M83513 Micro-D VersaLink™ Connectors

Space-Grade Outgassing Modification Codes

Do Micro-D connectors meet outgassing requirements?

Connectors must be vacuum baked to guarantee compliance with outgassing limits established by NASA and military space programs. The requirements are 1.0 % Total Mass Loss (TML) and 0.1% Collected Volatile Condensable Material (CVCM). ASTM E595 defines the test procedure.

What is vacuum bakeout?

Connectors are placed in a calibrated thermal vacuum oven/chamber for 24 hours at +125°C and a vacuum of 10^{-6} Torr.

Are Micro-D connectors non-magnetic?

Micro-D connectors meet the 2.0µ magnetic permeability requirement of EIA-364-54. Additional residual magnetism screening is available on request.

High-Speed VersaLink connector is a high density, lightweight, high performance connector ideal for space flight applications. These connectors are available with NASA-grade screening and vacuum bakeout for high reliability space programs.

1. Find the right modification code in the table below.

2. Add the "Mod Code" to the connector part number.
Example:

SCREENING LEVEL AND AVAILABLE OUTGASSING MODIFICATION CODES

NASA Screening Level	Screening Type	No Outgas Processing	Face Seal Deleted (Plug Only)	48 Hour Oven Bake 125° C.	Thermal Vacuum* Outgassing 24 hrs. 125° C.	Mod Code
1	Highest Reliability	●				429B
			●			429F
				●		429J
					●	429C
2	High Reliability	●				429
			●			429D
				●		429K
					●	429A
3	Standard Reliability	‡	●			432
				●		186S
					●	186M

* Thermal vacuum of 10^{-6} Torr. ‡ Use standard part number

NASA SCREENING REQUIREMENTS (EEE-INST-002 TABLE 2C)

Inspection/Test	NASA Screening Level: Level 1 Highest Reliability	NASA Screening Level: Level 2 High Reliability
Visual Inspection	100% 10X magnification	100% 10X magnification
Mechanical Inspection	2 connectors 10X magnification	2 connectors 10X magnification
DWV/IR	2 connectors	2 connectors
Contact Separation Force (Connectors with non-removable contacts)	2 connectors	Not required
Mating and Unmating Force	2 connectors	Not required

COMPONENT OUTGASSING PROPERTIES

Component	Material	TML%	CVCM%	Test Reference
VersaLink Insulator	GPS173	0.20	0.01	Glenair test at Pacific Testing Laboratories 7-19-2021
Micro-D Insulator	LCP	0.07	0.00	Glenair test at Pacific Testing Laboratories 7-25-2017
Peripheral Seal	70/30 Fluorosilicone/ Silicone Blend*	0.12	0.02	Glenair test at Pacific Testing Laboratories 6-17-2020
Rear Insulator (Right angle only)	PTFE	0.01	0.00	NASA Outgassing Data for Selecting Spacecraft Materials
Organizer (Right angle only)	PPS	0.08	0.00	NASA Outgassing Data for Selecting Spacecraft Materials
Epoxy	Hysol EE-4215	0.55	<0.01	Glenair test at Pacific Testing Laboratories 7-25-2017
Epoxy (Cable conn. only)	Duralco 120	0.33	0.01	NASA Outgassing Data for Selecting Spacecraft Materials

* Per GPS78 Grade 40