Section Certificate No. : 24EL28D8N_1 FAA Advisory Circular No. 150/5345-26E

PART B. SUPPLEMENTARY INFORMATION

1.	नमूना लेने की प्रक्रिया का संदर्भ, जहां लागू हो! Reference to sampling procedure, wherever applicable.	Not Applicable
2.	परीक्षण रिपोर्ट से संबंधित मापन एवं परिमाण प्रप्ति हेतु सहायक प्रलेख जैसे ग्राफ, तालिका, चित्र और / अथवा फोटोग्राफ , यदि कोई हो। Supporting documents for the measurements taken and results derived like graphs, table sketches and or photographs as appropriate to test certificate, if any.	No
3.	सम्बध्द मानक / कार्य निर्देशो में निर्धारित परीक्षण पद्धति से विचलन , यदि कोई हो। Deviation from the test methods as prescribed in relevant ISS/Work instruction, if any.	No
4.	परीक्षण सामग्री की पहचान/identification of Test item	PLUG & RECEPTACLE CONNECTOR KIT, TYPE-II, CLASS-B, STYLE 5 & 12 (FOR SECONDARY CABLE), 4 SQMM. Make : Bildal India
5.	व्यावद्रत की प्राणाली की पहचान/Method(s) used for Test	As per related specification
6.	नमूना प्रक्रिया जहां प्रासंगिक हो/Sampling Procedure where relevant	Not Applicable
7.	पर्यावरण की स्थिति/Environmental Conditions	Not Applicable
8.	उपयोग किए जाने वाले प्रमुख मानक/उपकरण/Major Standards/Equipments used	Not Applicable
9.	कैलिब्रेशन स्थल/Site of Calibration	Not Applicable
10.	मापन का पता लगाने की क्षमता/Traceability of Measurement	Not Applicable

Ritu Raj Srivastava
OIC Testing/Calibration Electrical (Testing/Calibration)
(Reviewed & Approved by)
Signed on: 28 Nov, 2024 16:47 PM

This is a Computer Generated Report.

Signature Not Verified
r.srivastava@nth.gov.in-(OIC Testing/Calibration)

Section Report No. : 24EL28D8N_1 FAA Advisory Circular No. 150/5345-26E

PART C. TEST RESULT

S.No.	Clause No Table No. Sl. No	Parameter - Method of test	Test Description	Min Limit	Max Limit	Unit	Result/ Observation
1	4.2.5	Electrical Connection Test	Electrical Connection Test	-	-	-	As per Attached Sheet
2	4.2.4	Mechanical Connection Test	Mechanical Connection Test	-	-	-	As per Attached Sheet
3	4.2.2	Di - electric Test	Di - electric Test	-	-	-	As per Attached Sheet
4	Section 3	Visual Examination	Visual Examination	-	-	-	PLUG & RECEPTACLE CONNECTOR KIT, TYPE-II, CLASS-B, STYLE 5 & 12 (FOR SECONDARY CABLE), 4 SQMM. Visual Examination: As per attached sheet.

Danny Pratap
Lab Sc. Testing/Calibration Electrical (Testing/Calibration)

Ritu Raj Srivastava
OIC Testing/Calibration Electrical (Testing/Calibration)
(Reviewed & Approved by)
Signed on: 28 Nov, 2024 16:47 PM

This is a Computer Generated Report.

Signature Not Verified
r.srivastava@nth.gov.in-(OIC Testing/Calibration)

ELECTRICAL CONNECTION TEST

(As per Cl. 4.2.5 of FAA Specification for L-823 Plug and Receptacle, Cable Connectors, AC No: 150/5345-26E)

Section Code : 24EL2808N

The voltage drop measurements must be made across the Contacts of mated Pins & Sockets while conducting their rated current. The contacts of six sample pins and six Sockets (twelve contact pairs) are measured with 20 A (for type II) flowing through the conductors.

The voltage drops across the contacts of a connected Pins and Socket must not exceed 6.0 mV for the Type II connectors.

