

TANK TYPE	MOUNT	LOCATION
Pressurant	Boss	Polar

The tank is a spherical 8" diameter pressure vessel constructed of 6AL-4V titanium. Mounting is provided via the bosses on each hemisphere.

Part Number 80541-1

SIZE: 7.65" ID x 8.80" LG
SIZE: 194 mm ID x 224 mm LG

ISO 9001 & AS 9100 REGISTERED

APPLICABLE DOCUMENTS

Acceptance Test Procedure	50-000745
Protoflight Test Procedure	50-000746
Cleaning	CPP 4043

TANK CHARACTERISTICS

Operating Pressure, psig	3,600	Total Volume, in ³	235
Proof Pressure, psig	5,400	Prop Volume, in ³	N/A
Cryo Proof, psig	N/A	Prop Volume, lbs	N/A
Burst Pressure, psig	7,200	Max Design Wt, lbs	3.24
Actual Burst, psig		Minimum Wall, inch	0.095

QUALIFICATION TESTS

Preliminary Examination of Product
Pre-Proof Volumetric Capacity Test
Proof Pressure Test
Cryogenic Proof Pressure
Post-Proof Volumetric Capacity Test
External Volume
Pressure Cycle Life
Burst Pressure Test
Final Inspection
Cleanliness

PROGRAM INFORMATION

Program	LADEE
Customer	Space Systems Loral
Original Job No.	C1038
Customer Installed Device	N/A
Customer Controlled Device	N/A

TANK CHARACTERISTICS (Metrics)

Operating Pressure, bar	248.21	Total Volume, l	4
Proof Pressure, bar	372.31	Prop Volume, l	N/A
Cryo Proof, bar	N/A	Prop Volume, kg ↑ NTO	N/A
Burst Pressure, bar	496.415	Max Design Wt, kg	1.47
Actual Burst, bar		Minimum Wall, MM	2.413

ACCEPTANCE TESTS

Preliminary Examination of Product
Pre-Proof Volumetric Capacity Test
Proof Pressure Test
Post-Proof Volumetric Capacity Test
External Leak Test
NDE
Sine Vibration Test
Final Examination
Cleanliness

NOTES

The 80541-1 pressurant tank was previously qualified by the customer on the NASA Megellan Program as P/N 80326-1. The LADEE 80541-1 tank shell is identical to the 80326-1 tank shell. The 80541-1 was subjected to protoflight testing to qualify the transition tube change to meet LADEE flow and interface requirements.

HEMISPHERE FORGINGS

HEMI P/N	QTY	SUPPLIER	Die No
80-326061-1	2	Arcturus	2105A

TUBE TYPE AND SIZE(inches)

Bi-Metallic - Titanium / CRES	SIZE
80-540001-3	.250 OD x 0.035 Wall

TUBE TYPE AND SIZE (mm)

Bi-Metallic - Titanium / CRES	SIZE
80-540001-3	6.35 OD x 0.711 Wall

