

TEST REPORT
GT-25-049
3/31/2025



Glenair, Inc. 1211 Air Way, Glendale, California, 91201
Tel: (818) 247-6000 Fax: (818) 247-7240

GT-25-049

QUALIFICATION TEST REPORT FOR

MIL-DTL-38999 SERIES I, II, III & IV HERMETIC CONNECTORS

GROUP C 24 MONTH PERIODIC

APPROVALS

Kyle Beauchemin

(Prepared By) **Kyle Beauchemin**
Test Engineer, Glenair, Inc.

*Fernando B.
Vega*

Digitally signed by Fernando B. Vega
DN: cn=Fernando B. Vega,
c=US, email=fvega@glenair.com
Date: 6/19/25

Fernando Vega
Engineering Product Manager, Glenair, Inc.

*Mike
Ghara*

Digitally signed by Mike Ghara
DN: cn=Mike Ghara, c=US,
ou=Product Engineering,
email=mghara@glenair.com
Date: 2025.06.19 15:25:05 -07'00'

Mike Ghara
Director of Engineering, Glenair, Inc.

TEST REPORT
GT-25-049
(Full report released 3/31/2025)



Glenair, Inc. 1211 Air Way, Glendale, California, 91201
Tel: (818) 247-6000 Fax: (818) 247-7240

REVISION PAGE

REVISION LETTER	DESCRIPTION OF REVISION	PAGE	DATE	APPROVAL
A	Initial Release	All	3/31/2025	-



Glenair, Inc. 1211 Air Way, Glendale, California, 91201
Tel: (818) 247-6000 Fax: (818) 247-7240

Contents:

REVISION PAGE.....	2
SCOPE	3
SUMMARY OF RESULTS	4

* Plating Thickness Certification is copied at the end of this document.

NOTE: For Applicable Documents, sample numbers and part numbers, see Glenair test plan QTP-1497 (superseding QTP-1191.)

SCOPE

This report documents results of the 24-month Group C Periodic Qualification testing of Glenair Hermetic **MIL-DTL-38999 Series I, II, III & IV** connectors, manufactured by Glenair, Inc. Testing covered electrical, mechanical, and environmental performance, and was performed by Environment Associates, Inc.



Glenair, Inc. 1211 Air Way, Glendale, California, 91201
Tel: (818) 247-6000 Fax: (818) 247-7240

SUMMARY OF RESULTS

Connector samples passed all the test requirements of QTP-1497 and MIL-DTL-38999N with (2) deviations noted in Appendix B of full report.

GROUP 1

TEST OR INSPECTION	MIL-DTL-38999M		TEST SAMPLES	RESULTS
	REQUIREMENT	TEST		
Visual and Mechanical Examination	3.1, 3.3, 3.4, 3.5, 3.5.2 & 3.5.3	4.5.1	All Samples (Group 1)	Pass
Magnetic Permeability (except finish D of series I and II)	3.3.4	4.5.48	All except 1-1R/P & 1-5R/P	Pass
Thermal shock (hermetics only)	3.7	4.5.3	All Samples (Group 1)	Pass
Air leakage (hermetics only)	3.10	4.5.6	All Samples (Group 1)	Pass
Coupling and uncoupling torque	3.11	4.5.7		Pass
Durability	3.12	4.5.8		Pass
Insert retention	3.16	4.5.12		Pass
Shell-to-shell conductivity (not applicable to class C and finish C)	3.29	4.5.25		Pass
Salt spray (corrosion) (standard test applicable to series I and II finishes A, D, F, N, R, U, and series III and IV classes F, G, N only)	3.17	4.5.13.1	1-2R, 1-3R, 1-5R, 1-6R, 1-7R, 1-11R	Pass
Coupling and uncoupling torque	3.11	4.5.7	All Samples (Group 1)	Pass
Shell-to-shell conductivity (not applicable to class C and finish C)	3.29	4.5.25		Pass
Contact resistance (hermetics with sockets only)	3.18.2	4.5.14.2	1-1R, 1-2R, 1-5R, 1-6R, 1-9R, 1-10R	Pass
Electrical engagement	3.19	4.5.15	All Samples	Pass
External bending moment	3.20	4.5.16		Pass
Bayonet coupling pin strength (series I and II only)	3.21	4.5.17	1-1R THRU 1-6R	Pass
Post Test Examination	3.52 & 3.53	4.5.49	All Samples (Group 1)	Pass



Glenair, Inc. 1211 Air Way, Glendale, California, 91201
Tel: (818) 247-6000 Fax: (818) 247-7240

