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# Shelf Life

## FACTSHEET



## GLOBAL LEADER IN ADHESIVE TECHNOLOGIES

Bostik is one of the largest adhesive and sealant companies. Worldwide, we employ some 6,000 people in 50 countries across five continents. Our customers come from diverse markets, most notably the industrial manufacturing, construction and consumer sectors.

## SMART INNOVATIONS

Our smart identity is underpinned by innovation. We pursue innovation vigorously, applying the latest technological advances to developing 'smart' adhesives. Our archives are laden with examples of Bostik technologies that have disrupted markets - from potato starch-based wallpaper paste to elastic attachment adhesive for diapers.

Today, our commitment to innovation is as strong as ever. We innovate with our customers through a global R&D network, comprising three international Smart Technology Centres and 8 regional centres. And we differentiate our business through this investment.



## Shelf life

### SHELF LIFE OR EXPIRATION DATE

But what is the difference between a shelf life and the expiration date? The shelf life is the period of time, from the date of production, that a product is expected to remain within its approved product specification while stored under defined conditions. The expiration date, or expiry date, is a previously determined date after a product should no longer be used, either by operation of law or by exceeding the anticipated shelf life for perishable goods. Expiration dates are applied to products where the age of the product may impact its safe use during its application or expected lifespan. Also on sealants, adhesives and other products from Bostik, you can find printed at the primary as well as the secondary packaging the shelf life and expiration date.

Bostik is displaying at all technical datasheets the statement, 'all information in this document and in all our other publications (including electronic ones) is based on our current knowledge and experience and is the exclusive (intellectual) property of Bostik'. At Bostik we are very serious about the quality of manufacturing of our products but even more about your health and safety. In our state of the art laboratories and research & development centres across the globe as well in the test facility of Bostik sealing & bonding's Centre of Excellence, we are working on a daily base collecting and sharing data and information. Also to new raw materials, different types of packaging and gathering insights into storage conditions to possibly extend and guarantee the shelf life of our products.

### EACH TECHNOLOGY WITH ITS DEDICATED DESIGNED PACKAGING

Within the sealing & bonding division of Bostik, we are dealing with multiple technologies. We have products that will cure after application by polymerization, by the evaporation of water and the evaporation of solvents. Therefore our technologies are packed in dedicated primary packaging specially designed for the content inside. Either blocking the infiltration of humidity and are to start the reactive material to cure inside the packaging or blocking the exfiltration of the water and/or solvents from the content inside to the environment. Our laboratories extensively examine the behaviour of the products on a daily basis in



terms of many technical specifications and aspects, including shelf life. This is why Bostik is able to communicate a clear shelf life in the technical datasheets. Please note, this concerns the shelf life in the original dedicated designed primary packaging and of course taking into account the recommended storage conditions, as described in the same document.

### **STORAGE CONDITIONS**

The storage conditions for our products are always as follow: 'In unopened original packaging between +5°C and +25°C and store in a dry place'.

### **THE EFFECT OF TEMPERATURE ON SHELF LIFE**

When products are stored at higher temperatures it will shorten their shelf life. Above this recommended temperature problems might occur. Products packed in a pressurized packaging can build up to much pressure, such as PU foams, sealants and adhesives packed in pressure packs and our technical aerosols, and can lead to devastating consequences. But also the behaviour of neutral silicones can be affected, as the chemical reaction can change.

But also temperatures below freeze point can have a negative effect. The fast majority of our dispersion based products is equipped with anti-freeze agents. But tested and guaranteed till maximum -15°C (258K), with maximum 1 cycle all accordingly the ISO 1147, 'Polymer dispersions and synthetic rubber latices — Freeze-thaw cycle stability test'. So more than 1 cycle of cycles of freeze and thaw may influence the curing of the product once applied. But also acetic silicones can have the effect that the cross-linker will crystalize. By warming the sealant above the freezing point may reverse the crystallization often.

### **THE EFFECT OF USING DIFFERENT PRIMARY PACKAGING**

There is also the effect of supplying our sealants and adhesives in different type of primary packaging than the dedicated designed cartridges. These products can also be sold in 400 and 600 ml aluminium sausages and so called pressure packs. The foils we use to pack our products are multiple layered foils. Therefore sealants and adhesives packed in aluminium foils have the same shelf life as if they were packed in cartridges. Shelf life of cartridges and sausages is normally between 9 and 24 months.

However we can also supply sealants and adhesives in so called pressure packs. A pressure pack is an aluminium can filled with a sealant or adhesive in one chamber. A second chamber contacts compressed gas. By activating the spray nozzle, the sealant or adhesive will be 'pushed' so the material can be applied without the use of a caulking gun. To keep the product as well as the gas inside the pressure pack, on top of the aluminium can a valve is mounted. This valve of pressure packs could cause a slight leakage, causing infiltration of humidity and air or exfiltration of water and/or solvents, causing a partial curing of the content inside a pressure packs. For products packed and sold in pressure packs, Bostik claims a maximum shelf life of 12 months.

### **RESUME**

The shelf life communicated in at the technical datasheets of Bostik's sealing & bonding products refer always to the dedicated primary packaging, the cartridges. Polyurethane sealants are filled in aluminium cartridges as silicones, hybrids and acrylics also have their own dedicated type or cartridge.

Critical for an optimum application and durable functionality of the product, is to follow always the guidelines of storage as prescribed in the technical data sheets and to keep you to the expiration date printed on the packaging.

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