Results (Style 5 & 12, Type II Connectors) "A" Dia Pin/"H" Dia Socket

S. No.	Electrical Voltage Rating for Type II Connectors	Applied Rated Current	Required Max. Voltage Drop	Measured Voltage Drop	Remarks
1	600 V	20 A	6.0 mV (Maximum)	3.5 mV	Conforms
2				2.8 mV	Conforms
3				3.3 mV	Conforms
4				2.8 mV	Conforms
5				3.8 mV	Conforms
6				3.9 mV	Conforms

Results (Style 5 & 12, Type II Connectors) "B" Dia Pin/"J" Dia Socket

S. No.	Electrical Voltage Rating for Type II Connectors	Applied Rated Current	Required Max. Voltage Drop	Measured Voltage Drop	Remarks
1	600 V	20 A	6.0 mV (Maximum)	3.7 mV	Conforms
2				4.3 mV	Conforms
3				3.8 mV	Conforms
4				4.7 mV	Conforms
5				3.4 mV	Conforms
6				4.0 mV	Conforms

Signature Not Verified
r.srivastava@nth.gov.in-(OIC Testing/Calibration)

Danny Pratap
Lab Sc. Testing/Calibration
Electrical (Testing/Calibration)

Ritu Raj Srivastava
OIC Testing/Calibration
Electrical (Testing/Calibration)
(Reviewed & Approved by)

MECHANICAL CONNECTION TEST

(As per Cl. 4.2.4 of FAA Specification for L-823 Plug and Receptacle, Cable Connectors-AC No. 150/5345-26E)

Each plug and receptacle intended for mating must be connected together and subjected to the static pull load as per paragraph 3.3.3. (Each connected plug and receptacle must withstand a static pull load of 10 pounds (44 N) without showing evidence of separation.) Any evidence of separation of the connection must be cause for rejection.

An increasing load must be applied to the connector assembly until separation occurs. No damage must occur to the mating components when the connected plug and receptacle are separated by the greater static pull load. Any evidence damage to plugs, receptacles, conductors and /or the connector bond will be cause for rejection.

Results (Style 5 & 12)

S. No.	Applied Static Pull Force	Observation	Applied Increasing Load to disconnect	Observation	Remarks
1)	44 N	Not Separated	55 N	No Damage Observed	Conforms
2)		Not Separated	65 N	No Damage Observed	Conforms
3)		Not Separated	63 N	No Damage Observed	Conforms
4)		Not Separated	70 N	No Damage Observed	Conforms
5)		Not Separated	83 N	No Damage Observed	Conforms
6)		Not Separated	68 N	No Damage Observed	Conforms

Signature Not Verified
r.srivastava@nth.gov.in-(OIC Testing/Calibration)

Danny Pratap
Lab Sc. Testing/Calibration
Electrical (Testing/Calibration)

Ritu Raj Srivastava
OIC Testing/Calibration
Electrical (Testing/Calibration)
(Reviewed & Approved by)

Dielectric Test

(As per Cl. 4.2.2 of FAA Specification for L-823 Plug and Receptacle, Cable Connectors- AC No. 150/5345-26E)

After the conclusion of the test in paragraph 4.2.2.1 each plug and receptacle being tested must be mated and immersed in a tap water bath at room temperature (20-25° C). Immerse not more than 2 feet (0.6 m) of cable, 1 foot (0.3) of the plug, and 1 foot (0.3 m) of the receptacle.

While immersed, each connector assembly must be manually flexed for 2 minutes and then left immersed for a minimum of 24 hours with its cable leads flexed and maintained 180° from its longitudinal axis.

Measure the insulation resistance between conductors of each connected assembly after the 24-hour soaking period. The resistance measurements must be taken 1 minute after a test voltage of 4.7 KV DC has been applied for 5 minutes to Type II connectors. The minimum resistance between conductors must be 25,000 mega ohms.

Heat the tap water to 65° C without removing the assemblies and maintain this temperature for at least 1 hour. Again, measure the resistance between the conductor(s) and water, and between conductors with a 500-volt source. The minimum acceptable resistance after the heated soaking period must be 10,000 mega ohms.

