



ABSTRACT
Qualification Test GT 1101
AS85049 Cadmium-Free Finishes

No.: GT 1101 (Abstract)
 Date: May 7, 2013
 Sheet 1 of 3
 Rev. A

1 Overview

Revision C of specification SAE AS85049C added three new cadmium-free plating finishes:

1. **Nickel-fluorocarbon polymer** (1000 hour salt spray, RoHS compliant, -65 to +175° C)
2. **Black zinc-nickel** (1000 hour salt spray, RoHS compliant, -65 to +175° C)
3. **Pure, dense aluminum** “Alumiplate” (1000 hour salt spray, RoHS compliant, -65 to +175° C)

Glenair has completed formal qualification testing and is now approved to supply these finishes on all applicable AS85049 specification sheets. This test abstract summarizes Glenair Qualification Test Report GT 1101 (129 pages, available on request).

1.1 Testing Locations

Testing was performed at Glenair, Glendale, CA and at Navair, Patuxent River, MD.

Testing Agency	Location	Date	Test	Document Reference
Glenair	Glendale, CA	(Various)	Visual/Dimensional Inspection	11-08346 MC-20098
Navair Qualification Products Lab	Patuxent River, MD	March 26, 2013	Shell Conductivity, Durability, Salt Spray, Plating adhesion, Coupling Thread Strength	04410202.AA

1.2 Results

All samples passed the test requirements.

1.3 Conclusion

Glenair is now authorized to supply AS85049 accessories with cadmium-free finishes nickel fluorocarbon polymer, zinc-nickel and pure, dense aluminum (“Alumiplate”). Table 1 lists the newly approved AS85049 finish codes.

2 Cadmium-Free Finish Listing

Navair Qualification Products Laboratory Initial Qualification Test Summary Project No. 04410202.AA has approved Glenair for the following AS85049 finish codes:

TABLE 1
AS85049C NEW FINISH CODES

AS85049 Finish Code.	Description	Accessory Type	Glenair Plating Code
X	Nickel Fluorocarbon Polymer	Aluminum	MT
XC	Nickel Fluorocarbon Polymer	Composite	XMT
XS	Nickel Fluorocarbon Polymer	Stainless Steel	ZMT
Y	Pure Aluminum	Aluminum	AL
YC	Pure Aluminum	Composite	XAL
YL	Pure Aluminum (Selective)	Composite	XAP
YP	Pure Aluminum (Selective)	Aluminum	ALP
YS	Pure Aluminum	Stainless Steel	ZAL
Z	Black Zinc-Nickel	Aluminum	ZR
ZC	Black Zinc-Nickel	Composite	XZN
ZL	Black Zinc-Nickel, Selective	Composite	XZP
ZP	Black Zinc-Nickel, Selective	Aluminum	ZS



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ZS	Black Zinc-Nickel	Stainless Steel	ZZR
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3 Test Samples

TABLE 2
TEST SAMPLES

Part Number	Quantity
M85049/11-21X	4
M85049/11-21Y	4
M85049/11-21Z	4
M85049/11-21XS	4
M85049/11-21YS	4
M85049/11-21ZS	4
M85049/90-17YP03	4
M85049/90-17ZP03	4
M85049/90-17XC03	4
M85049/90-17ZC03	4
M85049/90-17YL03	4
M85049/90-17ZL03	4
M85049/91-17YC	4



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4 Qualification Test Requirement/Sequence

TABLE 3
TEST REQUIREMENT / SEQUENCE

Test Description	Requirement	Test Method	Test Group 1	Test Group 2
Examination of Product <u>1</u> /	3.1, 3.3, 3.4, 3.6, 3.7 and: plating is uniform in appearance and non-reflective when visually examined with the unaided eye	4.6.1	X	X
Shell Conductivity	3.5.2 (2.5 millivolts max)	4.6.3 except the measurement point shall be at the rear of the accessory to the dummy receptacle connector mounting flange	X	X
Plating Adhesion	3.5.16	4.6.18		X
Temperature Cycling	3.5.14	4.6.16		X
Durability	Accessory threads shall show no defects or damage detrimental to its function when visually examined with the unaided eye	50 mated / unmated cycles. Cycle rate not to exceed 3 per minute	X	
Shell Conductivity	3.5.2 (2.5 millivolts max)	4.6.3 except the measurement point shall be at the rear of the accessory to the dummy receptacle connector mounting flange	X	X
Salt Spray	3.5.3	4.6.4	X	
Shell Conductivity	3.5.2 (2.5 millivolts max)	4.6.3 except the measurement point shall be at the rear of the accessory to the dummy receptacle connector mounting flange	X	
Coupling Thread Strength	3.5.9	4.6.10		X
Post Examination of Product	3.1, 3.3, 3.4, 3.6, 3.7	4.6.1	X	X

1/ Initial examination conducted by Glenair. All other testing conducted by Navair.

5 Qualification by Similarity

Testing was performed on M85049/11, /90 and /91 samples. Qualification by similarity was granted for the following specification sheets:
 /3, /4, /5, /6, /7, /8, /9, /10, /14, /15, /16, /17, /18, /19, /20, /21, /23, /24, /25, /26, /27, /29, /30, /31, /33, /34, /36, /37, /42, /43, /45, /46, /53, /54, /55, /56, /57, /58, /59, /60, /61, /62, /63, /69, /76, /77, /78, /79, /82, /83, /84, /85, /86, /88, /92, /109, /111, /112, /114, /115, /117, /118, /120, /121, /123, /124, /126