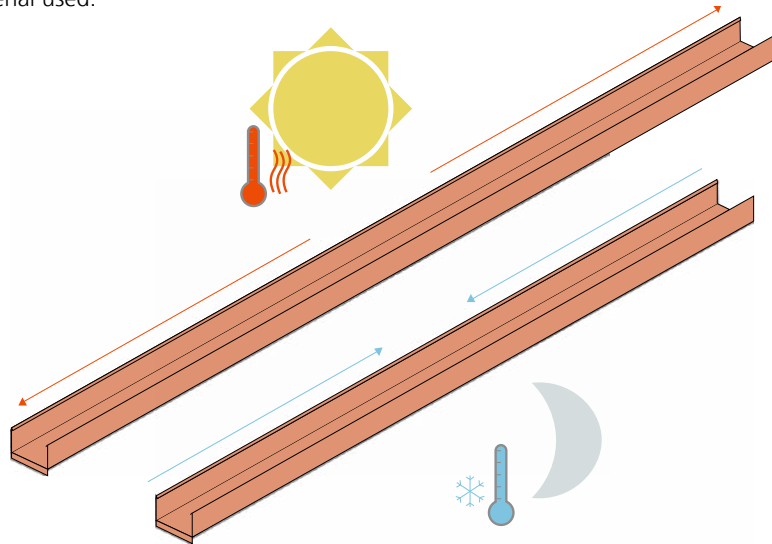




**Soba expansion joint elements
for optimal movement compensation**

Material expansions – without expansion joint elements it can get expensive

Whether summer or winter, day or night, sun or shade, temperature-related changes in the length of construction sheets such as folded sheets, inlet sheets, box gutters and inlaid gutters are ever-present and occur in all climatic regions around the world. Downpours in summer also cause components to cool down within a very short period of time and result in a change in length. The expansions vary depending on the material used.



Calculation example

Starting point

- inlaid aluminium gutter
- 80 meters long
- with an expansion coefficient of 2.4 mm/m at a temperature difference of 100 °C
- installed at a temperature of 40 °C

Calculation formula

Expansion coefficient (α) x gutter length (L) x temperature difference (Δt)

= Length change in winter at -20 °C: $2.4 \text{ mm/m} \times 80 \text{ m} \times 60 = 115.2 \text{ mm}$

= Length change in summer at 80 °C: $2.4 \text{ mm/m} \times 80 \text{ m} \times 40 = 76.8 \text{ mm}$

Conclusion: The gutter is 115.2 mm shorter in winter than during installation. In summer, it is 76.8 mm longer than during installation. The total length change is 192 mm!

Solution

These considerable changes in the length of construction sheets must be taken into account during planning and execution. One possible solution is the use of expansion joint elements. At the heart of it is the expanding part in the middle, which is vulcanized between metal. It compensates for the temperature-induced material expansions. The lateral sheets are soldered or welded into the construction sheets in the conventional way, depending on the material.



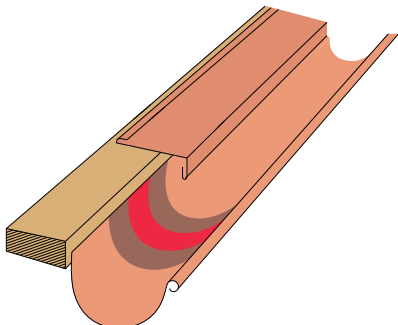
Spacing between elements

The spacing between the elements depends on the expansion coefficient of the respective material: **The greater the expansion coefficient, the smaller the spacing between the expansion joints.**

Examples at a temperature difference of 100°K

- Sheet steel: 1.2 mm per meter
- Stainless steel: 1.6 mm per meter
- Copper: 1.7 mm per meter
- Titanium zinc: 2.1 mm per meter
- Aluminium: 2.4 mm per meter

