



NON-CORROSIVE LIQUID FLUX

PC 21A

GENERAL DESCRIPTION

PC21A Liquid Flux contains a high grade rosin which has been subjected to a complex chemical process to increase its fluxing action without impairing the well-known non-corrosive and protective properties of the original rosin. PC21A Liquid Flux not only removes surface oxides but also prevents their formation during the soldering operation. A hard, protective, non-corrosive insulating residue is left on the soldered joints.

APPLICATIONS

PC21A Liquid Flux was developed by the Multicore Research Laboratories specifically to meet the Electronics industry's requirement for a highly reliable flux for the soldering of printed circuits.

It may also be used for tinning leads and other applications where rosin-based fluxes are employed in dip soldering processes.

THINNING

PC21A Liquid Flux is supplied with a 38% by weight solids content concentration which is suitable for immediate use. In some instances customers may wish to use a lower concentration, in which case PC70 Multicore Thinners should be used, which is readily mixed with the liquid flux.

PROCEDURE

PC21A Liquid Flux may be applied by wave, brush, roller, spray or dip. When soldering printed circuits it is important to dry off most of the solvent before soldering. The boards are conveyed over hot air and/or infra-red heating on automatic soldering machines between the flux and solder baths.

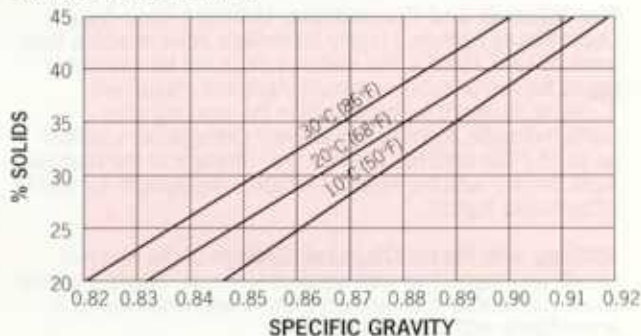
This gradual preheating of boards and component leads after flux application also minimises the thermal shock imparted to the assembly by the soldering operation. Ideally the flux should be dried to a sticky state by the time it is conveyed over the solder bath.

In small production processes where the board is hand brushed, sprayed or dipped, either force dry to a sticky state or leave for about 10 minutes at room temperature.

FLUX CONTROL

The concentration of all rosin-based liquid fluxes increases during use because of loss of solvent. The concentration of PC21A Liquid Flux can be easily maintained by replacing the lost solvent periodically with PC70 Multicore Thinners. As the Thinners are slowly added to the flux bath, the specific gravity of the modified solution is monitored using a hydrometer. The graph below shows the concentration—specific gravity relationship for PC21A Liquid Flux. Thinners are added until the desired specific gravity is observed on the hydrometer.

SOLIDS CONTROL GRAPH



FLUX RESIDUES

Since the residues of PC21A Multicore Liquid Flux are completely non-corrosive they need not be removed after soldering. It is sometimes necessary to remove the residues for inspection and/or cosmetic purposes. The residues of this flux are most efficiently removed with PC81 Multicore Solvent Cleaner or PC86 Multicore Biodegradable Rosin Flux Residue Remover.

FLUX SPECIFICATION

PC21A Liquid Flux is type approved to British Ministry of Defence D.T.D. 599A, 1961 and other national and international specifications, details of which are available upon request.

PROPERTIES

Specific Gravity at 25°C (77°F)	0.880±0.003
Solids Content w/w	38%
% Halide (on solids)	0.5% max.
Flashpoint (closed cup)	12°C (53°F)
Boiling Point of solvent	82°C (179°F)
Insulation resistance of residue (D.T.D. 599A)	not less than 1000 megohm over 1/2" (1.25cm)
Resistance to Mould Growth	Passes B.S. 2011: Part 2J: 1967, Class 1.

HEALTH AND SAFETY

The following is intended for general guidance only. A more comprehensive Health and Safety Data Sheet is available.

Multicore Rosin-based Liquid Fluxes are safe to use provided that certain precautions are observed.

Fumes, Vapours and Precautions: Excessive inhalation of the solvent vapour, which may cause headache, dizziness and nausea and the flux fumes given off at soldering temperature, which are irritating to the throat and respiratory organs, should be avoided. The TLV of the solvent is 400 ppm. The TLV of rosin-based flux fumes measured as formaldehyde is 0.1 mg/m³. Multicore Rosin-based Liquid Fluxes must always be used in well ventilated areas. Suitable fume extraction equipment should be used to extract the solvent vapours and flux fumes away from the operators.

Protection and Hygiene: Suitable protective clothing should be worn to prevent the material from coming in contact with the skin and eyes. If the material comes in contact with the skin, the affected area should be cleaned with PC70 Multicore Thinners or a resin removing cream followed by washing with soap and warm water. If the material comes in contact with the eyes, they should be irrigated thoroughly with running water for at least 10 minutes. In severe cases medical attention should be sought. Eating and drinking should not be permitted in the working area and hands should be washed with soap and warm water before eating.

Fire Hazards and Precautions: Multicore Rosin-based Liquid Fluxes contain a highly flammable solvent with a flash point of 12°C (53°F). The material must not be used near naked flames or non-flameproof electrical equipment. Smoking must not be permitted in the working area. Carbon dioxide, foam or dry powder extinguishers should be used if the material catches fire. Storage of the material must comply with the relevant national regulations for highly inflammable liquids.

Spillage and Waste Disposal: Spillage of the material should be mopped up with sand or sawdust. Waste material should be stored in closed containers and disposed of in accordance with local regulations.



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