

Texflex®



FABRIC EXPANSION JOINTS

| NON METALIC EXPANSION JOINTS



SAVING ENVIRONMENT, ENERGY AND LIFE...

ABOUT

Leading manufacturer of high-performance TECHNICAL TEXTILES and engineering products including filtration, safety and other high temperature industrial applications.

Founded by a group of industrialists, who brought together their prevailing expertise in glass and PTFE, the unit was established in 2015. It soon rose as an elite materials company with all types of fibre glass bases media and later with other kinds of substrates, developed a wide range of coating solutions and lamination using advance technology and formulations.

Supertech Fabrics Pvt. Ltd. with the support of its customers and suppliers, Has grown in a solution oriented manufacturing, bringing advantages of in house manufacturing, and to end media control, and a robust quality control plan. With a sound technical competence and a vision that drives us, we aspire to set new industry benchmark in the years to come.



Group with a Diverse Exposure and Strong Industry Base



Driven by Technocrats



Culture of Excellence



End to End Performance Control of the Product



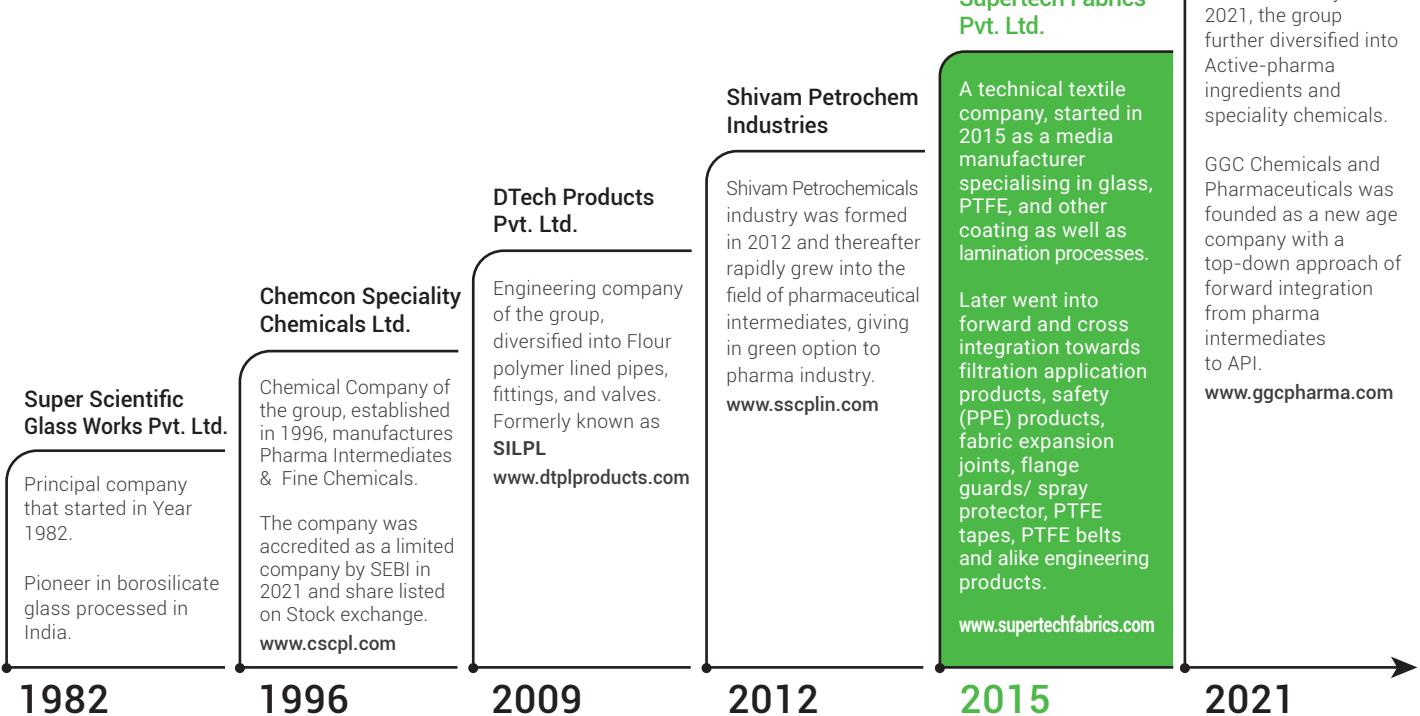
Highly Effective Quality Assurance Plan



Solution Oriented Approach

THE LEGACY

GGC Chemicals & Pharmaceuticals Pvt. Ltd.



