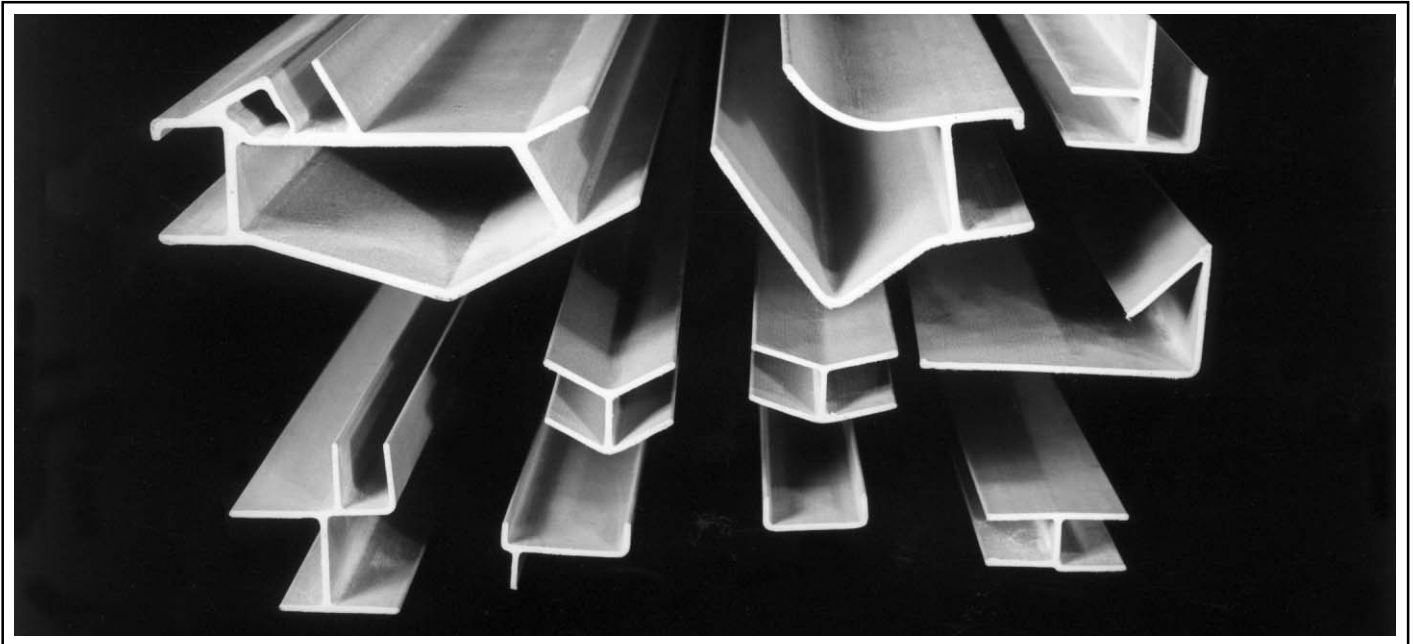


STRONGWELL

APPLICATION PROFILE



FIBERGLASS AIRCRAFT PULTRUSIONS MEET COMPLEX DESIGN CHALLENGES

The first production of fiberglass pultrusions for a commercial aircraft application was manufactured by Strongwell for Weber Aircraft of Burbank, California.

Unusually complex and angular in design, the 18 different shapes are panel joiners and door framing for modular lavatories installed aboard Boeing 737 commercial aircraft. Some of the challenges of the parts design were the extremely thin wall of some sections — .060" to .090", and varying wall thicknesses within a single part. Producing these thin wall sections and maintaining structural integrity was the major concern of Weber Aircraft.

Fiberglass joiners and framers are fitted to honeycomb fiberglass panels to form an all-fiberglass lavatory unit. To be cost effective the system was designed to be a modular preassembly that could be installed in one piece. Therefore, it was critical that the parts be produced accurately.

According to Weber Aircraft Manufacturing Engineering Specialist Bob Witt, "Strongwell was chosen to do this job for its ability to produce thin wall, complex angular shapes. This required properly detailed tool design and a proper material preformer operation in production."

The lavatory system is a homogeneous all-fiberglass unit. Fiberglass was selected because it is lightweight and resistant to the corrosive chemicals used in the toilet operation and lavatory cleaning.

TECHNICAL DATA

Product:	Fiberglass Aircraft Parts
Process:	Pultrusion
Materials:	Fiberglass reinforced vinyl ester, fire retardant
Sizes:	18 different shapes ranging in size from the smallest: 1.125" wide x .38" high x .06" thick channel to the largest: an irregular pentagon having four external flanges and a smaller irregular hollow pentagon with overall dimensions of 4-1/2" wide x 2-3/4" high x various thicknesses in the same shape of .125" to .070" (This part is in lower bottom right of photo.)
For:	Weber Aircraft
User:	Boeing



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