



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 linear 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.

ATK 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	
Acceptance Test Procedure	50-000625	Operating Pressure, psig	2,700	Total Volume, in ³	8,100	Examination of Preliminary Product	
Qualification Test Procedure	50-000626	Proof Pressure, psig	3,375	Prop Volume, in ³	8,100	Autofrettage	
LBB Test Procedure	50-000658	Cryo Proof, psig	N/A	Max Design Wt, lbs	45.00	Volumetric Measurement	
Stress Analysis 6-4 Liner	54-000215	Burst Pressure, psig	4,130	Minimum Wall, inch	0.032	Proof Pressure Test	
Fracture Analysis	54-000230	Actual Burst, psig	5,926			Volumetric Measurement	
Stress Analysis - CP Liner	54-000231	TANK CHARACTERISTICS (Metrics)				Strain Data Correlation	
Qualification Test Report	56-000206	Operating Pressure, bar	186.16	Total Volume, l	132.74	Volumetric Capacity @ MEOP	
LBB Test Report	56-000207	Proof Pressure, bar	232.69	Prop Volume, l	132.74	External Leakage Test	
Fracture Analysis	327-1	Cryo Proof, bar	N/A	Max Design Wt, kg	20.41	Weight Measurement and Inspection	
Cleaning	CPP 3970	Burst Pressure, bar	284.75	Minimum Wall, MM	0.813	Propellant Flow Rate Test	
Notes:		Actual Burst, bar	408.58			MEOP Pressure Cycle Life Test	
1. All tooling belongs to ATK.		FORGINGS				Proof Pressure Cycle Life Test	
2. Acceleration of 12g's in any direction.		HEMI P/N	QTY	SUPPLIER	Die No	External Leakage Test	
3. Compatible with xenon, helium, nitrogen, a		80-436061-1	2	ARCTURUS	3852	Dynamic Testing Approval	
IPA, PF-5060 mass sim & DI water.		TUBE TYPE AND SIZE				Sinusoidal Vibration Test	
4. Fracture Critical		Ti 3AL-2.5V			SIZE	Sine Burst Test	
5. Tube protector is SK 1589		80-458001-1			.375 OD x .035 Wall	Random Vibration Test	
		TUBE SIZE (mm)				External Leakage Test	
		80-458001-1			9.525 x .889 mm	Thermal Cycling Test	
		VACUUM RATED				Random Vibration Test	
		YES				External Leakage Test	

QUALIFICATION TESTS	
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	