ISO 9001:2015



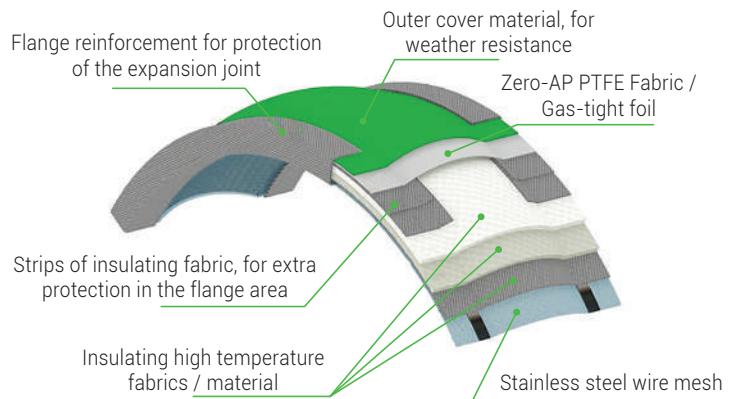


From the MAKERS of High Performance Materials & Solutions

FABRIC EXPANSION JOINTS

They are vital components in industrial plants that have equipment to equipment air transfer. These are installed on duct and in piping systems that are often subject to thermal expansions, vibrations and misalignments.

Expansion Joints design and engineering is vital to reducing operation downtime and increasing efficiency. A well designed expansion joint leads to less uninterrupted plant performance and less maintenance down time.



PRODUCT RANGE

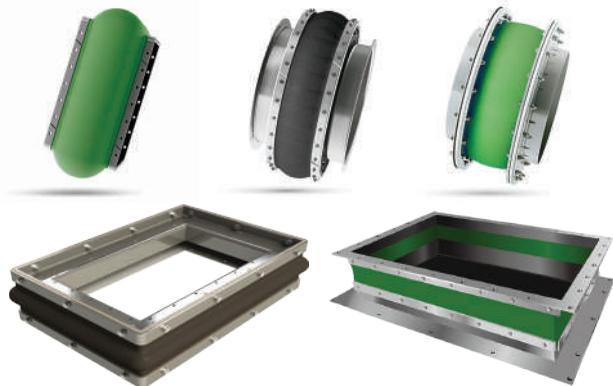
Types: Circular and rectangular

Dimension: For installation in existing duct- and/or pipework the fabric expansion joints are supplied with either closed- or open ended band.

Multiple sizes available with or without steel parts.

