



IS 7933:2022 Flexible Polyurethane Foam for Domestic Mattresses

Flexible polyurethane foam is a soft, cushion-like material commonly used in everyday products like furniture cushions, mattresses, and car seats because it provides comfort and support. This foam can easily bend, compress, and bounce back to its original shape, making it ideal for applications where softness and durability are important. It forms expanded cellular foams through the interaction of poly-hydroxy compounds, water, and isocyanates.

The Indian Standard, **IS 7933: 2022**, defines the quality requirements for flexible Polyurethane Foam for Domestic Mattresses, detailing specifications for constituents, dimensions, physical properties, testing methods, packing, and marking to meet industry standards.

Consumers and mattress manufacturers expect the following key quality features in flexible polyurethane foam for domestic mattresses:

- **Dimensions:** The foam must meet specific size tolerances to ensure a proper fit within the mattress structure, preventing discomfort from foam that is either undersized or oversized. Accurate dimensions are essential to avoid misalignment and ensure optimal comfort.
- **Comfort:** Defined levels of density and hardness must be achieved in the foam to ensure it provides adequate support and comfort, meeting consumer expectations for firmness or softness. The foam should comply with specified tolerance levels for density and indentation hardness index, ensuring that users experience the desired comfort level.
- **Durability:** The foam should demonstrate high resilience and maintain its structural integrity over extended use. It must be resistant to becoming brittle, sagging, or undergoing permanent deformation due to environmental conditions like temperature variations.
- **Odour and cleanliness:** The foam should be clean in appearance and free from odours, ensuring consumer safety, especially during prolonged use.

IS 7933:2022 comprehensively addresses these quality requirements, defining specifications for various physical properties, such as **dimensions, indentation hardness and index, durability, density, tensile strength, heat aging, and compression set**, along with sampling corresponding testing methods.

The standard also recommends proper storage conditions to prevent foam deterioration, extending product longevity. Marking requirements ensure quality compliance, enhancing transparency and building consumer trust.

In short, **IS 7933:2022** ensures flexible polyurethane foam for domestic mattresses meets standards for safety, comfort, and durability, supporting high-quality and reliable mattress use.