WINDOW SEALS

When it comes to windows, window seals quickly fall into the background - no wonder, since most of them are not even visible. Inconspicuous window seals play an important role in ensuring that a window is fully functional. As the name suggests, they are used to seal individual window elements airtight. The gaps between the window frame and the sash (when closed) as well as between the profile and the outer and inner glass are closed with various seals.

TOPICS OVERVIEW

What functions do window seals fulfill?

You can only take advantage of the advantages of modern windows, especially windows with high insulation values, if the appropriate window seals are intact. Because they fulfill several functions: The first and most important is to increase energy efficiency: the window is closed in such a way that no cold outside air comes in and, on the contrary, no warm air escapes from the living spaces. So without seals you are literally heating up the window. The seals also protect against environmental influences: They prevent pollen, fine dust and moisture from getting inside. By avoiding unwanted air currents and improving noise protection, living comfort is increased. In addition, seals are necessary to ensure that your windows can withstand repeated opening and closing and to prevent material wear at the contact points of the frame and sash. It therefore makes sense to check your seals regularly. It's helpful to get an overview of common seal types, typical materials, and proper maintenance. In the following article you will find all the important information.

WINDOW SEAL TYPES

There are various ways to attach so-called groove seals, which seal around a window (sash) between the fixed part (frame) and the movable part without leaving a gap. Groove seals and center seals are now common in plastic windows. As a combination of groove and center seal, the triple seal is also enjoying increasing popularity. No less important: The glass seals between the outer and inner panes of the glazing should be considered separately, as they ensure a permanent seal and can only be replaced by removing the glazing bead or glass.

WINDOW SEAL TYPES

Groove seal windows have two sealing levels located on the outside and inside of the window. These form the inner and outer cover between the outer frame and the movable window sash, which is installed directly into the wall. From the outside, the gasket called the window frame stopper is attached to the window frame, and from the inside, the gasket called the window frame stopper is attached to the window sill. While this separates the room air from the window gutter, the gutter seal in the frame is exposed to direct weather influences and must not allow rain and wind to penetrate the window gutter in the first place. Seals are glued on all sides.

CENTRAL SEAL

Center seal windows have at least two levels of sealing. In all cases, the center seal is supported by an internal groove seal. By placing the outer seal in the central window groove area, stress on the sealing material due to strong weather influences can be prevented from the outset. Therefore, this system was established at a time when seals had not yet reached today's quality level. The center seal divides the window groove, i.e. the area between the sash and the window frame, into two panes. Further inside, the chamber remains dry, warm and protects the living space from environmental influences. A center seal also ensures sufficient corrosion protection for the window fittings, as these are also installed in the inner wall. In windows without an integrated center seal, cold, drafts and moisture reach the inner seal level much more easily. It is important that the water entering the outer chamber can be drained back out through the drain openings provided. Another practical feature: increased wind increases the effectiveness of the center seal, as it is pressed against the stop surface by the wind and thus seals better.

GLASS SEAL

Glass seals are located on the edges of the glass panes and ensure a seamless seal between the glass and the window profile. This prevents moisture and dirt from entering the glass groove and thus extends the life of the window. Two types can be distinguished. The slat seal is located between the inner glass plate and the glass strip of the window sash, the glass system seal lies on the outer glass plate and ensures sealing against weather influences.

TRIPLE SEAL

Triple-sealed window systems have an integrated sash and frame groove seal as well as a center seal. As a combination of groove and center seal, the biggest advantage of the triple seal is improved sound insulation.

Which materials are used?

If you have installed older windows where the seals show no obvious signs of wear and appear tight, replacing the seal may still make sense. The effectiveness of the sealing materials used has improved greatly over time. Three materials are particularly common today:
1. Thermoplastic elastomers (TPE) are the cheapest material still in use today. Plastic seals are easy to process and have good UV, ozone and weather resistance. You can find them in every hardware store in different degrees of hardness, in different shapes and mixed with other additives. As a layperson, it can quickly become overwhelming to make the right choice.
2. Seals made of silicone rubber are of higher quality and generally more resistant to external influences than TPE seals. Accordingly, they are also significantly more expensive. Due to the extreme aging resistance of the material, the high elasticity remains for decades. Even with low closing pressure, windows ensure good insulation, which has a positive effect on their service life.
3. Seals made of EPDM (ethylene propylene diene monomer rubber) are used in many industries and combine the advantages of TPE and silicone. The modern material impresses with its high flexibility and aging resistance. When you choose EPDM seals, you get the best value for money.

MAINTENANCE OF WINDOW SEALS

First of all, it is important to avoid moisture. If rain or condensation forms on the seals on the sash or box, especially during the heating season, dry the seals with a clean cloth. Clean dirty seals with a sponge and clear water. You can also add some dish soap to the water. We advise against using aggressive cleaning agents and the seal should not come into contact with fats and oils.
Silicone spray and talcum powder are suitable for care. Thanks to the silicone spray, the flexibility of the seals remains unrestricted even in cold winter weather. Applying some talcum powder in the summer will help absorb moisture.

When should window seals be replaced?

It cannot be prevented that the seals lose their function over time. You should therefore regularly check the condition of old windows in particular. External influences can cause the window seal to become porous, shrink or lose its elasticity and otherwise deform. This reduces the chemical and mechanical sealing properties. You can check the condition of your seals and prevent leaks with the following tips and tricks:

PAPER TEST

If a piece of paper stuck between the sash and the frame can be easily pulled out when the window is closed, the seals can no longer generate sufficient contact pressure. Without sufficient contact pressure, drafts can easily enter the room.

CANDLE TEST

Wenn eine brennende Kerze, die Sie auf die Fensterbank stellen, flackert, dringt Zugluft ein und die Imprägnierung erfüllt ihren Zweck nicht mehr.

VISUAL INSPECTION

If a piece of paper stuck between the sash and the frame can be easily pulled out when the window is closed, the seals can no longer generate sufficient contact pressure. Without sufficient contact pressure, drafts can easily enter the room.