

PRODUCT FAMILY

LINEAR SHAPED CHARGE

Linear Shaped Charge consists of a continuous explosive core enclosed in a seamless metal sheath, formed into an appropriate shape to sever the target. Normally the shapes are either a chevron or inverted "V" shape or similar to the profile of a 'house'. Chevrons for FLSC are easier to form intricate patterns for a Canopy Fracturing System (CFS). The house shape is for more ridged designs especially for Flight Termination or Separation Systems by LSC assemblies. Upon detonation, the continuous metal sheath liner and explosive produce a uniform linear cutting action. PacSci EMC will determine the best combination of explosive core and metal sheath to sever the target specified. Factors such as the type of target material, its thickness, operational temperature exposure, standoff distance, vibration, shock, etc. assist in determining the proper LSC / FLSC.



APPLICABLE SPECIFICATIONS

Leak Rate:	1×10 ⁻⁵ cc/sec, air at 1 atmosphere (2.7 x 10 ⁻⁵ cc/sec. HE)
Thermal Performance:	-65°F to +210°F
Temperature/Shock	Temperature range of -65°F to 160°F, 95% relative humidity, altitude of 70,000ft and exposed for 28-days.
Humidity/Altitude (TSH&A):	days.
Vibration:	Frequency ranged from 15 to 2000 Hz,, A = 0.015 g ² /Hz, W0 = 0.015 g ² /Hz, B = 0.003 g ² /Hz, Grms = 4.6, Duration 9.6 hours per axis
Shock:	Service Shock, 18 shocks applied (6 in each axis) with frequencies ranging from 10 to 1000 Hz and SRS G levels to 62G's, Crash Shock, 40G, 11ms, terminal peak saw tooth applied in opposite directions, each axis
Acceleration Load Test:	Ultimate Acceleration: X-axis: ±15G, Y-axis: ±15G Z-axis: +16.5/-15G, Ultimate Angular Moments: Roll rate: ±6.75 rad/s, Pitch rate: +2.64/-7.8 rad/s. Yaw rate: ±5.25 rad/s, Roll acceleration: ±27 rad/s ² , Pitch acceleration: ±15.0 rad/s ² , Yaw acceleration: ±3.0 rad/s ²
Salt Atmosphere:	Exposed units to a 5% salt solution of 95°F±5°F for a period of 168 hours. The pH of the solution was in the range from 2.5 to 3.2. A constant salt spray with SO ₂ gas introduced for 1 hour, 4 times a day (every 6 hours) per ASTM G85.
Sand and Dust:	Particle size between 1 and 1000 microns with most between 150 and 500 and a concentration of 2.19 grams/m ³ and air velocity at 18 m/s. Temperatures up to 145°F. Total test time is 28 hours.
Humidity:	Temperature range: -65°F to 160°F, 95% relative humidity, altitude of 70,000 ft. and exposed for 28-days
Rain:	Durations & rates: 1 hour – 4.72 in/hr. rainfall at 108 ft./sec, 12 hours – 1.10 in/hr. rainfall at 84.5 ft./sec, 24 hours – .71 in/hr. rainfall at 67.6 ft./sec
Air Pressure:	65 psia to 14.7 psia, Pressures applied and removed at rates greater than those specified

ENVELOPE & DIMENSIONS

