

Innovative Technology: Pattex FUSIONXLT

Silicone sealant of the future

From roofs to cellars, silicone sealants are used in numerous applications by construction contractors and craftsmen everywhere. There are different silicones for different uses. However, not all of them are entirely harmless to health – take, for example, the oxime silicones based on methyl ethyl ketoxime (MEKO), which are considered to be carcinogenic. But now, with Pattex FUSIONXLT, Henkel has launched an innovative, oxime-free technology offering impressive user safety and excellent suitability – an all-in-one solution that covers virtually every application, whether interior or exterior.

The silicone sealant product group can be divided into three systems: Acetate silicones are characterized by their acidic crosslinking process, which means they release acetic acid upon curing and therefore give off a vinegary smell. Their strengths lie primarily in sanitary and kitchen applications. However, they are unsuitable for some substrates due to their tendency to react with certain materials such as metal or concrete. Another sort, alkoxy systems, undergo neutral crosslinking and are extensively odorless; they are suitable for many substrates but cure relatively slowly, which can lead to sealant contamination.

Neutrally crosslinking oxime silicones based on methyl ethyl ketoxime (MEKO), although offering good adhesion and fast curing, release MEKO, the common name for 2-butanone oxime. This substance is suspected of being carcinogenic. Since 2013, the occupational exposure limit (OEL) applicable in Germany has been 1 mg/m³. However, Germany's BG Bau (employers' liability insurance association for the construction industry) has determined in tests performed under realistic application conditions and involving several MEKO-releasing products, that during actual application this figure is invariably exceeded by three to five times, even under good ventilation conditions.

For this reason, BG Bau has determined that the "STOP" principle needs to be

applied in hazard assessment, i.e. it recommends to first check whether MEKO-releasing products are at all necessary in the first place. If possible, they should be replaced by alternative sealant systems. Only if this is not possible for technical reasons may – according to BG Bau – the use of MEKO-releasing products be considered. In such cases, the wearing of protective gloves and a protective respiratory mask is additionally required. The latter must also be worn post application until concentrations safely fall below the EOL of 1 mg/m³. Depending on the ventilation and the type of room involved, this can take several days.

Because of this situation, Germany's Industrial Association for Sealants (IVD) has decided to substitute out MEKO-releasing products within the next two years. In addition, BG Bau recommends that the preventative measures described also be applied in the case of all other oxime silicones, as here too the suspicion of carcinogenic effects cannot be precluded.

Following extensive research, Henkel is already able to provide an innovative solution that can completely replace oximes while uniting all the advantages of a neutrally crosslinking sealant, thus offering an ideal all-in-one solution for a very wide range of applications: Pattex FUSIONXLT Premium Neutral Silicone. Thanks to the combination of a unique crosslinking agent with powerful adhesion promoters, this new silicone generation is able to ensure outstanding adhesion on virtually all substrates, whether concrete, glass, metal, wood or tiles.

Compliant with EN 15651, Pattex FUSIONXLT Premium Neutral Silicone is suitable not just for façade elements but also for glazing systems and sanitary applications. The flexible material exhibits very good compatibility on most standard commercial coating systems. It has an exceptional shelf life of 18 months and is certified for use in both clean rooms and HVAC systems. A true all-rounder, it is easy to use and can be ideally smoothed; fast curing and minimal shrinkage complete its application profile.

Compared to oxime silicones, Pattex FUSIONXLT does not give rise to critical emissions – making it ideal for interior applications without restriction, as also confirmed by the GEV-EMICODE[®] seal EC1^{Plus}, which is awarded exclusively to especially low-emission products. The formulation is also highly suitable for external applications due to its UV stability and high weather resistance. In sanitary applications, Pattex FUSIONXLT produces a reliable seal thanks to a formulation which is resistant to mold, hot water and cleaning agents.

With its numerous advantages, the innovative technology can be relied upon to produce precisely the required results in virtually every conceivable application. The combination of almost unlimited suitability and high occupational safety makes Pattex FUSIONXLT Premium Neutral Silicone the silicone sealant of the future.

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Henkel is active worldwide with leading brands and technologies in three business units: Laundry & Home Care, Beauty Care and Adhesive Technologies. Founded in 1876, Henkel holds globally leading market positions in both the consumer and industrial businesses with well-known brands such as Persil, Schwarzkopf and Loctite. Henkel employs about 50,000 people and reported sales of 18.1 billion euros and adjusted operating profit of 2.9 billion euros in fiscal 2015. Henkel's preferred shares are listed in the German stock index DAX.

Photo material is available at <http://www.henkel.com/press>.

Contact	Holger Elfes	Roy Sämerow
Phone	+49 211 797-99 33	+49 221 29 23 57 10
E-mail	holger.elfes@henkel.com	r.sämerow@allefreiheit.de

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Pattex FUSIONXLT, the innovative oxime-free technology from Henkel, offers high user safety combined with optimum adhesion on virtually all substrates.



Pattex FUSIONXLT Premium Neutral Silicone is suitable for both interior and exterior applications and a wide range of uses in the sealing of façades, sanitary facilities or glazing.