

FLEXIBLE

DURABLE

WATERTIGHT



Semmler
EXPANSION ELEMENTS

Semmler Expansion Elements

Semmler produces ready for installation expansion elements, which can be effectively employed as expansion compensating units on practically all types of gutters, water gutters, inserted box-type gutters, parapets, coping, flat roof skirting and wall joints.

The actual expansion element consists of a central elastic connecting part made of synthetic rubber, which is vulcanised at either end to a metal strip.

The expansion elements are available in all the standard metals generally used for roofing:

- Titanium zinc
- Copper
- Aluminium
- Stainless steel (Inox)
- Zinc, preweathered
- Zinc QUARTZ
- Zinc ANTHRA
- Uginox AME
- Uginox FTE
- Tecu Patina
- Tecu Oxide
- Tecu Tin
- Sheet steel

MATERIALS

Why use expansion elements?

All roofing materials are exposed to extreme fluctuations in temperature. A sudden rise or drop in temperature can occur within minutes, as caused by approaching thunderstorms or when the bright spring sunlight turns quickly to night frost. Building components expand or contract; each material reacts differently according to its natural properties. The location of the building plays a vital part. How much sunshine and how much shade are the building materials subjected to? The elements of nature change the make-up of the building components, they begin to creak and groan.

Materials expand at different rates. The average expansion per metre at a difference in temperature of 100 °C is as follows:

Concrete	1.2 mm
Sheet steel	1.2 mm
Copper	1.7 mm
Titanium zinc	2.2 mm
Aluminium	2.4 mm

Practical experience has shown that soldered joints or bonded bitumen roof-sheeting are especially vulnerable where such expansion is concerned. The use of expansion elements, which have an elastic central part, can systematically compensate for all such undesired changes in length.

Example:

For flat roof skirting or for wall junction plates single-head elements are used. The head piece, which juts out over the surface of the roof, completely absorbs all tension caused by the lengthwise expansion of the skirting sheets. Thus the roof covering is kept free from shear force. (See "illustrations".)

QUALITY

Outstanding properties.

- Durability.
- The high-quality rubber compounds used for Semmler expansion elements withstand ultraviolet rays and the effects of ozone. They are extremely weather-resistant.
- Rubber compounds of this type have been in use in the building trade for over 50 years. They are particularly well-suited for parts exposed to fluctuations in temperature.
- Economic and easy to install.
- Easily installed as an invisible, flat expansion compensating unit.

Machining and positioning.

Semmler expansion elements can be canted or bent to the desired profile form using any folding machine.

Special attention should be paid to the following points:

- The bending rail should have a radius of at least 2 mm.
- In order to avoid a shearing effect, the bending cheek must be lowered by approximately 3-4 mm (dependant upon the thickness of the rubber at its centre).
- During the bending process it is advisable to adapt the metal strips of the expansion compensator to suit the thickness of the rubber part (top and bottom side).
- Semmler expansion elements can be fitted into any existing profile simply by soldering or welding.
- Be careful to cover the metal strips adjacent to the rubber/metal joint and the actual rubber part with a wet cloth before beginning any soldering or welding work. This prevents heat being conveyed to the rubber part. A minimum of 6 cm between the rubber part and the soldering or welding joint should be allowed. At no time should the rubber be exposed to an open flame.

MODELS

Important facts:

No damage will be caused by subjecting the element to high temperatures for a short period of time, such as is necessary during processes involving the use of hot bitumen to bond the element flange to roof-sheeting.

Guidelines for the maximum distance between expansion elements at stretched length:

- **Guttering hung from eaves:** semicircular or box-type gutters

	aluminium	copper, zinc, stainless steel
gutters up to 500mm in size*	12 m	15 m
gutters over 500mm in size*	8 m	10 m

- **Inlet type gutters:** box-type gutters, water gutters, coping, not bonded

	aluminium	copper, zinc, stainless steel
gutters up to 500mm in size*	8 m	10 m
gutters over 500mm in size*	6 m	8 m

* The size of the guttering refers to the measurement along the bend from edge to edge.

- **Inlet type gutters:** box-type gutters bonded into bitumen etc.

aluminium	5 m	copper, zinc, stainless steel	6 m
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- **Single-Head Elements:** for roof-skirting or wall joints on flat roofs

aluminium	5 m	copper, zinc, stainless steel	6 m
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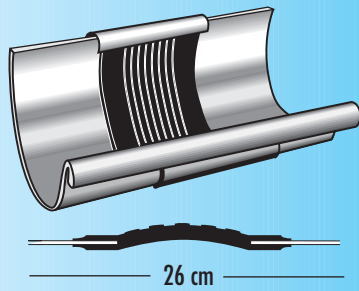
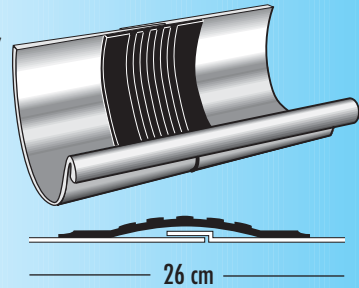
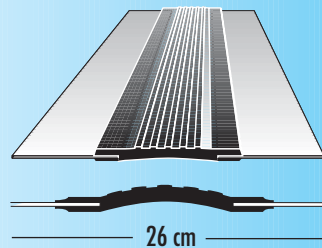
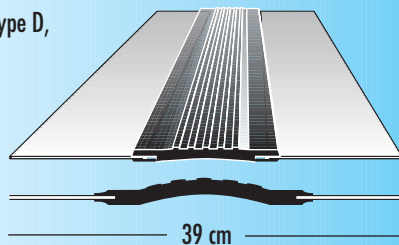
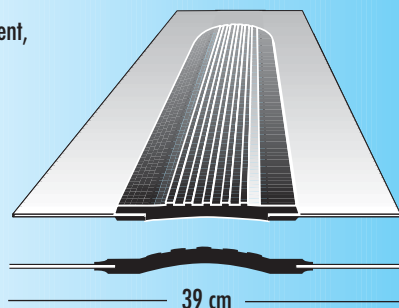
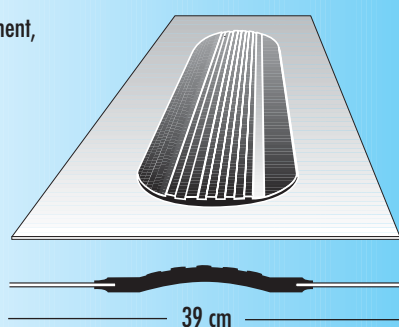
Please note: Elements must be at least 50 cm longer than the width of the adjoining wall plate or roof sheeting.

