

## New PML Composite Materials, Airframes and Components!

Public Missiles Ltd. is proud to offer the advanced rocketry consumer a full line of super-high-strength Composite rocketry materials, airframes and components. PML is introducing a complete line of airframe, motor mount tubes, nosecones, fins, and centering rings made from the same high-tech aerospace materials and construction techniques you've read about in the science and aerospace magazines. Carbon fiber is amazingly strong yet extremely light. Now you can take advantage of the long burn motors that can propel your rockets to much higher altitudes than the fast burners!

You may have heard that carbon fiber is very strong but somewhat brittle. That is NOT the case with our airframes and components. The secret is in the type of resin used to bind the carbon filaments, the method of wrapping, and the temperature during cure. We are rocket guys. We know what a rocket goes through in storage, transport, flight, and recovery. We've experimented with many resin/fabric combinations to create the perfect balance of strength, rigidity, and impact resistance.

We are adding new items to our Composite lineup regularly, but the first items we'd like to introduce are our Ultra-Light, Premium, Level 3, and Experimental grades of carbon fiber airframes and nosecones. (See the Composites Page in our webstore for LOTS more information).

**ULTRA-LIGHT COMPONENTS:** Over 1/3 lighter than phenolic tubing and even cardboard yet 1/3 stronger than phenolic! This airframe is flexible (radially) and very forgiving. This is a great airframe material if you want to launch a large rocket with small motors. Suitable for most sub-sonic flights. Using our Ultra-Lite carbon components you can fly a 6" diameter rocket with an H motor!

**PREMIUM SERIES COMPONENTS:** About the same weight as our 6.0 phenolic yet nearly as strong as our Glass-Wrapped Phenolic Tubing. High strength combined with great impact resistance makes the airframe tubing an excellent choice for any sub-sonic rocket. Not yet tested in trans-sonic and super-sonic flight.

**LEVEL 3 SERIES COMPONENTS:** Much lighter than our "glass-wrapped" phenolic tubing yet just as rigid and much stronger! This tubing has just enough flex to absorb substantial impacts without damage. This is an excellent choice for trans-sonic and super-sonic flights. The days of the 100+ pound Level 3 rocket (and the expensive full M's to fly it) are OVER!

**EXPERIMENTAL SERIES COMPONENTS:** Just slightly heavier than our "glass-wrapped" phenolic tubing and 3 times as strong; virtually indestructible! You can fly it with the biggest motor that will fit and not worry about it! High temp resin and post curing available.

PML also offers carbon fiber and fiberglass cloth for the "do-it-yourselfers" and also for other strengthening jobs:

**CARBON FIBER CLOTH:** PML is also offering 10.9 oz. satin weave carbon fiber cloth. This aerospace-grade certified material was manufactured by Sigmalex for the construction of full-scale rockets. It conforms to the highest standards for performance-critical composite materials. This cloth is perfect for making or reinforcing airframes, nosecones, centering ring, fins, etc. with YOUR choice of resin. It has a fantastic black shiny luster and a satin weave geometric pattern that reflects light beautifully and gives a sense of depth. It is well suited for all structural components with an extremely high strength-to-weight ratio.

**FIBERGLASS CLOTH:** PML has offered `glass-wrapped phenolic tubes (FGPTs, on the Airframes Page) for many years. These are used for Level 3 and Mach+ flights. Many people have indicated that they would

rather wrap their own tubes using the same fiberglass fabrics we use. Now you can! PML is proud to introduce our customers to a variety of fiberglass fabrics for just about every purpose. With these fabrics you can wrap your own tubes, make nosecones, molds and many other structural items. The fabrics are compatible with most if not all hobby and industrial epoxies and adhesives.

See the Composites page in our webstore for more information and some detailed close-up images of the cloth, the carbon fiber components, and even a link to a "documentary" of sorts on our Ultra-Light Carbon Fiber 6" Ultimate Io that flew on a 29mm G motor!