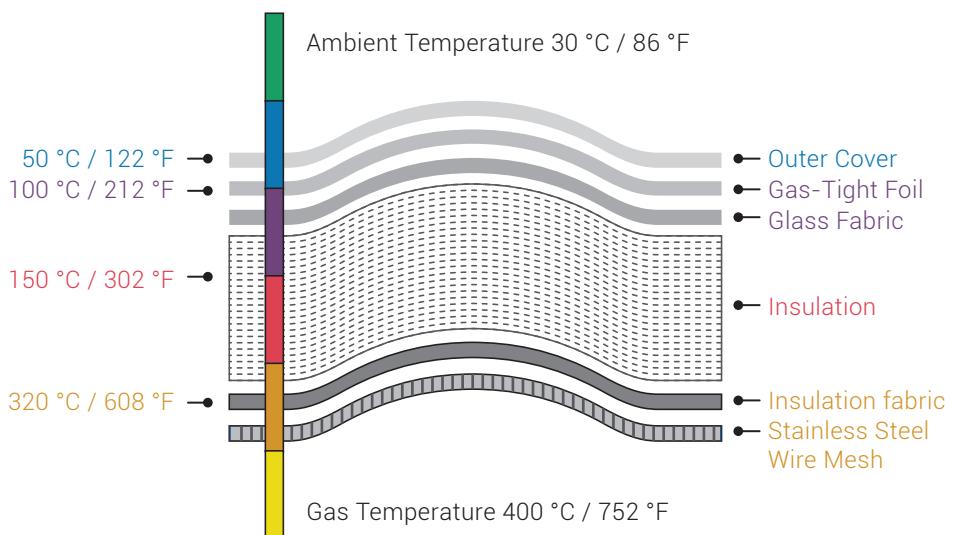
Temperature: Up to +1200°C / +2190°F

Pressure: Up to 2000 mmwg / 2.6 bar





DESIGN OF Texflex®



By combining different materials and taking into consideration thermal, chemical and mechanical resistance, as well as the material fatigue properties, the design provides optimum solutions that is both technically and economically sound.

Non-metalic / Fabric Expansion Joints are very popular in various industry factors due to several advantages it offers.

ADVANTAGES

- Low capex
- Easy to transport, easy to install
- Compensates for movements in several directions simultaneously
- Minimal reactive forces
- Advanced insulation design ensures minimal heat loss
- Reduced surface temperature on the outer layer during operation to protect site personnel
- Requires little space and little down time for installation
- Easily adapts to existing physical conditions

APPLICATIONS

Fabric expansion joints are found in a wide range of industries including:

- Chemical/Petro-Chemical Plants
- Cement Manufacturing
- Pulp and Paper Industry
- Power Stations
- Refineries
- Shipbuilding
- Steel Plants
- Sugar Plants
- Gas Turbine Installations
- Incineration Food Processing

CRITERIA FOR APPLICATIONS & DESIGN

Type of expansion joint

Which type of NMEJ to use and its design is based on some basic considerations.

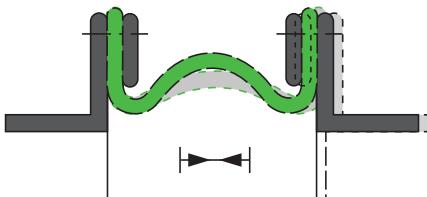
It is necessary to review operating data and other conditions in as detailed manner as possible to ensure maximum operating reliability.

Place and conditions of installation must be considered before choosing the expansion joint design. Is the place of installation easily accessible, or is scaffolding, a crane or other equipment required to install the expansion joint?

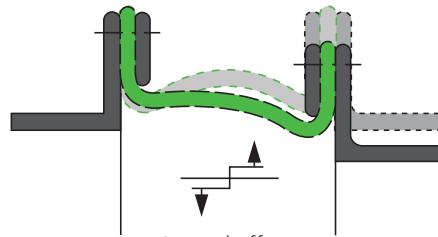
A. Movements

Isolated or in combinations, a fabric expansion joint is subject to:

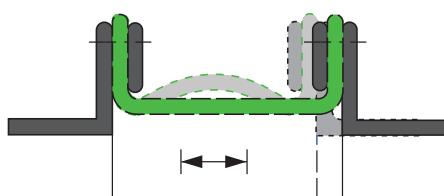
- axial compression
- axial elongation
- Angular offset
- Lateral offset
- Torsion



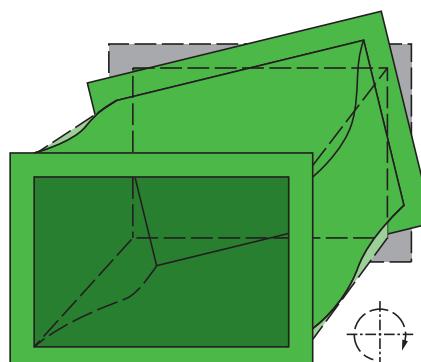
Axial compression



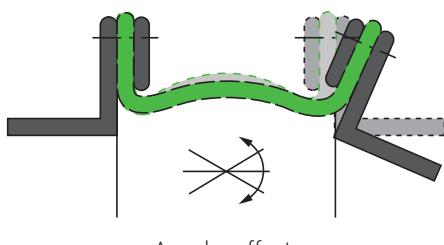
Lateral offset



Axial elongation



Torsion



Angular offset

B. Mechanical Loads

Fabric expansion joints are also able to take up:

- Vibrations
- Structural-borne noise

Essentially, the following should be considered:

- Overstretching
- Friction along the sleeve
- Stresses
- Combination of movements

C. Pressure

This has a great impact on the design construction (type of fabric and number of layers).

