BUILDING TRUST

NEW RELEASE

SikaForce®-400 L05 FOR HEADLIGHT BONDING

EXECUTIVE SUMMARY

Over the past few decades, automotive headlamps have become increasingly complex, both in design and the technologies needed to bond and seal them. Sika has been a key player in providing adhesives for headlight assembly since the mid-1990s, when the transition from inorganic glass to polycarbonate (PC) lenses began. As headlamps have evolved in size and design complexity, they have also become an integral part of vehicle aesthetics.

Sika currently offers several proven technologies for headlight bonding, that provide excellent adhesion to the PC lens, its coatings, and the PP and PBT housings used in today's advanced designs. From a process perspective, our adhesives allow the required post bond leakage test to be done in a very short time. Their high strength and elastic properties make them an excellent choice for bonding PC and PP.

With the introduction of SikaForce®-400 we will complete our product portfolio dedicated to headlamp bonding with a 2-component polyurethane adhesive. SikaForce® adhesives have been in use for many years and have proven themselves in numerous projects and applications. Flexible bonds with high requirements for long-term robustness and weather resistance are key functions of these adhesives.

The sophisticated requirements in the automotive industry for headlamp bonding require very short curing times and a fast strength build up. With SikaForce® adhesives, highly industrialized and automated performance can be achieved that enable stable and fast production processes.

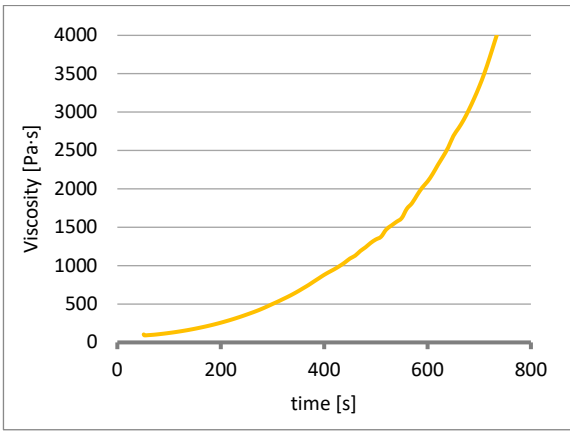
ADVANTAGES AT A GLANCE

- **Fast Curing:** Achieves quick curing at room temperature, reducing time to leakage testing.
- **Excellent Adhesion:** Provides strong adhesion to PC lenses and hard coatings without the need for physical or chemical pretreatment.
- **Compatibility with sensitive substrates:** The plasticizer- and solvent-free formulation is designed not to contribute to Environmental Stress Cracking (ESC)
- **Superior Performance:** Outstanding fogging behavior and high outgassing temperature, ensuring long-lasting results.

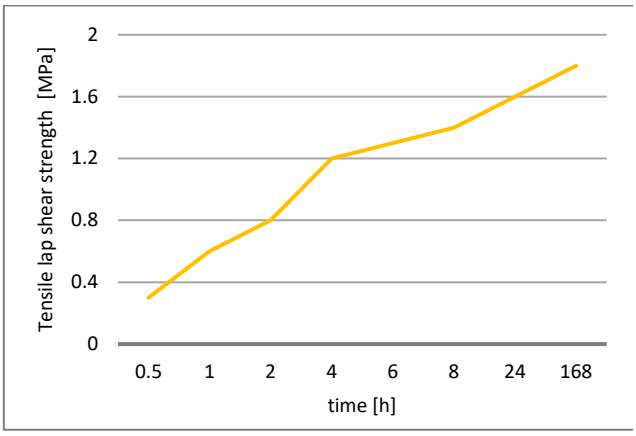
KEY DATA

PROPERTIES	TYPICAL VALUES
Mixing ratio (by volume)	100 : 18
Tensile strength	2.2 MPa
Elongation at break	400 %
E-Modulus (0.5 – 5 %)	5.5 MPa
Tensile lap-shear strength	1.8 MPa
Open time at (23 °C / 50 % r. h.)	3 minutes

CURING PERFORMANCE



FAST COHESION BUILD UP AFTER POT LIFE



FAST CURING AT ROOM TEMPERATURE

NEWS FROM THE MARKET

The first projects utilizing SikaForce®-400 L05 for headlamp assembly are now underway. These projects have successfully demonstrated that the new formulation of SikaForce®-400 L05 provides robust and reliable bonding, with no issues reported in the field.

This success is the result of Sika's strong global network and the close collaboration between stakeholders and experts across regions. Once again, Sika has enabled customers to achieve success through innovative solutions.

Hendrik Froehlich
Product Manager
Assembly Line Adhesives
Supporting headlamp and
component bonding solutions

For more details on Sika solutions for Automotive contact us or visit our website www.sika-automotive.com

LEGAL NOTE