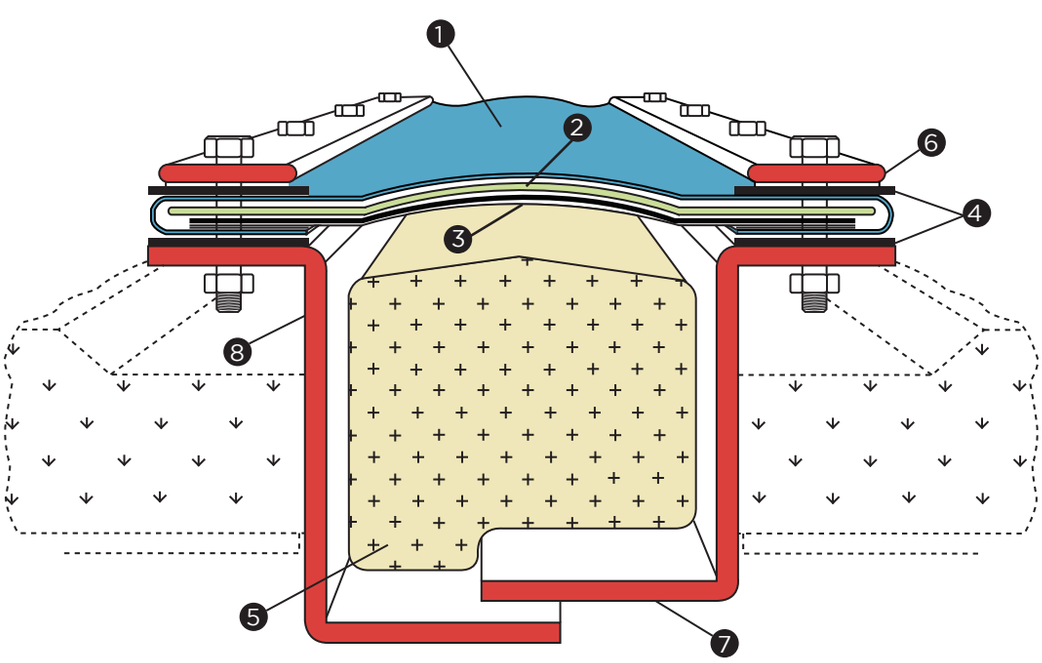
TYPICAL KURBO EXPANSION JOINT COMPONENTS

1 Gas Seal Membrane

The gas seal membrane is the outermost layer of the expansion joint flexible element and is designed to withstand system pressure and resist chemical attack. The gas seal membrane should have the flexibility to absorb thermal movements. Based on system temperatures, the gas seal membrane may stand alone or be combined with additional thermal barriers

2 Insulating Layers

The insulating layers provide a thermal barrier to ensure that the inside surface temperature of the gas seal membrane does not exceed its maximum service temperature. This insulating layer (in combination with a secondary gas seal membrane) also reduces the chance of hot flue gas condensing on the inside of an uninsulated gas seal membrane



3 Insulating Retainer Layer

This insulating retainer layer is provided to protect the insulating layers in place in order to maintain thermal integrity. The retaining layer is selected based on the operating temperature and chemical compatibility.

4 Gasket

The flange gasket or cuff protects the gas seal membrane on a multi-layered flexible element from thermal degradation caused by hot metal flanges and back-up bars. Due to low ‘Coefficient of Friction” property of fluoroplastics, a flexible, chemically inert gasket is required between the metal attachment flange and the gas seal membrane in order to provide an adequate seal.

5 Insulation / Accumulation Pillow

Insulation and accumulation pillows fill the cavity between the flexible element and metal liner and are used to prevent the accumulation of particulate matter from being trapped in the expansion joint cavity. It is typically used in duct from boilers to air clean-up equipment such as precipitators, scrubber and bag houses or whenever large amount of dust/ash are present in the gas

6 Back-Up Bars

The back-up bars are used to seal the flexible element against the metal frame. Back-up bar selection depends on bolt spacing, bolt hole size and flange height of expansion joint. Kurbo's standard specification calls for a 10mm thick and 50mm wide backup bar with rounded edges to protect the flexible element. The bars, in some case, have slotted holes for easy fit up and adjustment

7 Metal Frames or Flanges

Metal frames are used to connect the flexible element to the ductwork. They can be attached directly to the duct work and thus eliminate the necessity for an adjoining duct flange. The flanges establish the stand-off height of the fabric to aid in heat dissipation and passive cooling. It forms a cavity where the insulation pillow can be installed. There are many different types and shapes of frame which can be applied to different application accordingly

8 Metal Liner or Baffle

Kurbo metal liners or baffles are metal shields designed to protect the flexible element and cavity pillow, if present. They also serve to reduce fluttering caused by the air turbulence as it passes over the flexible element. They also can be employed as a heat deflector component of an overall thermal protection system.