:

Alloys:

The alloys used for Multicomp Typ 400, 505 and 511 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.

Flux:

The solid fluxes are based on modified rosins and carefully selected activators. In use they exhibit a mild rosin odour and leave a small quantity of clear residue.

Kristall Flux Properties			
Test	400	505	511
Acid value mg/KOH/g	215	170	170
Halide content %	0	0.5	1.1
J-STD-004 -solder spread mm ² -corrosion test	210 Pass	315 Pass	340 Pass
SIR test (without cleaning) -IPC-SF-818 Class3 -Bellcore TR-NWT-000078	Pass Pass	Pass Pass	Pass Pass
Electromigration-test SIR test (without cleaning) Bellcore TR-NWT-000078	Pass	Pass	Pass
Classification -EN 29454-1 -J-STD-004 -IPC-SF-818	1.2.3 RO L0 LR3CN	1.2.2 RO M1 MR3CN	1.2.2 RO M1 MR3CN



Mildly Activated No-Clean Flux

Lead Free Alloy



Cored wire:

Multicomp Typ 400, 505 and 511 cored solder wires are designed to give fast and sustained wetting on both copper and brass. This can be demonstrated using spreading tests on both substrates under standard conditions for the Multicomp products and comparable competitor products. After 5 seconds, area of spread is measured to form a comparative index indicating total flux efficacy. Multicomp Typ 400, 505 and 511 flux cored solder wires out-perform competitor products, which required a higher flux content and leave more residues whilst achieving poorer spread.

Relative Wetting Performance of Multicomp Solder Wire and Halide Free Competitor Products*			
Product	Flux Content (%)	Area of Spread (mm ²)	
		Oxidised Copper	Oxidised Brass
Typ 400	2.2	222	209
Competitor A	3.5	191	140
Competitor B		202	

*Oxidised for 1 hour at 205°C.

Relative Wetting Performance of Multicomp Solder Wire and Halide Free Competitor Products*				
Product	Flux Content (%)	Halide Content (%)	Area of Spread (mm ²)	
			Oxidised Copper	Oxidised Brass
Competitor E	2.0	0.4	200	150
Competitor F	2.4		190	180
Competitor G	3.5		150	120
Competitor H	2.7	0.5	230	150
Typ 505	3.0		220	240

*Oxidised for 1 hour at 205°C.

Relative Wetting Performance of Multicomp Solder Wire and Halide Free Competitor Products*				
Product	Flux Content (%)	Halide Content (%)	Area of Spread (mm ²)	
			Oxidised Copper	Oxidised Brass
Typ 511	3.0	1.1	270	390
Competitor J	2.2	1.2	260	190
Competitor K	2.0	1.6	210	230

*Oxidised for 1 hour at 205°C.

Multicomp Solder Wires Typ 400, 505 and 511 are available in Lead-free alloys : S-Sn99.3Cu0.7 (is equivalent to DIN-EN-alloy S-Sn99Cu1) S-Sn96.1Ag2.6Cu0.3.



Mildly Activated No-Clean Flux

Lead Free Alloy



Part Number Table

Description	Part Number
Solder Wire, PB-Free, 0.5mm, 250g	812010
Solder Wire, PB-Free, 0.7mm, 250g	812011
Solder Wire, PB-Free, 1.0mm, 250g	812012
Solder Wire, PB-Free, 1.2mm, 250g	812013
Solder Wire, PB-Free, 0.7mm, 500g	812014
Solder Wire, PB-Free, 1.0mm, 500g	812015
Solder Wire, PB-Free, 1.2mm, 500g	812016

Mildly Activated No-Clean Flux

Lead Free Alloy



Notes:

International Sales Offices:



AUSTRALIA – Farnell InOne
Tel No: ++ 61 2 9645 8888
Fax No: ++ 61 2 9644 7898



FINLAND – Farnell InOne
Tel No: ++ 358 9 560 7780
Fax No: ++ 358 9 345 5411



NETHERLANDS – Farnell InOne
Tel No: ++ 31 30 241 7373
Fax No: ++ 31 30 241 7333



SWITZERLAND – Farnell InOne
Tel No: ++ 41 1 204 64 64
Fax No: ++ 41 1 204 64 54



AUSTRIA – Farnell InOne
Tel No: ++ 43 662 2180 680
Fax No: ++ 43 662 2180 670



FRANCE – Farnell InOne
Tel No: ++ 33 474 68 99 99
Fax No: ++ 33 474 68 99 90



NEW ZEALAND – Farnell InOne
Tel No: ++ 64 9 357 0646
Fax No: ++ 64 9 357 0656



UK – Farnell InOne
Tel No: ++ 44 8701 200 200
Fax No: ++ 44 8701 200 201



BELGIUM – Farnell InOne
Tel No: ++ 32 3 475 2810
Fax No: ++ 32 3 227 3648



GERMANY – Farnell InOne
Tel No: ++ 49 89 61 39 39 39
Fax No: ++ 49 89 613 59 01



NORWAY – Farnell InOne
Tel No: ++ 45 44 53 66 66
Fax No: ++ 45 44 53 66 02



UK – BuckHickman InOne
++ 44 8450 510 150
++ 44 8450 510 130



BRAZIL – Farnell-Newark InOne
Tel No: ++ 55 11 4066 9400
Fax No: ++ 55 11 4066 9410



HONG KONG – Farnell-Newark InOne
Tel No: ++ 852 2268 9888
Fax No: ++ 852 2268 9899



PORTUGAL – Farnell InOne
Tel No: ++ 34 93 475 8804
Fax No: ++ 34 93 474 5288



UK – CPC
++ 44 8701 202 530
++ 44 8701 202 531



CHINA – Farnell-Newark InOne
Tel No: ++86 10 6238 5152
Fax No: ++86 10 6238 5022



IRELAND – Farnell InOne
Tel No: ++ 353 1 830 9277
Fax No: ++ 353 1 830 9016



SINGAPORE – Farnell-Newark InOne
Tel No: ++ 65 6788 0200
Fax No: ++ 65 6788 0300



EXPORT – Farnell InOne
Tel No: ++ 44 8701 200 208
Fax No: ++ 44 8701 200 209

For enquiries from all other markets



DENMARK – Farnell InOne
Tel No: ++ 45 44 53 66 44
Fax No: ++ 45 44 53 66 06



ITALY – Farnell InOne
Tel No: ++ 39 02 93 995 200
Fax No: ++ 39 02 93 995 300



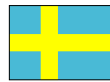
SPAIN – Farnell InOne
Tel No: ++ 34 93 475 8805
Fax No: ++ 34 93 474 5107



ESTONIA – Farnell InOne
Tel No: ++ 358 9 560 7780
Fax No: ++ 358 9 345 5411



MALAYSIA – Farnell-Newark InOne
Tel No: ++ 60 3 7873 8000
Fax No: ++ 60 3 7873 7000



SWEDEN – Farnell InOne
Tel No: ++ 46 8 730 50 00
Fax No: ++ 46 8 83 52 62

<http://www.farnellinone.com>

<http://www.buckhickmaninone.com>

<http://www.cpc.co.uk>

Disclaimer This data sheet and its contents (the "Information") belong to the Premier Farnell Group (the "Group") or are licensed to it. No licence is granted for the use of it other than for information purposes in connection with the products to which it relates. No licence of any intellectual property rights is granted. The Information is subject to change without notice and replaces all data sheets previously supplied. The Information supplied is believed to be accurate but the Group assumes no responsibility for its accuracy or completeness, any error in or omission from it or for any use made of it. Users of this data sheet should check for themselves the Information and the suitability of the products for their purpose and not make any assumptions based on information included or omitted. Liability for loss or damage resulting from any reliance on the Information or use of it (including liability resulting from negligence or where the Group was aware of the possibility of such loss or damage arising) is excluded. This will not operate to limit or restrict the Group's liability for death or personal injury resulting from its negligence. Multicomp is the registered trademark of the Group. © Premier Farnell plc 2004.