GROUP 3

TEST OR INSPECTION	MIL-DTL-38999M		TEST SAMPLES	RESULTS
	REQUIREMENT	TEST		
Visual and Mechanical Examination	3.1, 3.3, 3.4, 3.5, 3.5.2 & 3.5.3	4.5.1	All Samples (Group 3)	Pass
Thermal shock (hermetics only)	3.7	4.5.3		Pass
Air leakage (hermetics only)	3.10	4.5.6		Pass
Insulation resistance at elevated temperature	3.14.2	4.5.10.2		Pass
Durability	3.12	4.5.8		Pass
Coupling and uncoupling torque	3.11	4.5.7		Pass
Random Vibration – Series III only, test at elevated temperature (200°C), 4 hours longitudinal and 4 hours perpendicular	3.27	4.5.23.2.3	Series III Samples in Table II (3-7R, 3-8R, 3-9R)	Pass
Contact resistance (hermetics with sockets only)	3.18.2	4.5.14.2	3-3R, 3-4R, 3-7R, 3-8R, 3-11R, 3-12R	Pass
Shock	3.28	4.5.24.1	All Samples (Group 3)	Pass
Insulation resistance at ambient temperature	3.14.1	4.5.10.1		Pass
Dielectric withstanding voltage at sea level	3.15	4.5.11.1		Pass
Humidity	3.30	4.5.26		Pass
Insulation resistance at ambient temperature	3.14.1	4.5.10.1		Pass
Dielectric withstanding voltage at sea level	3.15	4.5.11.1		Pass
Post Test Examination	3.52 & 3.53	4.5.49		Pass



Glenair, Inc. 1211 Air Way, Glendale, California, 91201
Tel: (818) 247-6000 Fax: (818) 247-7240

GROUP 8

TEST OR INSPECTION	MIL-DTL-38999M		TEST SAMPLES	RESULTS
	REQUIREMENT	TEST		
Visual and Mechanical Examination	3.1, 3.3, 3.4, 3.5, 3.5.2 & 3.5.3	4.5.1	All Samples (Group 8)	Pass
Contact resistance (hermetics with sockets only)	3.18.2	4.5.14.2		Pass
Contact engagement and separating force	3.42	4.5.38	(Group 8) Samples with Socket Contacts Only	Pass
Resistance to probe damage	3.43	4.5.39		Pass
Contact engagement and separating force	3.42	4.5.38		Pass
Contact plating thickness (hermetic)	3.41	4.5.37	Performed at Glenair (on Contacts)	Pass
Post Test Examination	3.52 & 3.53	4.5.49	All Samples (Group 8)	Pass

Corrosion Group

TEST OR INSPECTION	MIL-DTL-38999M		TEST SAMPLES	RESULTS
	REQUIREMENT	TEST		
Visual and Mechanical Examination	3.1, 3.3, 3.4, 3.5, 3.5.2 & 3.5.3	4.5.1	All Samples (Corrosion Group)	Pass
Dynamic salt spray	3.17	4.5.13.2		Pass
Post Test Examination	3.52 & 3.53	4.5.49		Pass *

* With one TDN

Humidity Group

TEST OR INSPECTION	MIL-DTL-38999M		TEST SAMPLES	RESULTS
	REQUIREMENT	TEST		
(Receptacles may be potted prior to sending to the test lab)				
Humidity	3.30	4.5.26	All Samples (Humidity Group)	Pass



Superior Plating, Inc

1901 East Cerritos Ave.

Anaheim CA 92805

Phone: 714-774-1174

www.superiorplating.com

CUSTOMER: GLENAIR

P.O. #: 241226265Z

PART #: SA1602-11-2Z1SN

QTY: 10

Fischerscope® XRAY XDLM 237

Product: 47 / Au (II) / Ni / Alloy 52

Directory: Fischer

Calibr. Std. Set

n=	1	Au 1 =	95.3 μ "	Ni 2 =	132.6 μ "
n=	2	Au 1 =	99.0 μ "	Ni 2 =	102.1 μ "

	<u>Au 1</u> μ "	<u>Ni 2</u> μ "
Mean	97.2	117.3
Standard Deviation	2.56	21.6
CoV (%)	2.63	18.42
Range	3.62	30.6
Number of readings	2	2
Min. Reading	95.3 μ "	102.1 μ "
Max Reading	99.0 μ "	132.6 μ "
Measuring time	15 sec	
Operator:		



Date: 12/30/2024 Time: 1:19:32 PM

THICKNESS TAKEN FROM DUMMY PART

THICKNESS TAKEN FROM ENGAGEMENT SIDE

NADCAP ACCREDITED
CHEMICAL PROCESSING

Superior Plating

1901 E. Cerritos Ave, Anaheim, CA 92805
714.774.1174 Fax 714.774.4093

Certification

Number Date
22226 12/30/24

Sold To:

GLENAIR, INC. (83988)
1211 AIR WAY
GLENDALE, CA 91201

Ship to:

GLENAIR, INC.
1211 AIR WAY
GLENDALE, CA 91201

Purchase Order	Customer Shipper	Shipped	Shipped Via
241226265Z		12/30/24	ARCADIA

Quantity	Part Number	Rev	Description
----------	-------------	-----	-------------

10	SA1602-11-2Z1SN		SHELL HERMETIC DRAWING:SA1602 REV.D
1	USE DUMMY SENT BY CUSTOMER		

S P E C I F I C A T I O N S :

PERMANGANATE DESCALE
BRIGHT DIP
ASTM A967 17 NITRIC 5
LIQUID HONE
PINS
NICKEL PROCESS/TEST IAW
AMS-QQ-N-290 D .0001-.0002"
CLASS 2,
PINS
GOLD II, CODE C, PROCESS/TEST IAW
ASTM B 488-18 .000050 MIN"
TYPE II, CLASS 1.25,
Gold & Tin are DRC Conflict Free
NADCAP-CHEMICAL PROCESSING CERT:
4556226567 11/30/2026

Sign



Print

Quality Assurance Rep

