

TANK TYPE	MOUNT	LOCATION
Propellant (COPV)	POLAR	CENTERLINE

This 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 80584-1

SIZE: 16.5" DIA x 40.520" LONG
SIZE: 419.1 mm DIA x 1029.2 mm LONG

ISO 9001 & AS 9100 REGISTERED

APPLICABLE DOCUMENTS

Acceptance Test Procedure	50-000881
QBS Report	56-000326
Qual Test Report (80458)	56-000206
Protoflight Test Procedure	50-000880
Stress and Dynamics Report	54-000484
FMECA	54-000495
Cleaning	CPP 4098

TANK CHARACTERISTICS

Operating Pressure, psig	2,700	Total Volume, in ³	7,300
Proof Pressure, psig	3,375	Max Design Wt, lbs	42.0
Cryo Proof, psig	N/A	Minimum Wall, inch	0.032
Burst Pressure, psig	4,130	Qual Tank Mass, lbs	43.58
Actual Burst, psig	5,926		

ACCEPTANCE TESTS

- Examination of Product, Preliminary
- Autofrettage at Ambient
- Volumetric Measurement at Ambient
- Proof Pressure Test at Ambient
- Volumetric Measurement at Ambient
- Volumetric Capacity at MEOP
- Borescope Inspection
- Internal Vacuum Test
- Borescope Inspection
- External Leak Test
- Weld Quality Inspection
- Examination of Product, Final
- Final Clean

TANK CHARACTERISTICS (Metrics)

Operating Pressure, bar	186.2	Total Volume, l	119.6
Proof Pressure, bar	232.8	Max Design Wt, kg	19.1
Cryo Proof, bar	N/A	Minimum Wall, mm	0.813
Burst Pressure, bar	284.7	Qual Tank Mass, kg	19.77
Actual Burst, bar	409		

HEMISPHERE FORGINGS

HEMI P/N	QTY
80-436061-1	2

QUALIFICATION TESTS (for 80458)

- Examination of Product, Preliminary
- Autofrettage
- Volumetric Measurement
- Proof Pressure Test
- Volumetric Measurement
- Strain Data Correlation
- Volumetric Measurement @ 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 completion
- External Leakage Test
- Weld Quality Inspection
- Examination of Product, Final
- Burst Test

TUBE TYPE AND SIZE

	QTY	SIZE
80-584050-59	1	.375 OD x .050" WALL

