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LABORATORY REPORT

REPORT No.:

99/3/005

HIGH VOLTAGE TESTING OF LANOLIN GREASE

Submitted by:

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Date of Test: 6 April 1999

Test Specimen:

a) Lanotec type "A" grease
b) Lanotec Food Grade grease
c) Lanotec HD21 spray
d) Lanotec GP 21 spray

Test Equipment:

75kV AC Test Set
Maker: Foster
Serial No.: TL117

Test Method:

"DRY" LEAKAGE TEST

A suitable length of fibreglass rod (approximately 700mm long) was cleaned of any surface contaminants with alcohol. The fibreglass rod was placed on the testing frame with 70kV applied to both ends and with the centre earthed. The standing leakage current was measured and recorded.

Each of the products to be tested were applied to the fibreglass rod and tested as above in turn. Refer to Table 1 for test results.

Notes:

1. Before application of a grease/spray the fibreglass rod was cleaned with alcohol.
2. The spray applied products were allowed to dry for a minimum 1 minute before testing.

"WET" LEAKAGE TEST

The fibreglass rod was cleaned of surface contaminants with alcohol. After placing on the testing frame, water was sprayed onto the surface of the fibreglass rod and allowed to drip for 1 minute. The test voltage was increased until 70kV was achieved. The standing leakage current was measured and recorded.

Each of the grease products were applied to the fibreglass rod in turn and water sprayed onto the surface. After 1 minute the test voltage was increased until 70kV was achieved. Refer to Table 2 for test results.

WITHSTAND TEST

The products were applied to a length of copper tubing, after which aluminium foil was applied to the surface of the grease. With the aluminium foil earthed, the test voltage was slowly increased until electrical puncture of the product was achieved. The applied voltage at time of failure was recorded. Refer to Table 3 for test results.

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Test Results:

TABLE 1 - DRY LEAKAGE TEST 70kV/300mm

PRODUCT	LEAKAGE CURRENT (mA)	FLASHOVER ACHIEVED?
NONE	8.80	NO
TYPE 'A' GREASE	8.80	NO
FOOD GRADE GREASE	8.80	NO
HD 21 SPRAY	8.80	NO
GP 21 SPRAY	8.80	NO

TABLE 2 - WET LEAKAGE TEST 70kV/300mm

PRODUCT	LEAKAGE CURRENT (mA)	FLASHOVER ACHIEVED?	FLASHOVER VOLTAGE (kV)
NONE	8.20	NO	N/A
TYPE 'A' GREASE	8.25	YES	62 / 70
FOOD GRADE GREASE	8.25	YES	61 / 67

OBSERVATIONS DURING WET LEAKAGE TEST.

1. TYPE 'A' GREASE

   From 20kV localised inter-drip arcing was observed. Flashover was achieved at 62kV and again at 70kV after which no further flashovers occurred.

2. FOOD GRADE GREASE

   From 25kv localised inter-drip arcing was observed. Flashover was achieved at 61kV and again at 67kV after which no further flashovers occurred.

TABLE 3 - WITHSTAND TEST

PRODUCT	FAILURE VOLTAGE (kV)
TYPE 'A' GREASE	4.0
FOOD GRADE GREASE	4.0
HD 21 SPRAY	2.0
GP 21 SPRAY	3.5

Uncertainty of Results

± 2% for applied Voltage at 95% confidence level.
± 2% for leakage Current at 95% confidence level.

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