Soba expansion joint elements – the right solution for every application



Gutter elements, semicircular or angular

Scope of application

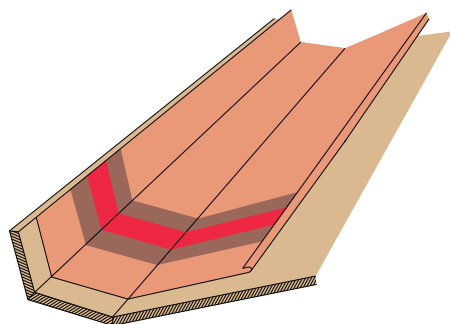
Mounted gutters (angular, semicircular or on-roof gutter)

Available sizes

Semicircular: 200; 250; 280; 330; 400; 500 mm

Angular: 200; 250; 280; 330; 400; 500 mm

On-roof gutter: 500; 650; 800 mm



Endless expansion joints

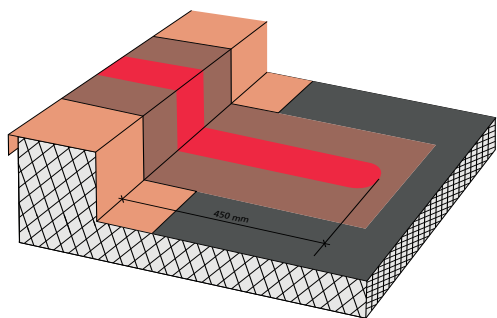
Scope of application

Inlaid gutters where a leak-tight connection to the sub-roof is not required.

Available lengths

Type GS (uncovered): 3,000 and 6,000 mm (in rolls)

Type Star (covered): 3,000 mm (in rolls)



Head elements

Scope of application

Where leak-tight connections are required, e.g. for folded and inlet sheets or inlaid and box gutters.

Available lengths

Type GS (uncovered), 1-head: 800; 830; 1,000; 1,300; 1,500; 2,000 mm

Type GS (uncovered), 2-head: 1,500 and 2,000 mm

Type Star (covered), 1-head: 800; 830; 1,000; 1,300 mm

Type Star (covered), 2-head: 1,500 mm

Difference between GS (uncovered) and Star (covered) types

GS expansion joint elements (uncovered)

On the GS element, the expanding part is visible on both sides. The rubber is joined to the metal on the top and bottom. In most cases, the expanding part on the GS is fitted with a cover and protected at the customer's premises. **GS = rubber visible.**

Star expansion joint elements (covered)

The Star element has built-in protection for the expanding part. This means that the outer surface of the rubber is protected against the weather and mechanical damage by a built-in sheet. During installation, make sure that the rubber is facing downwards. **Star = rubber protected.**



Soba expansion joint elements – available in all conventional materials

- Copper 0.60 mm
- Stainless steel 0.50 mm, 1.4301 2b
- Titanium zinc, blank 0.70 mm
- Titanium zinc, pre-weathered 0.70 mm
- Aluminium 1.2 mm
- Uginox Patina K41 0.50 mm
- Uginox Top 304 0.50 mm
- MattpluS 0.50 mm
- Galvanized steel 0.62 mm

Custom-made products

Project-specific custom-made products in other materials and sheet thicknesses are also possible. Please contact us at: info@soba-inter.com

Benefits of Soba elements

- High-quality rubber-metal connection
- Long-lasting safety
- Available in all industry-standard metals
- The right product for every application
- Available ex stock at short notice

Why Soba Inter AG

An expansion joint element is only as good as the flexible material used to create it. For Soba products, a specific elastic rubber mixture was developed, which makes this product unique and guarantees a long working life.



Headquarters

Soba Inter AG
Im Grund 15
CH-5405 Baden-Dättwil
+41 56 483 35 20

Altdorf office

Soba Inter AG
Industriezone Schächenwald
CH-6460 Altdorf
+41 41 875 75 55

info@soba-inter.com
soba-inter.com