

# General guidelines for storage and installation



## KOREMA® expansion joints

are construction components made of high performance materials incorporating more than 40 years' experience. Project specific identification plates are attached to every KOREMA® expansion joint for easy cross reference.

## Storage

Store under cover and off the ground to prevent water damage. Expansion joints that have been stored in temperatures below 10 °C (50 degF) should be gradually warmed to approx 20 °C (70 °F).

**Note** – work slowly treated materials are stiff when cold, PTFE foil also becomes brittle.

## Installation

Damaged joints should be returned to the factory unless KOREMA® determines that field repair is possible and provides specific instructions.

To reduce the risk of damage, installation of the joints should be completed during the last phase of the project.

For safety reasons do not install expansion joints that have been damaged in transit or during installation.

**Do not** expose the expansion joints to flammable materials such as paints, solvents or penetrating and rust inhibiting fluids.

**Do not** paint the fabric.

**Do not** insulate over the expansion joint.

**KOREMA® always recommends internal liners** – but there are exceptions, check with the factory for an application specific decision. Special construction without the liner is available but only after consultation with KOREMA®.

Design and operating conditions will determine the size of the clamp bars, hole spacing and the type of fastener to be used:

- there should be no sharp edges or burrs.
- for optimum sealing characteristics fabric joint fange holes = bolt diameter.
- corners should be radiused.
- for split clamp bars the end should butt together and a bridging plate should be used for improved sealing.
- after commissioning and start up the fasteners must be checked and retightened. See sheet for recommended torque.
- use yellow/red installation bars for slip in assemblies.

Always consult with KOREMA® before specifying or ordering metal components.

## Sealing

**General note – dismantling and reassembly of a fabric expansion joint.**

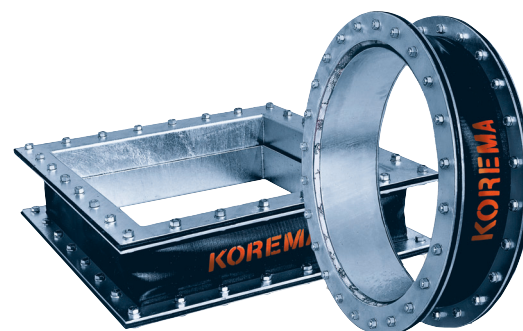
The material in the flange area compresses once the fasteners have been tightened which can result in leakage and cause the bolts to become loose.

## Flange areas

Although the belt type profiles secured by straps can be designed for pressures up to 100 mbar the use of bolted connections is preferred for both U-profile and belt profile types if operating pressures are greater than 50 mbar.

For applications at pressures above 200 mbar, for pressure pulsations or for systems requiring design for zero leakage special elastomeric seals can be vulcanized onto the flange areas to provide improved sealing.

Coating the metal flange surfaces with graphite before installing the fabric joint will also provide improved sealing.



# Installation of expansion joints with integral flanges (U type)



Expansion joints without holes – properly support the joint then drill the bolt holes using the metal clamp bar as a template.

**Note** – drill diameter = bolt diameter for optimum seal.

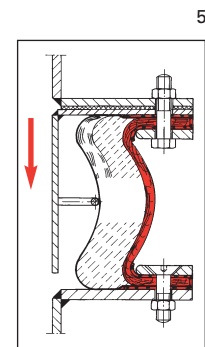
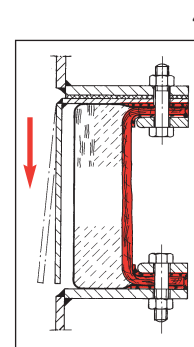
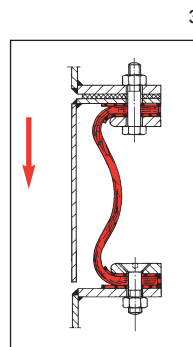
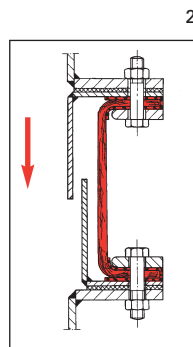
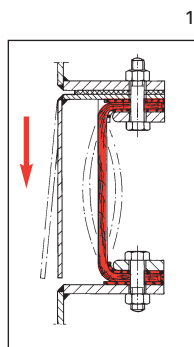
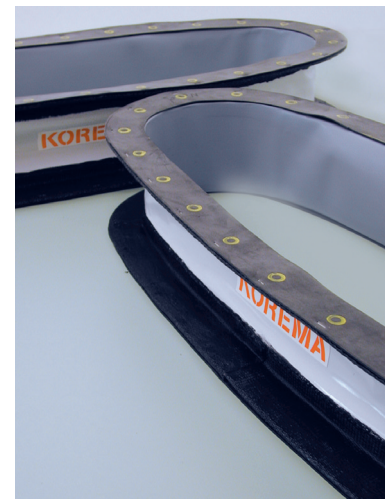


