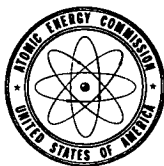


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# AEC-NASA TECH BRIEF



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## High Strength, Medium Density Molded Foam

Formulation and processing variables have been evaluated in the development of a high strength, dimensionally stable, medium density urethane foam. A new, rigid, toluene diisocyanate-based polyurethane was developed for production of molded-to-size foam products. Formulation techniques were optimized with regard to dimensional stability, strength and moldability.

Studies of mold releases and their effects on subsequent bonding operations showed that mechanical abrasion of the surface before bonding provided good adhesion, that use of a solvent on the surface did not improve adhesion, and that a semi-permanent mold release provided the best bonding where abrasion was not practical.

The cure temperature was directly related to the final dimensions of the part and must be coordinated with the mold design shrink factors. Catalysts did not have pronounced effects on either localized shrink areas or compressive strengths. Localized shrink areas, however, were eliminated by reducing the cure temperature to a maximum of 93°C.

### Note:

Requests for further information may be directed to:

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Office of Information Services  
U.S. Atomic Energy Commission  
Washington, D. C. 20545

Reference: TSP72-10235

### Patent status:

Inquiries concerning rights for commercial use of this invention may be made to:

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