



SL PUR Slot Filler

The Purpose-Engineered Compound That Locks Road Sensors Into the Pavement



Overview

The SL PUR Slot Filler is the two-component polyurethane compound engineered to hold PUR fiber-optic traffic sensors in asphalt and concrete road surfaces. It fills the slot around the sensor and cures into a tough, semi-rigid block that finishes flush with the pavement.

Semi-rigid is the operative characteristic. The cured compound is hard enough to protect the sensor and carry traffic loads, yet compliant enough to move with the pavement rather than fracture the way a fully rigid filler eventually does. It bonds to both asphalt and concrete, holds its dimensions through seasonal thermal cycling, and fully encases the sensor it surrounds, with a cure profile matched to real-world lane closures.

Built to Take Traffic

The cured compound has the mechanical strength to live in a road surface. It reaches a Shore hardness of 75 D, a tensile strength of 25 N/mm², and a flexural strength of 33 N/mm², so it holds the sensor firmly under repeated wheel loads without cracking or working loose. Its semi-rigid formulation lets the filled slot flex slightly with the pavement rather than shattering, and a low coefficient of linear expansion ($48 \times 10^{-6} \text{ K}^{-1}$) keeps it dimensionally stable as the road heats and cools through the year.

Protects the Sensor It Surrounds

Beyond holding the sensor in place, the SL PUR Slot Filler is a strong electrical insulator that shields the embedded sensor and its cabling. The cured material has a dielectric strength of 28 kV/mm, surface and volume resistance on the order of $10^{14} (\Omega \text{ and } \Omega\text{-cm})$, and a comparative tracking index above 600 V. That isolation helps keep the sensor stable and protected in the electrical environment of a live roadway.

Workable in the Field

A roadside compound has to be practical to mix and place. The SL PUR Slot Filler uses a straightforward 100:20 mixing ratio by weight (polyol to hardener) and

offers a pot life of 15 to 20 minutes, giving crews a usable window to pour and finish each batch. It goes into a clean, dry, grease-free slot, ideally with two-component metering and mixing equipment, and cures at ambient temperatures above 5 °C. Its basalt-grey color finishes close to the tone of the surrounding pavement.

Clean Chemistry, Ready When You Need It

The compound contains no halogens or heavy metals and complies with the RoHS and WEEE directives, keeping it straightforward to use and dispose of within agency environmental requirements. Supplied in sealed units, both components keep for at least 12 months when stored between roughly 15 and 20 °C and protected from moisture, so stock can be held ready for planned installations.

Technical Specifications

Performance & Material Properties

Property	Value
Type	Semi-rigid two-component polyurethane slot filler
Components	Polyol (POL) and polyisocyanate (ISO)
Mixing Ratio	100:20 by weight (POL to ISO)
Color	Basalt grey
Pot Life	15 to 20 minutes
Density (Mixture)	1.49 g/cm ³
Viscosity (Mixture)	1200 mPa·s at 25 °C
Shore Hardness	75 D (DIN EN ISO 868)
Tensile Strength	25 N/mm ² (DIN 53455)
Flexural Strength	33 N/mm ² (DIN 53452)

Electrical & Thermal Properties

Property	Value
Coefficient of Linear Expansion	48 × 10 ⁻⁶ K ⁻¹ (DIN 53752)
Dielectric Strength	28 kV/mm (IEC 243)
Surface Resistance	10 ¹⁴ Ω
Volume Resistance	10 ¹⁴ Ω·cm at 20 °C (IEC 93)

Tracking Resistance (CTI)	Above 600 V (IEC 112)
Thermal Conductivity	0.55 W/Km (DIN 52612)

Packaging & Storage

Property	Value
Minimum Ambient Temperature During Curing	5 °C
Packaging	6 kg units (5 kg POL + 1 kg ISO); custom sizes available upon request
Storage	Protect from moisture; optimum storage temperature 15–20 °C
Shelf Life	At least 12 months

Compliance

Property	Value
Compliance	RoHS (2002/95/EC) and WEEE (2002/96/EC)
Material Composition	No halogens or heavy metals

A Filler Engineered for the Sensor, Not Just the Slot

The SL PUR Slot Filler is not a general-purpose sealant pressed into service. It is a compound built to hold a road sensor at the right place in the pavement, protect it mechanically and electrically, and stay stable through years of traffic and weather. Powered by Sensor Line technology, it completes the SL PUR road-sensor installation with a material matched to the job.