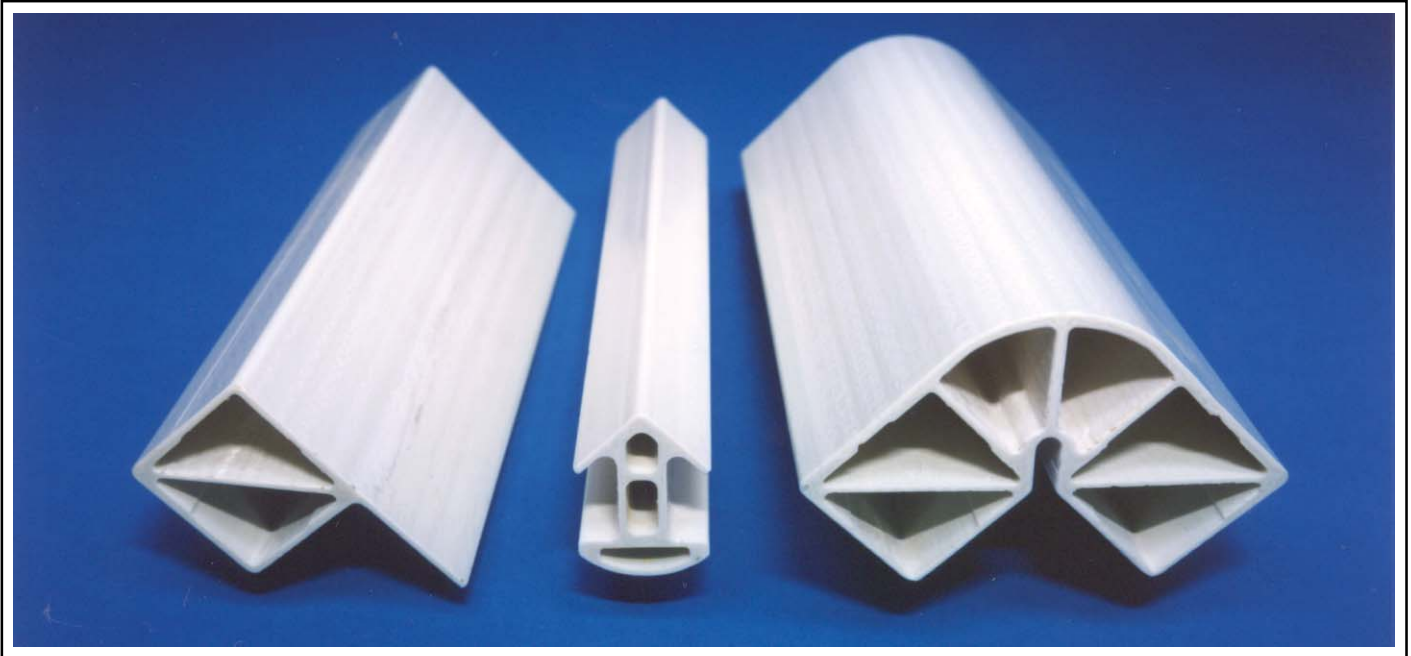


STRONGWELL

APPLICATION PROFILE



FRAMEWORK STIFFENERS SHOW INNOVATION IN DESIGN AND COMPOSITE ENGINEERING

Three highly complex pultruded profiles make up the framework for a composite communications shelter designed to be mounted on the U.S. Army's High Mobility Multi-Purpose Wheeled Vehicle (HMMWV). The three shapes form the fiberglass stiffeners allowing the Kevlar skin, honeycomb core walls and roof to be fabricated in one piece and cured in an autoclave. The specially designed custom shapes are composed of S-glass stitched fiber mat and rovings with a custom vinyl ester resin. The pultrusion expertise and experience at Strongwell were essential in meeting the close dimensional tolerances and quasi-isotropic mechanical properties required.

Designed by Dr. W. J. Schuman, of SI Division of Spectrum 39, for the U.S. Army NATICK Research Development and Engineering Center, the special composite may some day become a regular part of the Army's military equipment. The design uses state-of-the-art composite technology for RF transparency, strength, and unmatched durability. The pultruded profiles are designed to consolidate parts and cut down on joints for greater durability and longer life.

The communications shelter is a separate container that holds electronic and radio equipment. Mounted on the HMMWV, this becomes a mobile communications center for the army unit. The project's design and material testing phases are complete and it is currently awaiting funding of prototypes.

TECHNICAL DATA

Product:	Fiberglass Stiffeners
Process:	Pultrusion
Materials:	S-glass stitched fiber mat, rovings, custom vinyl ester resin
Sizes:	Elbow: 1.750" x 2.500" x .090" Arrow: 1.375" x 2.025" x various wall thicknesses Corner Joint: 1.75" x 3.25" x .090" square tube
For:	SI Division of Spectrum 39
User:	U. S. Army NATICK Research Development & Engineering Center



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