

Abstract
Process Economics Program Report 10C
POLYURETHANES
(May 1991)

This report reviews pertinent patents and current technology for manufacturing foamed and non-foamed polyurethane products. For foams, the emphasis is on developments in reducing or eliminating the use of chlorofluorocarbon blowing agents. For non-foams, the focus is on the development and processing of reaction-injection molding formulations for automotive body panel production. Polyurethane elastomer technology in castable and thermoplastic/thermoset applications is also reviewed. A section on the chemistry involved in foam formulation and definition of foam and elastomer product types is included.

In addition, three preliminary process plant designs are presented for flexible, rigid, and reaction injection molded products. The flexible and reaction injection product manufacturing designs are original to this report. The rigid polyisocyanurate based laminated sheathing process design is based on an update of information presented in PEP Report 1B.

Finally, a section on industry status is presented that includes a forecast of major urethane product groups by world region. A summary and profile of technical options and developments in chlorofluorocarbon end use reduction is also included.

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