



Multicore®



Multicore® WS300™

Pb-Free Water Wash Solder Paste



Multicore® WS300™ is a lead-free, high activity, water washable solder paste with superior cleaning characteristics and suitable for high speed, fine pitch printing applications. This unique material has a wide process window, long open and abandon times, and is highly resistant to humidity and slump. The Multicore® WS300™ high activity flux allows for excellent wetting to a wide range of surface finishes, delivering robust performance and process flexibility to manufacturers worldwide.



Multicore[®] WS300[™]

Pb-Free Water Wash Solder Paste

Testing Results

ANSI/J-STD-004 Testing

- Copper Mirror = H designation
- Halide Content = 1 designation
- Fluoride Testing = None Detected
- J-STD flux classification ORH1
- Passes SIR after cleaning ($2 \times 10^9 \Omega$ resistance)

ANSI/J-STD-005 Testing

- Hot and Cold slump – PASS
- Tack Time > 24 hours

Moisture Resistance

- No moisture uptake after six hours at 38°C/85%RH
- Pass J-STD-005 Slump after eight hour exposure to 25°C/95%RH

Bellcore (after cleaning)

- Passes SIR $5.2 \times 10^{10} \Omega$
- Passes ECM $7.6 \times 10^8 \Omega$

Cleanable up to 3 days after reflow

- Batch cleaning in deionized water
- No halides detected after cleaning with Ion Contamination Tester

Printing Characteristics

- Suitable for fine pitch (16 mil), high speed printing applications with type 3 powder (AGS)
- Wide printing process window
- Good printer open time and tack-life (4 hours)
- Extended between-print abandon time (4 hours)
- With refrigeration, 6 month stability

PRINTING FEATURES	
Features	Benefits
Wide Print Process Window <ul style="list-style-type: none"> • Print Speed = 1"/sec. – 4"/sec. • Print Pressure = 12 to 14 pounds 	<i>Easy drop-in replacement</i>
> 4 Hour Abandon Time	<i>Less scrap and waste on production lines. More cost effective product!</i>

Reflow Characteristics

- Wide reflow process window
- No hot slump
- Good copper wetting
- No visible residue after cleaning with water
- Cleanable up to 3 days after reflow

VISCOSITY		
97SC - Multicore [®] WS300 [™] AGS 89		
Brookfield Viscosity/cp		490,000
Malcom Profile	TI 10s ⁻¹	0.58 990

TACK TIME	
Tack-time profile Tack / gmm ²	97SC - Multicore [®] WS300 [™] AGS 89
0 hours	0.8
7 hours	0.8
16 hours	0.6
24 hours	0.5

> 24 hours Tack Time

Validations

Multicore[®] WS300[™] observations

- Best of Class Water Wash tested at Engent in Atlanta
- Multiple Customer approvals
- Replaces Multicore[®] WS12[™] and WS22[™]
- A drop in replacement for SnPb WS200[™]
- Wetting Results Excellent

– Tested on the following finished boards:

HASL
Au/Ni Gold Nickel
Immersion Silver (Ag)

electronics.henkel.com

Henkel Americas: +1 949 789 2500

Henkel Europe: +44 1442 278 000

Henkel Asia: +86 21 53850165

Multicore, WS300, WS12 and WS22 are trademarks of Henkel Corporation, U.S.A. © Henkel Corporation, 2006. All rights reserved. 3661 / LT-4459 7/2006