



PLASTICS TAKE CARE OF CEMENT

How polymer cement packaging beats traditional paper bags.

Keeping packaged cement during transportation is a never-ending challenge for construction and logistics businesses. Cement hardly withstands ambient environments and needs to be protected from moisture, carbon dioxide, and poor ventilation. The higher the cement grade is, the more vulnerable it is vs external factors and likely to degrade in quality. Cement ageing may sometimes reach as much as 15% per month. Thus, if handled improperly, some cements may degenerate to a lower grade just in a month's time.

POLYPROPYLENE IS RESISTANT TO ABRASION WHILE BEING CONTINUOUSLY BENDED. SUCH BAGS WITHSTAND HIGH MECHANICAL STRESS AND IMPACT.

In 2008, Diamur decided to experiment with polypropylene bags for cement transportation. According to Van den Braembussche, Diamur's president, the idea of polymer cement packaging struck him when he noticed that many builders and carriers used to stretch wrap cement with a film for additional protection.

The experiment was so successful that the company greatly expanded its footprint becoming a top 100 global supplier of construction materials.



Diamur was the first company to offer polypropylene bags for cement transportation.

Advantages of polypropylene packaging

PLASTICS WEIGH 4 TO 5 TIMES LESS THAN ALTERNATIVE MATERIALS. THIS RESULTS IN MUCH LOWER TRANSPORTATION COSTS.

With many years in service, polypropylene bags prove to do more than just keep cement carefully. Carriers and builders have other reasons to prefer this packaging, too.

Durability. Polypropylene is resistant to abrasion while being continuously bended. Such bags withstand high mechanical stress and impact. While being moved, thrown or dropped there and back again, a polypropylene bag can last much longer than other packaging types. It is reliable enough to eliminate costs related to bag tears and product loss or damage.

Light weight. Plastics weigh 4 to 5 times less than alternative materials. This results in much lower transportation costs.

Purity. According to a study by European Paper Sack Research Group, polypropylene bags offer a real advantage in terms of preventing cement dust from entering the environment. Polypropylene is not only a health saver but also makes on-site cleaning less frequent and helps keep other materials tidy.

Environmental safety. In terms of production, plastic bags require 40% less energy than paper ones. They are less toxic and easily recyclable. Recycled polypropylene is used to manufacture new products. This means less waste and lower use of primary natural resources.

Versatility. Polypropylene bags are so strong that they remain usable for quite some time. Many households use them for indoor cleaning, thus saving on garbage bags.



Responding to EUROCEMENT Group's needs, SIBUR developed polypropylene bags for cement storage and transportation.

THE NEW TECHNOLOGY DEVELOPED BY RPC BPI INDUPAC KEEPS A BAG WATERPROOF WHILE ENABLING CEMENT TO BREATHE.

Polypropylene bags have been in service for ten-odd years, proving to be highly useful for cement storage time and time again. The German Heidelberg Cement, one of major global cement suppliers, installed a new packing line for polypropylene bags. Three years ago, Anhui Conch Cement, one of the Chinese market leaders, acquired Baoji Conch Plastic Packaging wanting to foray into this business.

Now, research continues on polypropylene packaging in order to improve its quality and functionality. A few years ago, RPC bpi indupac, a European film manufacturer, introduced a new technology which created a protective waterproof barrier while enabling cement to breathe. This minimises the product's contact with carbon dioxide and helps extend its shelf life.

Eyes on polymer packaging

Most Russian businesses still continue to transport cement in paper bags. However, the domestic construction market is gradually shifting towards plastic packaging.

Today, the key suppliers of the polypropylene (PP) bag technology in Russia are Austria-based Windmoeller & Hoelscher and Starlinger. Their solutions are used to make flat-bottom box bags. When filled, such bags will take the shape of a brick to improve pallet density. Box-type valve bags are designed for cutting-edge industrial packaging. Their high strength, water and chemical resistance make them suitable for a wide range of bulk products and the most-advanced and high-performance packaging lines. Their production technology is highly automated, which reduces manufacturing costs and improves product quality.

The Austrian solutions enable manufacturers to produce PP bags that hold up to 50 kg of weight as required in Russia.

In July 2019, EUROCEMENT Group, an international company with a global outreach, announced the addition of cement packed in PP valve bags to its product mix. Notably, it was the company's partnership with SIBUR that resulted in a packaging solution compliant with

global quality standards.

“EUROCEMENT Group added cement packed in polypropylene bags to its product mix. Thus, our customers can now choose the packaging format that suits them best in terms of transportation, storage and disposal. Our cooperation with SIBUR enables us to offer polypropylene packaging compliant with global quality standards,” said Ilya Kosykh, Vice President for Sales at EUROCEMENT Group.

ALTHOUGH RUSSIA STILL PREFERS PAPER BAGS, THE DOMESTIC CONSTRUCTION MARKET IS GRADUALLY SHIFTING TOWARDS PLASTIC PACKAGING.

SIBUR is a partner in the development of valve bags production in Russia. Thanks to our special polypropylene grades, the newest raffia lines can be utilised to their fullest potential, while getting a 10–20% boost in productivity as compared to standard raffia grades. In addition to productivity growth, the use of the SIBEX PP H063FF polypropylene grade on the newest lines ensures the production of lighter and stronger threads, bringing the bag weight down by 8–15% without compromising its strength. This improves packaging performance and contributes to much lower production costs due to savings on feedstock.

“SIBUR’s key priority is to promote the use of polymers with the aim of both manufacturing existing products and designing novel solutions to drive technological advancement in construction, utilities, healthcare, and other industries,” added Sergey Komyshan, SIBUR’s Executive Director. “Our partnership with EUROCEMENT Group will result in a cutting-edge packaging solution of global renown for the domestic construction market.”

The use of environmentally friendly solutions contributes to a healthier environment while also making construction materials more comfortable and robust. Therefore, polymer cement packaging will be gaining increasing traction in the construction materials market. Today, the demand for polypropylene valve bags far outpaces the supply, which opens up opportunities for new investments. SIBUR is ready to support both existing and new partners in the development of polymer processing.