

TANK TYPE PMD WRAP	MOUNT Bosses	LOCATION Polar	PMD DEVICE NONE
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The Xenon Propellant Tank is a composite overwrapped pressure vessel (COPV) with a liner constructed of a center cylinder welded to end domes and overwrapped with T1000 carbon fiber. The commercially pure titanium liner has a nominal .032" membrane thickness. Mounting is provided by polar bosses located on the tank centerline axis.

Part Number 80458-1
SIZE: 16.5" ID x 44.3" Long
ID is @ Ambient Temperature
SIZE: 419.1 mm ID x 1125.22 mm Long

ISO 9001 & AS 9100 REGISTERED

APPLICABLE DOCUMENTS	TANK CHARACTERISTICS	QUALIFICATION TESTS
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Acceptance Test Procedure 50-000625	Operating Pressure, psig 2,700	Total Volume, in ³ 8,100
Qualification Test Procedure 50-000626	Proof Pressure, psig 3,375	Prop Volume, in ³ 8,100
LBB Test Procedure 50-000658	Cryo Proof, psig N/A	Max Design Wt, lbs 45.00
Stress Analysis 6-4 Liner 54-000215	Burst Pressure, psig 4,130	Minimum Wall, inch 0.032
Fracture Analysis 54-000230	Actual Burst, psig 5,926	
Stress Analysis - CP Liner 54-000231	TANK CHARACTERISTICS (Metrics)	
Qualification Test Report 56-000206	Operating Pressure, bar 186.16	Total Volume, l 132.74
LBB Test Report 56-000207	Proof Pressure, bar 232.69	Prop Volume, l 132.74
Fracture Analysis 327-1	Cryo Proof, bar N/A	Max Design Wt, kg 20.41
Cleaning CPP 3970	Burst Pressure, bar 284.75	Minimum Wall, MM 0.813
	Actual Burst, bar 408.58	

- Notes:**
- All tooling belongs to Northrop Grumman
 - Acceleration of 12g's in any direction.
 - Compatible with xenon, helium, nitrogen, and IPA, PF-5060 mass sim & DI water.
 - Fracture Critical
 - Tube protector is SK 1589

FORGINGS			
HEMI P/N	QTY	SUPPLIER	Die No
80-436061-1	2	ARCTURUS	3852

TUBE TYPE AND SIZE	
Ti 3AL-2.5V	SIZE
80-458001-1	.375 OD x .035 Wall

TUBE SIZE (mm)	
80-458001-1	9.525 x .889 mm

VACUUM RATED	
YES	

Examination of Preliminary Product
Autofrettage
Volumetric Measurement
Proof Pressure Test
Volumetric Measurement
Strain Data Correlation
Volumetric Capacity @ MEOP
External Leakage Test
Weight Measurement and Inspection
Propellant Flow Rate Test
MEOP Pressure Cycle Life Test
Proof Pressure Cycle Life Test
External Leakage Test
Dynamic Testing Approval
Sinusoidal Vibration Test
Sine Burst Test
Random Vibration Test
External Leakage Test
Thermal Cycling Test
Random Vibration Test
External Leakage Test
Weld Quality Inspection
Examination of Final Product
Burst Test

ACCEPTANCE TESTS	
Examination of Preliminary Product	
Autofrettage @ Ambient	
Volumetric Measurement @ Ambient	
Proof Pressure Test @ Ambient	
Volumetric Measurement @ Ambient	
Volumetric Capacity @ MEOP	
Boroscope Inspection	
Internal Vacuum Test	
External Leak Test	
Weld Quality Inspection	
Examination of Final Product	
Final Clean	

