

Appendix 4.2.2: Raytheon Test Description

REFERENCED TEST PROCEDURE PROTOCOL	A300 AK and AKB	747 BMS13-42B	DC-9-2 7616964 (M5086)	L-1011 SS (M81381)	DC-10 XLETFE BXS7008	DC-10 BXS7007 (M81381)
<u>Insulation Resistance</u> SAE AS4373 Method 504 26FT sample soaked in 0.05 TO 0.1% wetting agent/water solution 4 hours; apply 500VDC for 60 secs. (or, as specified).	3% Sodium Chloride and 0.2% wetting agent; 200 - 500VDC; 15M sample	0.5 TO 0.1%Anionic/Water Solution 250 to 500VDC	(M5086 Method) 0.5 to 1% Anionic/Water Solution, 250 to 500VDC	0.5 TO 0.1%Anionic/Water Solution 250 to 500VDC	0.5 TO 0.1%Anionic/Water Solution 250 to 500VDC	0.5 TO 0.1%Anionic/Water Solution 250 to 500VDC
<u>WET DIELECTRIC</u> SAE AS4373 Method 510 4 hour soak/1 min. test @ 2500V 5% NaCl and 0.05 to 0.1% Wetting Agent water solution; 24 in. Sample; I.R. >1MO.;	1 hour soak/5 min. test @ 2500V 3% NaCl and 0.2% Wetting Agent/water solution; 15M Sample	5% NaCl/water 1 hr, soak, 2500VAC 5 mins. (After Thermal Aging Only)	0.5 to 1% anionic/water 4 hr soak, 2000VAC 5 min. (M5086)	5% NaCl/water 5 hr soak, 5 min. @ 2500VAC	5% NaCl/water 5 hr soak, 5 min. @ 2500VAC	5% NaCl/water 5 hr soak, 5 min. @ 2500VAC (After Thermal Aging)
<u>CONDUCTOR RESISTANCE</u> SAE AS4373 Method 404. 20° C see FED SPEC 228 Method 6021 - 36 in. sample	20° C use appropriate method	Fed Std. 228 Method 6021	Fed Std. 228 Method 6021	Fed Std. 228 Method 6021	Fed Std. 228 Method 6021	Fed Std. 228 Method 6021
<u>DYNAMIC CUT THROUGH</u> ASTM D3032 Section 22 8 Tests @ room temp, 8 tests @ 85° C each test 1" apart, rotated 90°.	Uses constant load rate (50 newtons per min.); 200° C; edge dia. .45 mm(0.018 in.)	N/R	N/R	N/R	N/R	N/R
<u>LIFE CYCLE</u> SAE 4373 Method 808, modified. 24 in. specimin 120 hours @ rated temp. + 30° C, Bend and Dielectric post test PTFE coated mandrel	.75 Meters, Mandrel and Weights Specified. 168 hours @ 230° C. Bend and Dielectric post test.	Stainless Steel mandrel. Time, Temp., and Mandrel specified.	120° C, 120 hrs.	230° C, 120 hrs.	200° C for 168 hrs. mandrel dia and weight per M22759.	(M81381) 230° C for 500 hrs.

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<u>CROSS-LINK PROOF</u> SAE AS4373 Method 812. 24 in. sample, 7 hours @ 300° C, Bend and Dielectric post test	N/A	7 hrs @ 250° C, Time, Temp, and Mandrel specified	N/A	N/A	Per spec.	N/A
<u>LAMINATION SEALING</u> SAE 4373 Method 810. Tape Wrap only: 12in. Specimen, Time and Temp. per Spec.	Torsion test	N/A	N/A	Using a 36" sample, 230° for 48 hrs.	N/A	230° C for 48 hrs.
<u>WRAP TEST</u> SAE 4373 Method 710. 12 in. specimen, wrap back for 10 - 30 gauge, 4 turns. Time and Temp. per Spec. Visual inspection only. Mandrel wrap: >10Gauge, 2 turns around mandrel. Mandrel dia. and Time and Temp. per spec. Visual and Dielectric post test.	N/R	Wrap back <12 gauge. 10X mandrel wrap 14gauge. 6 hrs, @ 200° C. Visual post test only.	95° C for 24 hrs per FED STD 228 Method 4031. Smooth Metal Mandrel size as specified.	M81381/12 - mandrel wrapped 2 turns then dielectric. No temperature aging.	Wrap back < 8 gauge per M22759 visual inspection only. 200° C for 2 hrs. > 10 gauge 3X mandrel, dielectric.	M81381/12 - mandrel wrapped 2 turns then dielectric. No temperature aging.
<u>NOTCH SENSITIVITY</u> SAE AS4373 Method 707. 6 in. specimen, 6X mandrel, notch depth per spec. Visual inspection after each 10 cycles(bends) until 100 cycles or failure (exposed conductor).	.05 mm (.002 in) blade depth 1 wrap around 6x mandrel. Dielectric post test.	0.004 in. notch, 5 x 12 in. specimens. 360° wrap around mandrel, dielectric post test.	N/R	N/R	0.002 in. notch, 1 time wrap over 2X mandrel, visual inspection.	0.002 in. notch, 2X mandrel, 1 time wrap.
<u>FLAMMABILITY</u> FAR 60° test. Hold flame (≥1750° F, 3 in.)for 30 secs.; time and length of after-burn.	N/R	N/R	(M5086) Hold flame for 15 secs; 30 secs. afterburn and 1.5in. Travel max. Requires facial tissue	12 sec. Application of flame (1550° F, 1.5in. Height), 3 sec. Max afterburn, 3 in. max burn length, 3 specimens	Per FAR 60°	≤30 sec. After burn, 3 in. burn length

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			not to ignite.			
HIGH VOLTAGE SAE 4373 Method 510, modified. 10,000 VAC 5 min.	N/R	N/R	N/R	N/R	N/R	N/R