- **Important:** The above mentioned measurements change as follows concerning corners on the roof: The length along the outer edges of corners should be divided by two and the length along the inner edges of corners should be divided by four when assembling an expansion element. The figures given here are based on years of practical experience and represent our recommended guidelines.

5-year warranty

There is a 5-year warranty on all of our products. The warranty does not cover damage caused by incorrect usage, improper application or abnormal strain. In such cases the warranty is rendered void.

TYPES

Semmler Gutter Element Type A,
double-sided vulcanisationSemmler Gutter Element Type AS,
single-sided vulcanisationSemmler Expansion Band Type C,
double-sided vulcanisationSemmler Expansion Band Type D,
double-sided vulcanisationSemmler Single-Head Element,
double-sided vulcanisationSemmler Double-Head Element,
double-sided vulcanisation**Semmler Gutter Elements
with metal facing**

These expansion compensating elements are ready for installation and available in all the standard sizes used in the building trade. They are used for semicircular and box-type gutters.

Types A and K

Gutter elements with double-sided vulcanisation and metal facing.

Types AS and KS

Gutter elements with single-sided vulcanisation and metal facing.

Semmler Expansion Band**Types C and D**

Expansion band with double-sided vulcanisation. These are available in two widths (Type C = 26 cm and Type D = 39 cm).

Type C is mainly for use on parapets and coping. It is also used for custom-made inlet box-type gutters (water gutters).

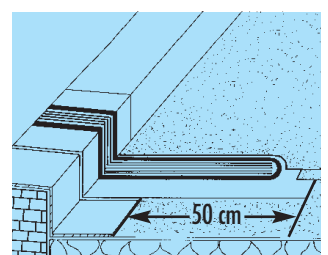
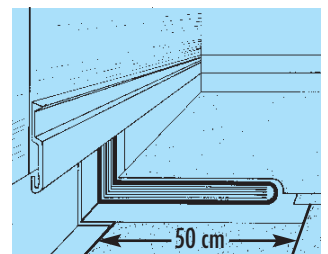
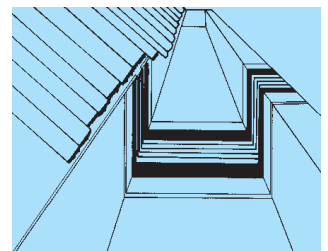
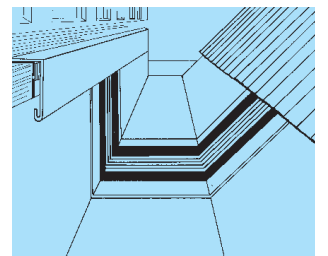
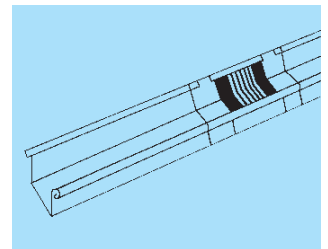
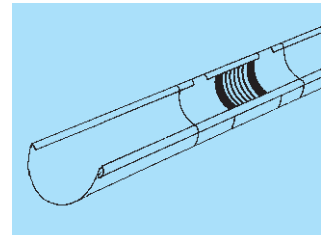
Type D has an especially wide bonding flange and is mainly used to span expansion joints on bituminous roofs.

Semmler Head Elements**Single-Head and Double-Head
Elements**

Both are 39 cm wide and available in different lengths. They are designed for use on flat roof skirting, wall junction plates and metal covered eaves.

Single-Head Elements must be at least 50 cm longer than the width of the adjoining wall plate or roof sheeting. For example wall plating with a width of 30 cm will require a Single-Head Element 80 cm long. Double-Head Elements are especially designed for bonded inlet type gutters and for graduations in level on buildings.

ILLUSTRATIONS



... with the competence
gained over 30 years.



EXPERIENCE

We look back on 30 years of experience gained in manufacturing and distributing expansion compensating elements. We pride ourselves on the continual improvement in the quality of our products and on the developments which we have achieved. Our ever-growing, state-of-the-art product range is designed to meet the most demanding requirements of national and international customers alike.

QUALITY

Our company's philosophy is built around one primary principle which is to maintain the high quality of our products. Production and processing at our own works and the choice of pre-fabricated components are all monitored scrupulously and ceaselessly to ensure the high standard of our products. Speedy and efficient handling of orders goes without saying.



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