## U type construction types A3, AC3, B3, BC3, E3

Expansion joints with pre-punched bolt holes are the easiest to install.

Check the installation length at 4 diametrically opposite points for accuracy – allowable tolerance +/- 6mm (1/4")

Start from a fixed point – 12 o'clock for circular joints and the corners for rectangular joints – and fit at least 4 equally spaced bolts in each flange. Once the weight is supported the remaining fasteners can be installed and tightened.



Figures 1, 2, 3  
U-type expansion joints – various liner configurations.

Figures 4, 5  
U-type expansion joints with insulation – for dust laden and hitemp applications.

## Installation of belt type “OPEN” expansion joints with prepared ends

### Belt type construction types A1, AC1, B1, BC1

Check the installed length (distance between the flange ends plus 2 x clamping width).

Construction length of the belt is always greater than the installed length.

Locate the splice at the highest point.

Start fitting the clamp bars at the lowest point and work towards the top of the duct.

If clamp straps are used make sure that they are located 5 – 10 mm from the outer edge of the belt. Ensure that the belt materials are flat – no creases or wrinkles.

**The expansion joint must be installed in its neutral position i. e. unstressed.**

### KOREMA® construction types with pre-insulation

Before starting installing the expansion joint belt:

- locate the stainless steel mesh in the void and secure as instructed by KOREMA®.
- lay the insulation batts on top of the mesh, fill the space evenly, do not pack.



1. Steel frame without expansion joint — check dimensions before assembly.



2. V4A alloy mesh to be folded on each side



3. and fix on one side.



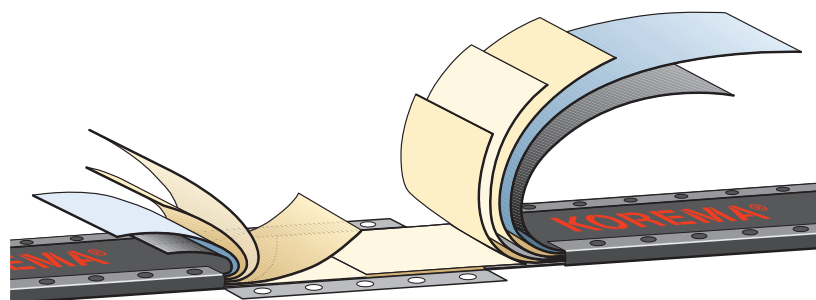
4. Mineral wool is installed.



