

<b>TANK TYPE</b> PMD WRAP	<b>MOUNT</b> SKIRT	<b>LOCATION</b> CYLINDER	<b>PMD DEVICE</b> VANE, TRAP, & SPONGE
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This Hydrazine propellant tank is constructed of a 6Al-4V titanium liner with the cylindrical portion overwrapped with T1000 carbon fiber/ epoxy composite for an overall diameter of 35.5" X 69.2" length. Mounting of the tank is provided by a carbon/cyanate ester composite skirt with 12 attach points around the cylinder, and a polar flex plate at the pressurant end. The tank contains an internally mounted propellant management device (PMD) to provide gas free liquid throughout the mission.

**Part Number 80432-1**

**SIZE: 35.5" dia X 69.2" length**  
**SIZE: 902 mm dia. X 1758 mm long**

**ISO 9001 & AS 9100 REGISTERED**

APPLICABLE DOCUMENTS	TANK CHARACTERISTICS	ACCEPTANCE TESTS
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Acceptance Test Procedure	50-000575
Bubble Point Test Procedure	50-000562
Stress Report (3)	54-000184
Dynamics Report (3)	54-000183
Performance Analysis (3)	54-000197
Bond Line Analysis	54-000199
Fracture Analysis Plan (3)	54-000177
Cleaning (tank)	CPP-3911

Operating Pressure, psig	300	Total Volume, in <sup>3</sup>	52,335
Proof Pressure, psig	375	Prop Volume, in <sup>3</sup>	52,335
Cryo Proof, psig	N/A	Prop Volume, lbs	1,802
Burst Pressure, psig	450	Max Design Wt, lbs	63.75
Actual Burst, psig		Minimum Wall, inch	0.026

Examination of Product, Preliminary
Volumetric Capacity Measurement
Proof Pressure Test
Volumetric Capacity Measurement
Static Load Test
PMD Bubble Point Test
External Leak Test
Weld Quality Inspection
Mass Measurement
Final Visual Inspection
Final Cleanliness

**Notes:**

- 1: Fracture Critical
- 2: Tank is qualified by similarity to 80425-1
3. Documents Prepared for 80425-1

TANK CHARACTERISTICS (Metrics)			
Operating Pressure, bar	20.68	Total Volume, l	858
Proof Pressure, bar	25.85	Prop Volume, l	858
Cryo Proof, bar	N/A	Prop Volume, kg	817.38
Burst Pressure, bar	31.03	Max Design Wt, kg	28.92
Actual Burst, bar		Minimum Wall, MM	0.660

QUALIFICATION TESTS
Qual by similarity on 80425-1.

HEMISPHERE FORGINGS			
HEMI P/N	QTY	SUPPLIER	Die No
80-391061-1	2		

ROLLED AND SEAM WELDED CYLINDER		
P/N	QTY	SIZE
80-425016-1	1	35.2 in ID X 34.5 in LONG

TUBE TYPE AND SIZE (in.)	
<u>TI 3AL-2.5V</u>	<u>SIZE</u>
80-425011-5	0.375 x 0.020 Wall Press
80-425007-5	0.375 x 0.020 Wall Prop

TUBE SIZE (mm)	
80-425011-5	9.525 x 0.508 Wall Press
80-425007-5	9.525 x 0.508 Wall Prop

