

For Immediate Release

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Austrian Invention Becomes National Standard for Cement Packaging in China

Block bottom valve bags made of polypropylene tape fabric are one of the packaging options prescribed by law for cement producers in China.

As China is modernizing its cement production, the government has also set up a national standard defining types and specifications of bags used for packaging cement. One of the three bag types permitted in the Chinese Standard GB/T 9774-2020 "Sacks for Packing Cement", which was officially released in October 2020, are block bottom valve bags made of woven polypropylene tape fabric. This type of bag was invented in 1995 by the Austrian engineering company Starlinger & Co. GmbH and patented under the brand name AD*STAR.

Environment-friendly cement bags

With the AD*STAR bag, Starlinger, specialised in machinery for woven plastic packaging, created a sustainable and efficient packaging solution for cement and all kinds of dry bulk goods.

The idea behind it was to combine the advantages of a paper bag – its brick shape and suitability for automatic handling – with the tightness and flexibility of a PE film bag, and the strength and resistance of a woven PP bag. The result: A laminated one-layer block bottom valve bag made of stretched and woven polypropylene tapes.

The main assets of AD*STAR bags are their extremely low breakage rate and excellent protection against moisture. Especially in countries like China, transport and storage of cement in bags is widespread and involves a lot of transshipping and long-term storage. Loss of cement due to bag rupture or hardening in humid conditions is a big issue. Packaging cement in AD*STAR bags offers substantial savings potential in this respect: low breakage rates and good moisture protection mean that significantly less cement is lost in the logistic chain. Consequently, not only environmental pollution is reduced, but also less cement needs to be produced to replace these losses, which in turn saves CO₂ emissions. An independent Life Cycle Analysis carried out in 2015¹ showed that due to these characteristics AD*STAR cement bags have lower global warming potential than multi-layer paper cement bags and are currently the most environmentally friendly packaging for cement.

AD*STAR bags are produced on Starlinger ad*starKON block bottom conversion lines and are available in a wide range of sizes. The company's focus on research and development ensures that AD*STAR bags and AD*STAR production technology are continuously improved and adapted to the needs of the market. Technological advancements and new product features such as easy-open closure or handles for carrying make the bags even more versatile and usable in different applications.

Currently, around 15.7 billion AD*STAR sacks are produced each year on more than 550 Starlinger conversion lines installed on five continents.

¹ Daxner T., Kosińska I., Merl A. Carbon Footprint and LCA of AD*STAR Technology. PE INTERNATIONAL (now THINKSTEP AG), 2015.



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High standards for safe and efficient packaging

The new Chinese Standard for cement packaging applies to cement bags holding up to 50 kg and lists the above mentioned laminated woven plastic bags (made of one layer of laminated plastic fabric or with additional paper liner), paper bags (3-layer, 3-layer with PE liner, 4-layer bags), as well as paper-plastic composite bags (paper bags with plastic liner) as possible packaging options. All three types of bags must be designed as block bottom valve bags.

The standard specifies the dimensions as well as physical and mechanical requirements of the cement bags. Regarding break resistance, for example, a cement bag has to survive a drop from 1 meter height a minimum of six times before it breaks. Furthermore, printing and marking, general bag appearance, testing methods, and rules for quality inspection during bag manufacture are established in the standard. It also stipulates that each bag must be provided with a certificate before selling.

By recommending woven polypropylene block bottom bags in the new National Standard, the Chinese government has adopted a future-oriented approach that aims for more sustainability in the cement industry. It curbs unnecessary loss of cement during production, transport and storage, reduces environmental impacts, improves working conditions for operators on the cement filling lines, and generally makes the handling of cement in 50kg or smaller units more efficient.

It also means that the formerly widely used sewn woven plastic bags which were irregular in shape, often leaking, and problematic for automatic filling and handling, will no longer be permitted as cement packaging in China.

Cement companies are given a transition period until March 31st, 2022 to adapt to the new standard. Due to this time limit, Starlinger's AD*STAR conversion lines are currently high in demand in China. The company expects to deliver and install machines for an additional production capacity of more than 2 billion AD*STAR bags on the Chinese market in 2021 and 2022.

*Note: AD*STAR® is a registered trademark. AD*STAR® sacks are produced exclusively on Starlinger machinery.*

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Image:

Starlinger AD_STAR cement bags_300dpi



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About Starlinger & Co. Ges.m.b.H.:

Starlinger is a Vienna-based engineering company with production sites in Weissenbach and St. Martin, Austria, as well as Schwerin, Germany, and Taicang, China. As the world's leading supplier of machinery and complete lines for woven plastic bag production, recycling and PET extrusion and refinement, Starlinger & Co. Ges.m.b.H. is a synonym for leadership in quality and technology in over 130 countries. Founded in 1835, the family-owned business has been exporting machines worldwide for more than 50 years with an export quota of over 99.5 %.

Sales and service centres in Brazil, China, India, Indonesia, Mexico, Thailand, Russia, South Africa, USA and Uzbekistan ensure quick and professional technical support and service.

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