5. Place the pre-insulation layer on top of the mineral wool.



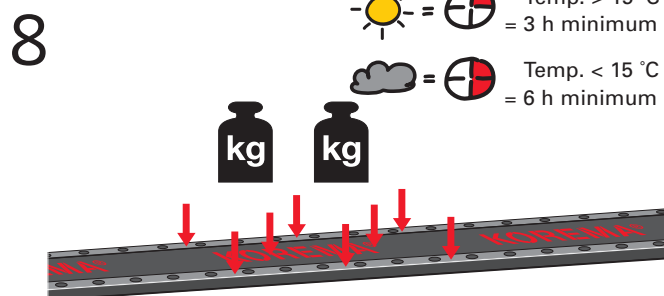
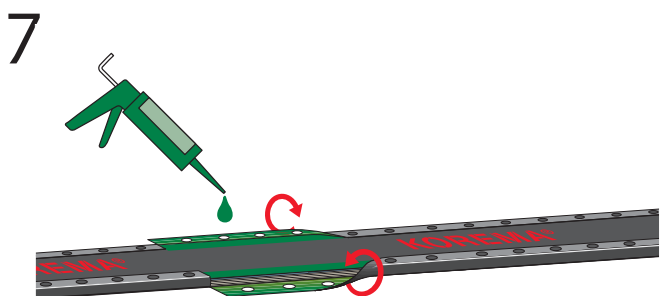
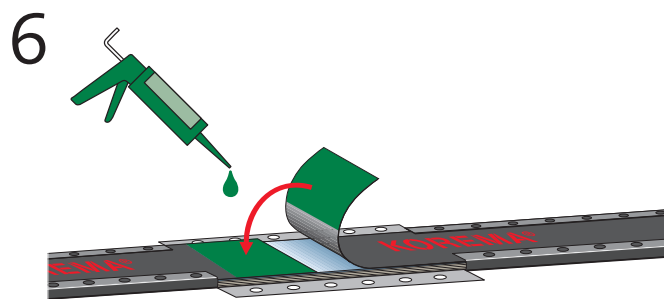
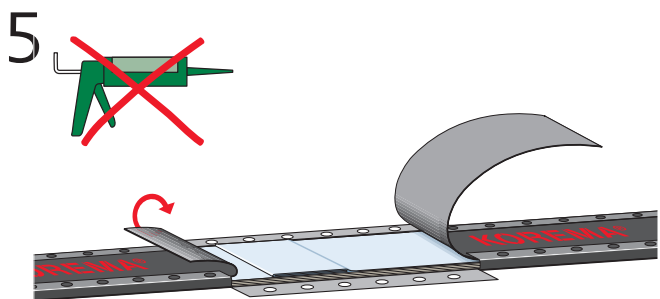
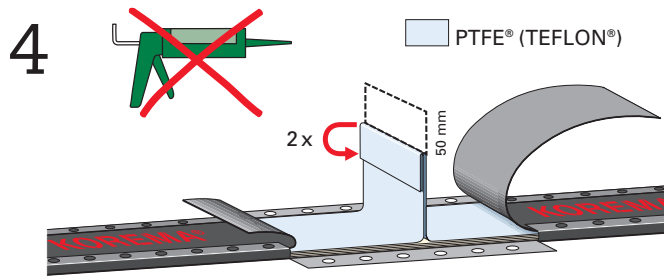
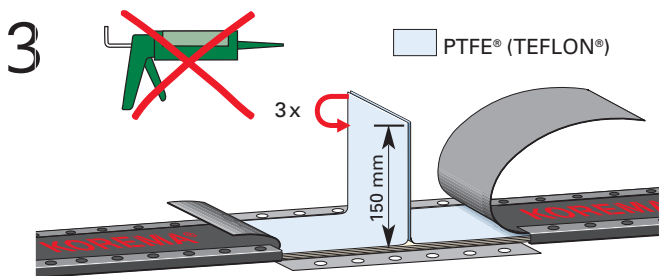
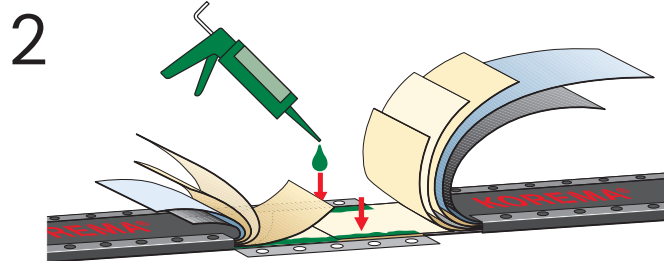
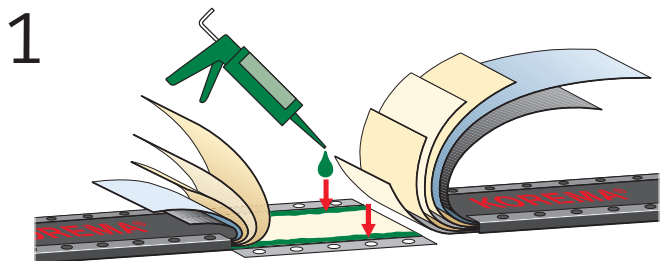
6. Assembly of the multilayer expansion joint.



KOREMA® expansion joint belt construction



# Splicing instructions – “OPEN” expansion joints with prepared ends



Always locate the splice at the highest point of the duct.

Apply adhesive to the inner layer flange areas only – see figures 1 and 2.

Fold the gas seal membrane (e.g. PTFE or rubber) as shown in figures 3, 4 and 5.

Apply a thin coat of adhesive to the entire overlapping surface of the outermost layer and the flange areas – see figures 6 and 7.

Carefully press the glued area and leave to dry.

For best results use a thin, flat plate under the overlap area.