



Foam Facts

The Versatility of Flexible Polyurethane Foam

Flexible polyurethane foam is a chemically complex polymeric product having a broad range of load bearing capability and resiliency, offering comfort as cushioning material for furniture, bedding, carpet underlay, and automotive interiors. Flexible polyurethane foam also offers protective shock absorption performance for use in packaging and automotive applications.

Formation of a flexible polyurethane foam is a complex process involving many ingredients. Foam is made a little like mixing a cake. In the foaming process two chemical reactions take place at the same time. 1) polyol and isocyanate (a cross link reaction) 2. Isocyanate and water (a gas reaction). The cross linking reaction controls the strength of the foam, and the gas reaction controls the size of the foam.

Joyce Foam Products makes two types of flexible polyurethane foam, polyester and polyether foams.

Polyester, usually referred to as "Ester", is one of two main types of foam produced by Joyce. Its properties include excellent flame bonding, heat weldability, biodegradability and impact absorption. Its main use is for the automotive, acoustic, textile and clothing markets.

Polyether, usually referred to as "Ether", is one of two main types of foam produced by Joyce. It features a wide variety of density, hardness and resilience. Main uses include quilting, dining chairs, sports equipment, bedding, and cushions.

What's foam used for?

Flexible polyurethane foam's versatility of form and function can be seen in bedding, furniture, automotive interiors, carpet underlay and packaging. Foam can be created in almost any variety of shape and firmness. In addition, it's light, durable, supportive and comfortable.

Furniture

Flexible polyurethane foam cushions, upholstered furniture, office chairs, stadium seating and auditorium seating. As a cushioning material, flexible polyurethane foam has been proven to provide

- support and comfort
- offer durability
- provide resiliency
- absorb energy and
- provide handling strength

Transportation

Flexible polyurethane foam is used extensively in the transportation industry for seating, headrests, arm rests, interior panels and skins, truck beds, headliners and other interior systems. Recent developments in polyurethane technology for automotive design are contributing to increased weight reduction, passenger comfort, energy and sound absorption, resiliency, moisture and heat resistance, and compressive strength in vehicles.

Bedding

Flexible polyurethane foam is the primary material used today for adding support and comfort to padded bedding products. Over the past two years, the industry has produced thicker and larger bedding products. This is evidenced by the increasing popularity of pillow-top mattresses.

Flexible polyurethane foam is produced in slab or block form and cut to size. Polyurethane foam has become a major component in the bedding industry because of its durable comfort and support, resistance to smoldering ignition, ease of fabrication, adaptability to styling and cleanliness.

Packaging

Flexible polyurethane foam provides protection and cushioning to packaged products. Polyurethane foams are often used to package highly sensitive equipment such as electronics, printed circuit boards, jewellery and delicate foods. Flexible polyurethane foam's lightweight, water resistance, shock absorption and resiliency make it an attractive application for packaging.