

**POLYURETHANE FOAM: A MODERN SOLUTION FOR  
PACKAGING AND TRANSPORTATION**

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In today's business and product distribution, packaging is essential. It ensures that products integrity and quality are maintained by protecting them against damage, contamination, and adverse environmental conditions. Polyurethane foam is one of the most cutting-edge packing materials for freight and merchandise.

An innovative way to offer better product protection in storage and transportation is through foam packing. This creative solution, which uses cutting-edge two-component polyurethane foam technology, expands upon mixing to cover all voids and smoothly fits the curves of any object. Even under harsh transportation conditions, foam packing, which is designed for superior shock absorption, protects sensitive items, such as electronics and precise instruments, from impacts, vibrations, and mechanical stress.

In order to preserve package safety, a specific protective film serves as a barrier, avoiding direct foam-to-product contact. Beyond conventional packing techniques, this flexible and durable solution offers unparalleled cushioning capabilities.

Because of its effectiveness, adaptability, and dependability, foam packaging is the best option for companies looking for advanced protection with little material use.

Compared to alternative protective materials, foam packaging offers the following benefits:

- the use of foam packaging boosts labor productivity due to the rapid expansion of the foam and the reduction in packaging time;
- foam packaging is suitable for items of any size, shape, and weight, providing a perfect fit and secure locking of heavy objects;

- the packaging perfectly matches the shapes and sizes of the products, leading to reduced costs for packaging materials;
- thanks to its outstanding cushioning properties, foam provides protection for goods during transportation and storage, effectively absorbing shocks and vibrations;
- due to the foam's ability to expand nearly 300 times its original volume, storage and logistics costs for packaging materials are significantly reduced;
- the materials used in the production of foam comply with international hygiene standards, and the manufacturing process is safe and environmentally friendly.

Polyurethane foam protective packing is frequently used for the secure shipping of breakable items, such as glassware, electronics, home appliances, and medical equipment.

Products are consistently shielded from shocks and damage during storage and transportation because to the cushioning qualities of polyurethane and its resilience to external impacts. The way polyurethane foam packaging operates is as follows:

- polyurethane foam is fed into a box with a high-strength film laid on it;
- the foam is covered with the edges of the film from above, and the product is placed on the growing foam;
- the second sheet of film is placed on top of the product, and then foam is applied again;
- the product is ready for further labeling.

Using its special material qualities, polyurethane foam packing provides outstanding protection for products both in storage and during transportation.

By substantially lowering packing costs and adhering to international safety and environmental standards and requirements, this creative approach increases operational efficiency. Polyurethane foam packaging is the best protective option for companies that value process dependability and product purity [1].

## **References**

1. Силд Эйр: Продукты: Защитная упаковка: Пенная упаковка – Системы защитной упаковки в пену. – URL: <https://xn--d1aheglab1g.xn--p1ai/products/instapak> (дата доступа: 17.03.2025).