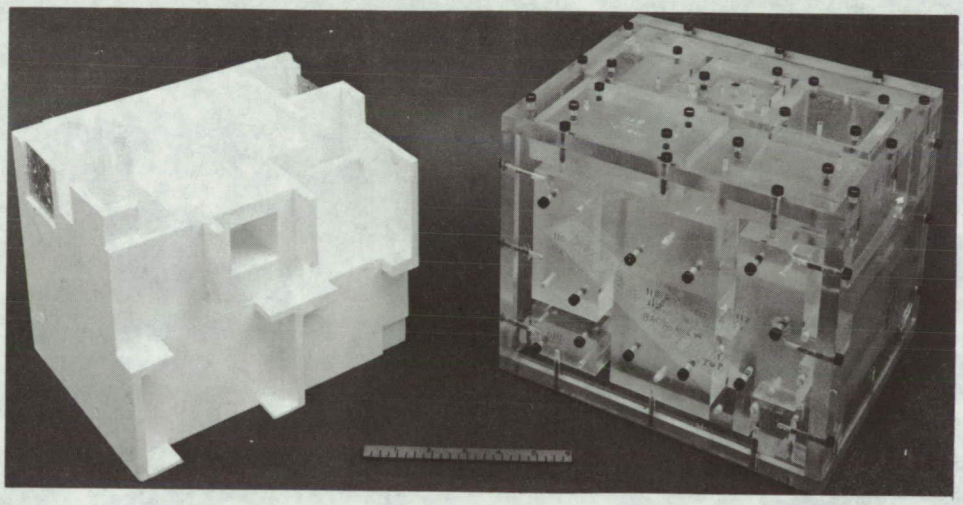
June 1970

Brief 70-10019

NASA TECH BRIEF

Use of Acrylic Sheet Molds for Elastomeric Products



Clear acrylic sheet may be used to construct molds for fluid elastomers that are cured or vulcanized at room temperature. This technique offers the advantage of easier machining, compared to metal, and the ability to see through the mold and thus ensure that all cavities and corners are filled during the injection process.

By fabricating the mold to the desired shape and size, using details that may be completely disassembled, it is possible to obtain any angle, arc, or radius needed. Acrylic sheets can be laminated for added depth, and the most complex mold can be made in approximately two weeks. Additional advantages of this technique are: (1) molded parts can be furnished without the draft tolerances required in the normal, unitized methods; (2) flashing on molded parts is eliminated; (3) no mold release agents are required; and (4) all mold surfaces are smooth and completely free of contamination. These conditions are highly desirable where additional details or closeout covers may be added by secondary bonding. The ultimate in variety and quality of molded elastomeric products, such as silicone rubber cushions, can be obtained quickly and economically.

Notes:

1. The illustration above shows an example of a silicone rubber part and the transparent acrylic sheet mold in which it was cast.
2. This Tech Brief is complete in itself. No additional information is available.

Patent status:

No patent action is contemplated by NASA.

Source: R. M. Heisman, A. E. Koerner, and S. M. Messineo of
North American Rockwell Corporation
under contract to
Manned Spacecraft Center
(MSC-15636)

Category 08