Results (Style 5 & 12 Connectors- WHITE LEAD)					
Insulation Resistance after Manual Flexing for 2 minutes & Conditioning at 22.4° C in Water (24 hours Soaking Period)					
S. No.	**Applied Test Voltage before IR Measurement**	**Test Voltage for IR Measurement**	**Measured Between Conductor and Water**	**Requirement**	**Remarks**
1)	4.7 kV DC for Five Minutes	500V DC Source after One Minute Rest	143600MΩ	25,000 Mega-Ohms (Minimum)	Conforms
2)			325000MΩ		Conforms
3)			176000MΩ		Conforms
4)			266000MΩ		Conforms
5)			193000MΩ		Conforms
6)			157000MΩ		Conforms

Signature Not Verified
r.srivastava@nth.gov.in-(OIC Testing/Calibration)

Danny Pratap
Lab Sc. Testing/Calibration
Electrical (Testing/Calibration)

Ritu Raj Srivastava
OIC Testing/Calibration
Electrical (Testing/Calibration)
(Reviewed & Approved by)

Section Code : 24EL28D8N

Results (Style 5 & 12 Connectors- BLACK LEAD)					
Insulation Resistance after Manual Flexing for 2 minutes & Conditioning at 22.4° C in Water (24 hours Soaking Period)					
S. No.	**Applied Test Voltage before IR Measurement**	**Test Voltage for IR Measurement**	**Measured Between Conductor and Water**	**Requirement**	**Remarks**
1)	4.7 kV DC for Five Minutes	500V DC Source after One Minute Rest	133600MΩ	25,000 Mega-Ohms (Minimum)	Conforms
2)			175000MΩ		Conforms
3)			266000MΩ		Conforms
4)			186000MΩ		Conforms
5)			393000MΩ		Conforms
6)			127000MΩ		Conforms

Insulation Resistance after Conditioning at 65° C in Water (1 hours Soaking Period)-WHITE LEAD				
S. No.	**Test Voltage for IR Measurement**	**Measured Between Conductor and Water**	**Requirement**	**Remarks**
1)	500 V Source	101000MΩ	10,000 Mega-Ohms (Minimum)	Conforms
2)		112000MΩ		Conforms
3)		105000MΩ		Conforms
4)		140000MΩ		Conforms
5)		103000MΩ		Conforms
6)		113600MΩ		Conforms

Insulation Resistance after Conditioning at 65° C in Water (1 hours Soaking Period) -BLACK LEAD				
S. No.	**Test Voltage for IR Measurement**	**Measured Between Conductor and Water**	**Requirement**	**Remarks**
1)	500 V Source	102000MΩ	10,000 Mega-Ohms (Minimum)	Conforms
2)		117000MΩ		Conforms
3)		108000MΩ		Conforms
4)		151000MΩ		Conforms
5)		116000MΩ		Conforms
6)		104600MΩ		Conforms

Signature Not Verified
r.srivastava@nth.gov.in-(OIC Testing/Calibration)

Danny Pratap
Lab Sc. Testing/Calibration
Electrical (Testing/Calibration)

Ritu Raj Srivastava
OIC Testing/Calibration
Electrical (Testing/Calibration)
(Reviewed & Approved by)

VISUAL EXAMINAION

		(Plug) Style 5 & (Receptacle) Style 12	
Cl. No.	**Requirement for L-823 Connector**	**Observation**	**Remarks**
3.4.1 General	Does the connector conform to the dimensional and construction requirements shown on the applicable figure? i.e. Fig. A-6 and A-7	Measured	Conforms
3.4.2 Housing	Is the connector housing molded from natural and/or synthetic elastomeric materials serving both as insulation and sheath to fully enclose the pins and sockets of the connectors?	Observed	Conforms
	Do material compounds used in connector housings not contain more than 11 Kg. of carbon black per 45 kg of elastomer?	Declared by Manufacturer Data sheet	Conforms
3.4.3 Pin sand Housing	Are the pins and sockets designed to conform to the dimensional and construction requirements as indicated on the applicable figure of this specification?	Observed	Conforms
	Are the Sockets slotted and spring loaded to insure good electrical contact as required by Paragraph 3.3.1?	Observed	Conforms
	Are pins and sockets made of materials that contain at least 98 percent copper?	Declared by Manufacturer Data sheet	Conforms
	Are the sockets fully annealed and supplied with a copper beryllium sleeve type spring which assures adequate contact pressure and protects the socket slots from filling with insulating compound during assembly and subsequent use?	Observed	Conforms
	Are the pins made from material at least “half hard” with the crimping section fully annealed?	Appears to be half hard	Conforms
	Is the contact portion of the pin left “stock hard”?	Appears to be stock hard	Conforms
	Is the hardness transition limited to the locking section of the pin?	Observed	Conforms
	Are the pin and socket electro-plated with tin or other suitable material to provide good electrical contact?	Observed	Conforms
3.4.5 Marking	Are each plug and receptacle marked with the manufacturer’s identification and L-823 designation with style number, e.g. L-823, Style 3?	Observed	Conforms

