

# Polymers in the construction industry

*Polymers are considered to be real all-rounders: they are used in almost every aspect of daily life, usually entirely unnoticed. Polymeric materials are used to great effect: their technical characteristics can be precisely adapted to the desired requirements. Polymers can be used to reinforce, to insulate, to thicken, to liquefy... and much more. The potential uses for polymers appear to be endless – and this is also the case within the construction industry.*

Polymers are chemical compounds which consist of chain molecules or branched molecules. In turn, these consist of identical or similar units, referred to as monomers. A distinction between natural and synthetic polymers is made: Natural polymers, which are also referred to as biopolymers, are produced by living creatures. They form the base structure of all organisms. Synthetic polymers are industrially manufactured. They form the main component of plastics.

Our modern world would be inconceivable without synthetic polymers. It's not only in high-tech industries such as aerospace engineering or medical technology that we encounter polymers, it's everywhere we go. Polymers that have different characteristics and active substances and therefore also meet specific requirements are intensely being developed.

## **Polymers in action: construction products**

Chemistry is omnipresent. It plays a central role at tremco illbruck, too: when developing and manufacturing construction products, we use the functionality of polymers to ensure that our products become even more reliable.

Plastics are in high demand in the construction industry: this industry utilises approx. ¼ of all plastics. Polymers are used in many different areas within buildings. Sealants, insulating materials and adhesives based on polymers are particularly prominent (e.g. insulating fleece, joint sealants, PU foams and adhesives), whose characteristics are enhanced by the addition of plastics.

Polymers and polymer dispersions therefore represent important additives for numerous construction materials. They can provide surfaces with protection and serve to optimise durability, adhesion and sealing capabilities. With the use of polymer additives and composite materials, it is possible to improve materials as well as providing preventative protection against structural damage.

## **Just like a cake batter, the right mixture is crucial**

tremco illbruck collaborates with long-standing partners for sourcing polymers. Our renowned suppliers specialise in developing and manufacturing high-quality polymers.

The polymers we obtain are processed in our competence centres. As part of this process, synthetic polymers are combined with the other product components. In somewhat simplified terms, the procedure resembles making a cake batter. Here too all ingredients are combined in a large bowl to make a homogeneous batter.

Polymers can link with one another to form three-dimensional networks and can therefore develop product characteristics or features according to the desired specifications. Depending on the products' spectrum of applications, polymers with differing physical and chemical features are used. tremco illbruck is then able to fulfil requirements in a targeted manner and manufacture customised sealants and adhesives, in a similar way that a cake batter would be adapted to suit a cake tin, an oven and specific desires for flavourings.

And just like making a cake, the recipe is also crucial when using polymers: the composition of the polymer additives has an influence on the quality of the product which is later manufactured. tremco illbruck are experts in finding the correct mix and the right balance when using polymers. Just like a master baker who is preparing the perfect cake batter.