## FLEXEL GT

**FLEXEL GT** is a multi-layer fabric structured expansion joint combined with a stainless steel or Incoloy reinforcement wire mesh (depending on the temperature) that makes up a unit of very low thermal conductivity. **FLEXEL GT** expansion joints absorb thermal expansions and vibrations and misalignments, providing also very good performance against internal acid attack and aggressive external environments, this making it the ideal expansion joint for gas turbines in combined cycle plants and cogeneration plants.

**FLEXEL GT** expansion joints may operate in a range of temperatures from –20 °C to 1000 °C, depending on their construction, for all types of low pressure – high temperature air circuits as well as for dry or wet combustion gases circuits.

Apart from the applications indicated above, these expansion joints may also be installed in the following industries:

- *Furnaces*
- *Boilers*
- *Cement industry*
- *Pulp industry*
- *Waste treatment plants*
- *Petrochemical industry*
- *Chemical industry*
- *Ships*
- *Refineries*
- *Gas turbines*

The construction of the **FLEXEL GT** expansion joints, from the gas side to the external layer, is carried out as follows:

a) The layer in contact with the gases is a stainless steel or Incoloy mesh (for temperatures over 550 °C), that provides the expansion joint with high mechanical resistance and dimensional stability.

b) One or several layers of glass fiber or ceramic fiber (depending on the temperature) to protect the insulation layer from erosion and fatigue induced by pressure pulsations in the flowing media.

c) One or several layers of glass or ceramic fiber (depending on the temperature), providing suitable thermal insulation capable of protecting the layers beneath.

d) A 0.2 mm layer of waterproofed virgin PTFE film acts as a chemical and vapour barrier, preventing the leakage of acid condensates to the exterior.

e) An external weathering resistant cover layer. This is a specific silicon coated glass fiber cloth with special resistance to material aging as a result of exposure to solar radiation, ozone, cold, heat, acid rain, and external chemical agents. In the case of **FLEXEL GT S** series expansion joints, the glass fiber is laminated with a variable thickness PTFE film, enabling it to withstand the most extreme conditions and making it resistant to high pressures.

f) A reinforcement in the flange area made of glass fiber provides the expansion joint with an extra mechanical and thermal resistance in this critical area where pressure and heat is transferred from the metallic frame.

The **S** option is a quality offer reserved for Projects and Clients for which the security of reliable and maintenance-free operation for many years is a top priority.

The difference is found in the cover layer, which is made from a PTFE melted glass fabric material, with a subsequent process of multidirectional lamination. This layer is the key element that distinguishes the **FLEXEL GT S** expansion joint, providing it with an extraordinary resistance to chemical, thermal and mechanical attack.

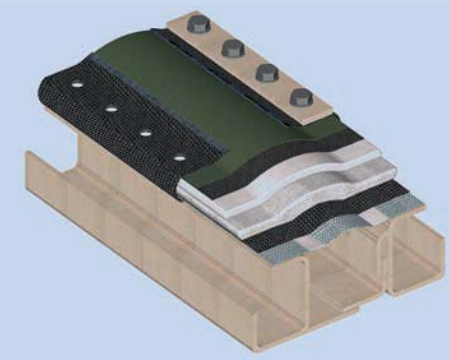

Fig. 2J: Flexel GT 700 S

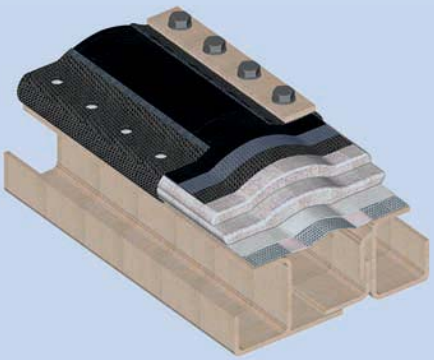

Fig. 2K: Flexel GT 1000

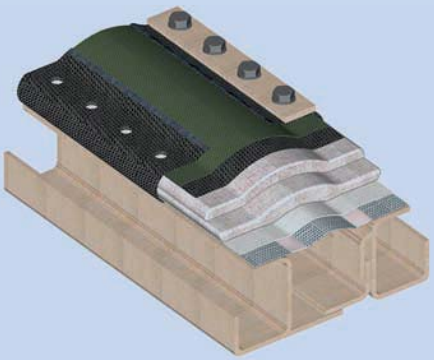

Fig. 2L: Flexel GT 1000 S

| FLEXEL GT | 250 | 300 | 400 | 550 | 700 | 1000 |
|---|---|---|---|---|---|---|
| Max. temperature | 250 °C | 300 °C | 400 °C | 550 °C | 700 °C | 1000 °C |