ELECTROLUBE
THE SOLUTIONS PEOPLE

FRE
Freezer Spray

FRE is a powerful non-corrosive refrigerant for use as a rapid and safe method of cooling small components, particularly in electrical and electronic equipment. It can also be used for the testing of thermostats and other thermosensitive components and to detect faulty soldered joints and overheating components.

- Cools rapidly down to at least -48°C; extension tube aids access to concealed components
- Prevents component damage due to overheating during soldering
- Non-flammable; can be used to find faulty solder joints and overheating components
- Compatible with most conformal coatings

Approvals **NATO Stock Numbers:** **6850-99-225-3691 (FRE200D)**
1045-99-282-1231 (FRE400D)

Typical Properties

Form	Colourless Gas
Density (g/ml)	1.17
Flashpoint (°C)	None
Boiling Point (°C)	-26.5
Ozone Depleting Potential	Zero
GWP (vs. CO_2, 100yr ITH)	<1

Description	Packaging	Order Code	Shelf Life
Freezer Spray	200ml Aerosol	FRE200	48 Months
	400ml Aerosol	FRE400	48 Months

Directions for Use

Switch on and set up equipment so that the fault conditions caused by the 'dry' joint exist. Spray each joint in the circuit with the end of the extension tube approximately one inch from the joint. Spraying should continue until a layer of 'frost' appears on the joint, usually about 2 seconds. When the 'dry' joint is frozen, the fault condition will disappear but will return as the temperature of the joint returns to normal ambient. A similar procedure is adopted for tracing faulty components that are overheating.

An alternative test method is to spray suspected faulty components until a good level of frost has been formed. The component which “defrosts” the most rapidly is the component which is overheating or faulty. If it is necessary to cool a component for any length of time, a piece of plastic foam should be wrapped around the component and then saturated with FRE. If the foam is periodically re-saturated the temperature of the component may be held below 0°C as long as required.

Fractured copper tracks on PCBs can be located by spraying over the suspect area and the fracture will appear as the copper tracks contract and part.

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