



# ROCKET MOTOR CASES

MISSILES AND ROCKETS

MISSILE COMPONENTS

## HIGH-PERFORMANCE LIGHTWEIGHT COMPOSITE MOTOR CASES

General Dynamics Ordnance and Tactical Systems has a long history and remains an industry leader in designing, analyzing, developing and producing customer-loaded solid propellant rocket motor cases. The solid rocket propulsion industry is one of the pioneer users of composite materials. Today, advances in carbon fiber technology and our use of high temperature resins offer even greater advantages in performance and cost effectiveness.

Since 1963, General Dynamics has delivered over 80,000 rocket motor cases to every solid propellant rocket motor contractor in the United States.

We work closely with our customers in the design, development and production of rocket motor cases, including the following components: rubber insulators, port fittings, integral attachment skirts and pressure chambers used for strategic, tactical and interceptor missile systems.

## APPLICATIONS

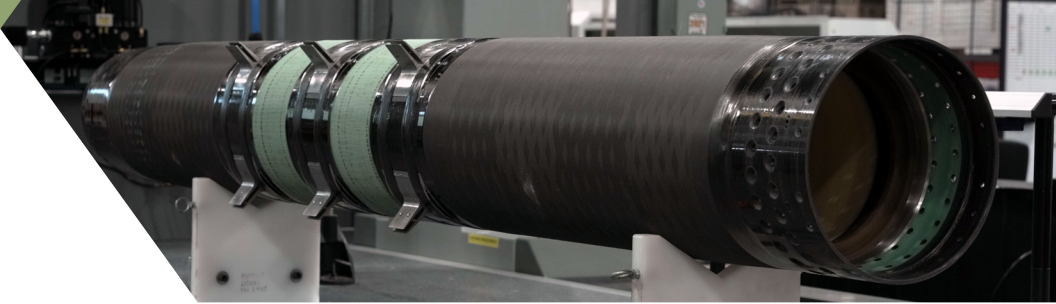
Missile Defense, Tactical, Orbital Insertion, Ballistic and Interceptor Missiles

**Produced at our facility in Lincoln, Nebraska**

### **Design, Analysis and Production Processes:**

- » Filament Winding
- » Fin Lug Bonding
- » Hydrostatic Proof Testing
- » Complete Tool Design
- » Precision-Machining
- » Manufacture to Performance Specifications

## ROCKET MOTOR CASES



MOTOR CASE HERITAGE	DIMENSIONS DIAMETER X LENGTH (in)	STRUCTURAL MATERIAL	APPLICATION
AMRAAM	7 x 50	Kevlar®	Tactical
Arrow 3 Booster	20.9 x 130	Carbon	Interceptor
Arrow 3 Kill Vehicle	15.1 x 14.7	Carbon	Interceptor
ARRW	25.5 x 140	Carbon	Hypersonic
Blue Origin	24 x 44	Carbon	Launch Abort
Corvette (Zeus) 1	32 x 126.1	Carbon	Target
Corvette (Zeus) 2	32 x 216.7	Carbon	Target
ERINT	10 x 100	Graphite	Tactical
GMLRS ER	10 x 79	Carbon	Tactical
GMLRS IM	8.9 x 83	Carbon	Tactical
HACM	19.8 x 90	Carbon	Hypersonic
7" Hellfire	7 x 22.3	Carbon	Tactical
JAGM/JCM	7 x 26	Graphite	Tactical
LC2	92 x 177	Carbon	Ballistic
LowER AD	9.3 x 82.3	Carbon	Interceptor
MAPS SRM1	21.3 x 35.8	Carbon	Space Exploration
MAPS SRM2	14.8 x 15.5	Carbon	Space Exploration
Minuteman III, Stage III	52 x 70	Glass	Ballistic
MPBD	28 x 126	Carbon	Hypersonic
MX, ADP, 2nd Stage, Full Scale	66 x 93	Kevlar®	Ballistic
MX, 2nd Stage, Half Scale	33 x 46	Kevlar®	Ballistic
OpFires FSRM	32 x 122.6	Carbon	Hypersonic
OpFires SSRM	32 x 71.6	Carbon	Hypersonic
PAC-3	10 x 100	Graphite	Interceptor
PAC-3 MSE	11.5 x 98	Carbon	Interceptor
Peacekeeper, Stage II	93 x 158	Kevlar®	Ballistic
Polaris A-3, 2nd Stage	54 x 76	Glass	Ballistic
PrSM	17 x 85	Carbon	Tactical
Scout/Delta, 4th Stage	19.6 x 40	Glass	Orbital Insertion
Sea Lance	16.5 x 88	Graphite	Ballistic
SICBM - Stage I	46 x 183	Graphite	Ballistic
SICBM - Stage III	46 x 41	Graphite	Ballistic
SM-3 Blk 2A	16 x 10	Carbon	Interceptor
SM-6 Blk 1B	21 x 92	Carbon	Interceptor
SMAW-CS	3 x 18	Graphite	Tactical
SPRINT, 1st Stage	47 x 88	Glass	Interceptor
SPRINT, 2nd Stage	29 x 58	Glass	Interceptor
Trident C-4, 1st Stage	74 x 179	Kevlar®	Ballistic
Trident C-4, 2nd Stage	74 x 84	Kevlar®	Ballistic
Trident C-4, 3rd Stage	30 x 100	Kevlar®	Ballistic
Trident II, D-5 Stage III	31 x 103	Graphite	Ballistic
TOW	2.1 x 16.9	Carbon	Tactical
VT-1	6.5 x 48	Graphite	Tactical

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