

ALPHA[®] RF32E

Special Spray, Foam and Wave Flux (Type 1.1.3 Flux in Accordance with EN ISO 9454-2:2000)

DESCRIPTION

ALPHA RF32E Flux is a natural consequence of continuing development with the TL 33 series. The main aim of this product is to further improve solderability and to minimize the amount of flux residues. **ALPHA RF32E** is a colophony based material and belongs to flux grouping F-SW 32 DIN 8511. One of the exceptional points about this product is its low solids content (4.6% by weight) which gives it the capability for instant foaming. This low solids content, coupled with a high self-cleaning effect, gives rise to excellent soldering free from residues. Under normal circumstances therefore, it is possible to apply the “in-circuit” test without special wash process. This brings other advantages such as lower investment costs, process costs and general ecological improvements.

Moreover, it has been demonstrated practically that by operating with **ALPHA RF32E** flux in standard wave soldering operations for surface mounting, failure free soldering is obtainable. This is achieved without altering the wave perform or going for a double wave process. In most cases, therefore, one can dispense with added cost of the aforementioned process expense.

READ ENTIRE TECHNICAL DATA SHEET BEFORE USING THIS PRODUCT

FEATURES & BENEFITS

- **Halogen Free:** In accordance with DIN EN 29 454, ALPHA RF32E flux does not lead to corrosion and does not change the electrical resistance.
- **Residue Free:** After soldering, the circuits and components are residue free. The “in-circuit test” can therefore be carried out immediately after soldering without an additional washing operation. Tacky residues on soldering frames, systems and equipment are avoided. The printed circuit boards become easy to handle.
- **Self-Cleaning:** Due to the special properties of the flux, there is a washing process within the solder which makes the normal wash process unnecessary. The board carriers remain clean.
- **Above Average Soldering Properties:** ALPHA RF32E Flux leads to considerably reduced soldering error rates. SMD and MELF assemblies are usually soldered free of defects.
- **Low Environmental Pollution:** By omitting the usual cleaning process, the emission of chlorinated and fluorinated solvent vapors is avoided. In addition, because of the low solids content, the ecological hazard is reduced overall.
- **Economic Benefit:** As stated earlier, with not having to carry out the normal wash operation, there are considerable savings in investment and process costs.

APPLICATION GUIDELINES

Flux Application: ALPHA RF32E has been specially developed as a spray and foam flux for use with integrated circuits and electronic components. It can be used with all types of surface mounting techniques. A low surface tension and good capillary action leads to a thin, complete layer of material. In order to achieve a good smooth head of foam (with fine bubble size), it is necessary to use a flux stone with as fine porosity as possible. The use of hot board carriers should be avoided as this may lead to the foam head collapsing or to a higher evaporation rate of the flux components.

Very hot settings, belt speeds, and solder bath temperature settings can be retained as for conventional colophony flux based materials.

ALPHA RF32E flux can be used to solder the following metals:

Copper	Lead-Tin Plating	Hot-Tin Metals
Brass	Lead	Tin
Bronze	Silver	Tin/Zinc
Cadmium	Nickel	Tin Plating

Residue Removal: If it is necessary to remove the remaining residues for in-house reasons, this can be very effectively achieved using the ALPHA 2100 cleaner.

Density Control: ALPHA RF32E flux has been delivered to you in a very stable condition and additional thinner is therefore not required. During use, however, because of normal solvent evaporation, the flux will become ever more concentrated. Only then is an adjustment of the specific gravity necessary. Because of the very low solids content of the flux, it has been found that ambient temperature changes play a more important part on the specific gravity than do concentration changes. The usual measurements and adjustments with the use of a hydrometer must, therefore, be temperature compensated. Very careful note should be taken at what temperature the instrument was calibrated. The simplest method of measuring and adjusting specific gravity is by electronic measuring and dosing equipment, which is readily available in today's marketplace. Moreover, one can use titration methods, apart from the normal gravimetric way to control your material specification. Whichever way you decide to control your flux parameters, your Alpha Representative will be only too pleased to assist you with technical support to best serve your own particular application.

Practical tests have shown that concentration variations from 4.1 to 6.1% (this is a difference of -10 to 35% of nominal value), will have no detrimental effect on performance. The general rule is that one part of flux to one part of thinner is sufficient to lead to control of the tolerance variations mentioned previously.

TECHNICAL DATA

Item	Typical Values	Item	Typical Values
Appearance	Clear, pale yellow liquid	Corroding Effect	None, according to DIN 8527
Solids Content, wt/wt	4.6 +/- 0.5 weight-%	Flash Point (T.C.C.)	12 °C
Specific Gravity @ 25 °C (77 °F)	0.793 +/- 0.003 g/ml	Shelf Life (from Date of Mfg.)	540 days
Acid Number (mg KOH/g)	23.0 +/- 2.0	IPC J-STD-004 Designation	ROL0
Halogen Content	None	Packaging Size	25-liter container

RECYCLING SERVICES

We provide safe and efficient recycling services to help companies meet their environmental and legislative requirements and at the same time, maximize the value of their waste streams.

Our service collects solder dross, solder scrap, and various forms of solder paste waste. Please contact your local sales representative for recycling capabilities in your area or [link here](#).



SAFETY & WARNING

It is recommended that the company/operator read and review the Safety Data Sheets for the appropriate health and safety warnings before use. **Safety Data Sheets are available at MacdermidAlpha.com/assembly-solutions/knowledge-base.**

CONTACT INFORMATION

To confirm this document is the most recent version, please contact
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Also read carefully warning and safety information on the Safety Data Sheet. This data sheet contains technical information required for safe and economical operation of this product. READ IT THOROUGHLY PRIOR TO PRODUCT USE . Emergency safety directory assistance: US 1 202 464 2554, Europe + 44 1235 239 670, Asia + 65 3158 1074, Brazil 0800 707 7022 and 0800 172 020, Mexico 01800 002 1400 and (55) 5559 1588

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