Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

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Technical Data Sheet

MF200

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PRODUCT DESCRIPTION

MF200 provides the following product characteristics:

Technology	Liquid flux
Product Benefits	• No clean • Halide-free • Resin-free • Low residue
Application	Wave soldering flux

MF200 is recommended for consumer electronics and general electrical lead-free soldering applications, particularly where there has been a high level of mid-pad solder balling. It may also be used with standard lead containing alloys.

FEATURES AND BENEFITS

- Developed to complement Pb-free wave soldering.
- Micro solder balling reduced or eliminated.
- Excellent process window and sustained activity.
- High speed soldering on conventional leaded and SMD components.
- Good through hole penetration.
- Minimal residues - reduced contamination of ATE probes.
- Compatible with rosin and OSP based surface preservatives.
- Spray application.

TYPICAL PROPERTIES

Liquid Flux Typical Properties

Solids Content, %	6.4
Halide Content, %	<0.005
Acid Value, mg KOH, g	48
Specific Gravity @ 25°C	0.83
EN 29454 classification	2.2.3
ANSI/JSTDclassification	ORM0

DIRECTIONS FOR USE

The Printed Circuit Board:

MF200 is recommended for use on copper or tin-lead coated PCBs. It will solder satisfactorily over most surface preservatives. It is recommended these are applied no longer than 3 months before soldering, since the period of protection is limited dependent on storage conditions. MF200 has been formulated to work over a wide range of solder resists. The solvent system in MF200 has been designed for optimum wetting of surfaces but prolonged contact with polystyrene, PVC or polycarbonate is not recommended.

Machine Preparation:

When switching to MF200 from any other flux, ensure all fingers, pallets and conveyors are thoroughly cleaned. It is recommended that Multicore Prozone Solvent Cleaner is used in the finger cleaners.

Fluxing

MF200 has been formulated for use in spray fluxers in the same way as ordinary fluxes on standard wave soldering machines. An application rate of 25gm^{-2} is recommended as a starting point. It is important to remove excess flux from the circuit boards using the standard air knife supplied on the wave soldering machine. Sufficient air pressure must be used and the nozzle should be about 25 mm below board and angled back at a few degrees from the perpendicular to the plane of the board. This will ensure effective removal of excess flux without transferring droplets to the top of the following board.

Preheating

- The optimum preheat temperature and time for a PCB depend on its design and the thermal mass of the components but the cycle should be sufficient to ensure that the flux coating is not visibly wet when it contacts the wave.
- Dwell time on the wave should be in the region of 1.5 to 2.5 seconds.
- Converyor speed for dual wave systems should be at least 1.2m.min^{-1}.
- It is advantageous to fit a topside canopy over the preheaters to produce more effective drying and Activation.
- This will allow the use of faster conveyor speeds and improve soldering.
- At a speed of 1.5m.min^{-1}, a contact length of 38 to 50 mm between the wave and the PCB is recommended.
- At lower speeds, this contact length should be reduced.
- Very slow speeds through the solder wave may produce dull solder joint.
- Conditions will vary from one machine to another but the settings listed below are a guide for both lead free and leaded alloys.

Conveyor Speed, ft min^{-1}	Leadfree Alloy Topside, °C	Leaded Alloy Topside, °C
3	95-100	80-85
4	100-105	85-90
5	110-115	95-100

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- **IT IS IMPORTANT** that flux solvent be removed by the preheat and that the PCB **IS NOT WET** when it reaches the solder wave.

Solders

- MF200 can be used with all solder alloys.
- The recommended maximum solder bath temperature is 260°C for leaded alloys.
- Temperatures as high as 275 to 280°C may be necessary for some lead free alloys.
- The solder bath temperature can generally be reduced compared with processes using conventional fluxes.
- Temperatures as low as 235°C can be used for leaded alloys and this results in improved soldering and less wastage through drossing.
- Use the compatible Multicore® Flux Cored Solder Wire and Solder Pastes.
- Soldering iron tips should be kept clean with Multicore® Tip Tinner/Cleaner TTC1.

Cleaning:

1. Special applications may have regulations insisting on board cleaning and in such cases Multicore Prozone may be used.
2. This cleaner may also be used to remove any small accumulation of flux solids that might develop on parts of the soldering machine after prolonged use.
3. Machine contamination will in any case be much less than with conventional rosin fluxes.
4. Unlike water soluable fluxes, this product is not corrosive towards PCB-handling equipment.

RELIABILITY PROPERTIES

Test	Specification	Results
Surface Insulation Resistance (without cleaning)	J-STD-004	Pass
Electromigration	Telcordia GR-78-Core	Pass

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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