Danny Pratap
Lab Sc. Testing/Calibration
Electrical (Testing/Calibration)

Ritu Raj Srivastava
OIC Testing/Calibration
Electrical (Testing/Calibration)
(Reviewed & Approved by)

Section Code : 24EL28D8N

DIMENSIONS

As per Figure A-6, A-7 and Table A-1 of FAA Specification for L-823 Plug and Receptacle, Cable Connectors- AC No. 150/5345-26E

PLUG

Style	5	Type	II	Class:	B			
	Suitable for Conductor Size of 4 SQ.MM							
Sample	1	2	3	4	5	6	Specified	Specified
Dimension	Measured	Measured	Measured	Measured	Measured	Measured	Min.(mm)	Max.(mm)
A	3.930	3.940	3.950	3.930	3.940	3.950	3.912	3.962
B	3.140	3.150	3.160	3.140	3.160	3.140	3.125	3.175
C	15.860	15.810	15.850	15.880	15.900	15.870	15.494	16.256
D	9.160	9.190	9.110	9.170	9.140	9.150	8.712	9.499
E	11.010	11.100	11.020	11.040	11.090	11.050	10.795	11.303
F	18.560	18.510	18.590	18.540	18.570	18.530	18.415	18.923
G	24.890	24.900	24.820	24.880	24.850	24.830	24.613	25.400
Remarks	Conforms	Conforms	Conforms	Conforms	Conforms	Conforms		

RECEPTACLE

Style	12	Type	II	Class:	B			
	Suitable for Conductor Size of 4 SQ.MM							
Sample	1	2	3	4	5	6	Specified	Specified
Dimension	Measured	Measured	Measured	Measured	Measured	Measured	Min.(mm)	Max.(mm)
E	11.020	11.110	11.120	11.140	11.090	11.060	10.795	11.303
G	24.880	24.800	24.830	24.870	24.810	24.840	24.613	25.400
H	3.9900	4.0000	3.9900	4.0000	3.9800	3.9900	3.9700	4.0134
J	3.2000	3.1900	3.2000	3.1900	3.2100	3.2000	3.1824	3.2258
K	16.47	16.45	16.42	16.49	16.47	16.43	16.28	—
L	9.010	8.950	9.060	9.020	8.980	9.030	8.712	9.093
M	17.700	17.740	17.610	17.690	17.630	17.780	17.374	17.882
Remarks	Conforms	Conforms	Conforms	Conforms	Conforms	Conforms		

Danny Pratap
Lab Sc. Testing/Calibration
Electrical (Testing/Calibration)

Ritu Raj Srivastava
OIC Testing/Calibration
Electrical (Testing/Calibration)
(Reviewed & Approved by)

Section Code : 24ELT28D8N

Fig: Photographs of the sample

Signature Not Verified
r.srivastava@nth.gov
.in-(OIC
Testing/Calibration)

Danny Pratap
Lab Sc. Testing/Calibration
Electrical (Testing/Calibration)

Ritu Raj Srivastava
OIC Testing/Calibration
Electrical (Testing/Calibration)
(Reviewed & Approved by)

Section Certificate No. : 24EL28D8N_1 FAA Advisory Circular No. 150/5345-26E

Part D.

REMARKS

The sample so far as it has been examined and tested conforms to the requirements of FAA Advisory Circular Specification for L-823 Plug & Receptable, Cable Connectors AC No. 150 / 5345-26E.

Notes

NIL

Ritu Raj Srivastava
OIC Testing/Calibration Electrical (Testing/Calibration)
(Reviewed & Approved by)
Signed on: 28 Nov, 2024 16:47 PM

This is a Computer Generated Report.

Signature Not Verified
r.srivastava@nth.gov.in-(OIC Testing/Calibration)

End of Report