



Special Advantages:

- ✓ Installation in almost any weather conditions.
- ✗ No primer or adhesive is needed.
- ✓ Quick and professional installation by trained personnel.
- ✓ Withstands water pressure of up to 1.0 bar.

FERMADUR[®]-S is a compression seal for underground joints made of styrene butadiene-rubber (SBR).

For a century now, DENSO Group Germany represents experience, quality and reliability for corrosion prevention and sealing technology. The success of the internationally leading corporation is based on the development of the "DENSO-Tape", which was already patented in 1927 as the first product worldwide for the passive corrosion prevention of pipelines. Since then, the DENSO Group Germany establishes and guarantees the highest quality standards with technically trend-setting products. Research, development and production take place exclusively in Germany. Our employees continuously implement safe and individual solutions in a personal cooperation with the customer.

Product Description

FERMADUR[®]-S is a sealing strip made of vulcanized, cellular rubber with a closed-cell, smooth exterior skin and a circular cross-section.

FERMADUR[®]-S seals joints via restoring forces that are created by the deformation

of the sealing profile when it is installed in the joint. Bonding to the joint walls is not necessary. Accordingly, **FERMADUR[®]-S** can be worked with in summer and in winter, in rain or in snow, independently of the weather conditions. Even with leaky joints

under constant water pressure, **FERMADUR[®]-S** can still be installed and is effective immediately.

Applications

The **FERMADUR[®]-S** system is equally suitable for new construction work and restoration work.

Typical areas of use include the sealing of working and expansion joints, in civil engineering in particular. The product is

suitable only for joint types that are not exposed to direct UV or ozone loads.

Product Application

Important requirements to ensure the sealing effect of **FERMADUR®-S** are minimum and total deformation. The joint to be sealed must therefore be measured and surveyed exactly. When calculating strip parameters, the expected changes to the joint width from the component movements and the water pressure acting on the joint must be taken into account. In addition, the structural design of the joint and the surface of the components must be in accordance with DIN 18 540, sheet 1: "Internal joint surfaces must run parallel to a depth of $D=2xW$." In the joint areas, the concrete must be so impermeable to water that no water circulation can occur at the expected water pressure. In addition, the joint walls must be even

and clean, and must not exhibit chipping or cavities over a depth twice that of the joint width. If necessary, improvements to the concrete or mortar can be made using silicification or impregnation.

The application temperature range is from -10 °C to $+50\text{ °C}$ ($+14\text{ °F}$ to 122 °F). Junction points and crossing points are connected or glued using **SICOMET 8300**. The adhesive must be stored in a cool place (also at the construction site). The adhesive is only used as an installation aid during installation.

FERMADUR®-S can be installed by hand or with a machine.

The joint gap width should not be less than 15 mm and not exceed 35 mm.

Sealing work using **FERMADUR®-S** strips must be carried out by well-trained and experienced specialist personnel. As a rule, work is usually carried out by contractors whose employees have been trained by DENSO GmbH.



Typical Material Properties (modelled on DIN EN 681-3)

Properties	Unit	Value
Tensile strength	N/mm ²	≥3
Elongation after fracture	%	≥350
Recovery tension (15 min. at 23 °C/73.4 °F, 25% deformation)	N/mm ²	0.20–0.40
Compression set (after 24 h storage at 70 °C/158 °F)	%	≤ 20

The water pressure resistance of the installed **FERMADUR®-S** strip was tested on a DN 1800 pipe fitting under the supervision of MPA Dortmund. The test was performed without a factory-fitted

sleeve seal and without the compression seal strip being braced to the rear. Installation and dimensioning were performed in accordance with the manufacturer's instructions by a trained specialist company.

Under these conditions, it was determined that a water pressure resistance of up to 1.0 bar can be achieved. A corresponding test report is available.

Material Resistance

Resistance against chemical and physical factors.

Resistant to:

- Waste water with pH values of 2 to 12
- Dilute acids and alkalis
- Chlorinated water
- Detergents
- Weathering

Limited resistance to:

- Petrol
- Mineral and heating oil
- Alcohol

Short-term resistance only versus:

- Organic solvents (e.g. toluene, ethyl acetate)

To enquire about a specific load factor, please contact us, stating the chemical name.

Ordering Information

Strip diameters start at 10 mm and are available in various diameters up to 54 mm.

Delivery is in bundles with individual lengths of 5 m to 15 m, depending on strip diameter. The colour is black.

To glue the profiles together, **SICOMET 8300** cyanoacrylate adhesive is used, this is supplied in 50 g units.

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