The following distinctions are made:

- Positive pressure (normal, peak)
- Negative pressure (normal, peak)
- Variations of pressure (pulsations)
- Pressure surges
- Design/operating pressure

D. Media / Composition of Gas

It represents an important decision factor in choosing the type of expansion joint and the configuration. Typical media that fabric expansion joints will get subjected to are:

Air

- Clean
- Dust content
- Chemical load by acids, solvents, etc.

Flue gases

- From coal, oil, gas firing etc.
- Analysis of the flue gas
- Humidity
- Contents of soot or fly ashes
- Flushing/washing of ducts

E. Leakage Values

In principle, a distinction is made between the tightness of the expansion joint and the tightness of the flange area to control leakages to acceptable values. Single-layer expansion joint can be made 100% gas tight with appropriate sealing, but multi-layer expansion joint will always have a certain leakage through the flange area. Pressure and temperature will also affect the leakage as both high temperature and high pressure will result in higher leakage in the flange area for multilayer expansion joints.

The following requirements can be made:

- Nekal tightness
- Flue gas tightness

Solid Matter Percentage

A contaminated medium will influence both, the design and in the construction. In principle, the expansion joint should be protected from abrasive media.

The main considerations concerning solid matters are:

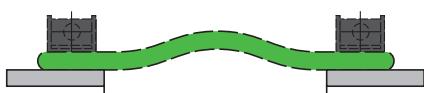
- Content (mg/Nm³)
- Grain size (μm)
- Arrangement of duct (horizontal, vertical, diagonal)
- Direction of flow (upwards, downwards)
- Flow rate

DESIGN CONFIGURATION

END CLAMPING CONNECTION



Vertical flange connection on duct level

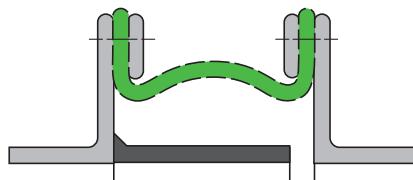


Belt connection directly on duct

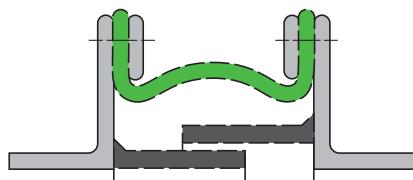


Belt/vertical flange connection

INNER SLEEVE

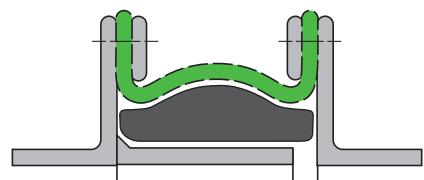


Single sleeve welded to the duct end

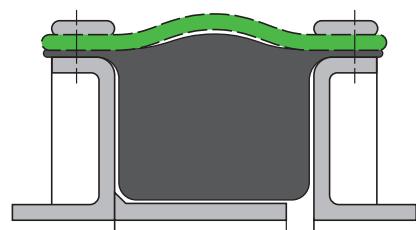


Double sleeve with overlap

INSULATION / BOLSER

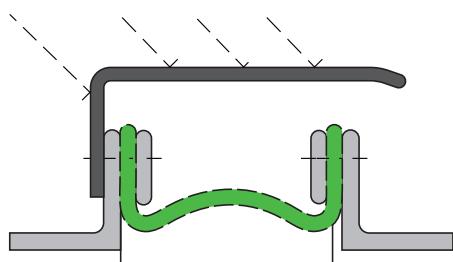


Flat Insulation Bolster



Bolster with flanges fitted as part of the expansion joint.

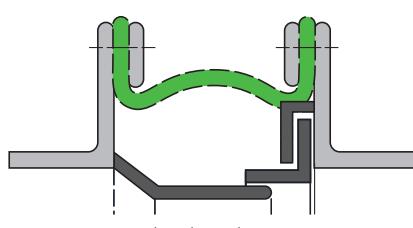
TOP PROTECTION AGAINST EXTERNAL



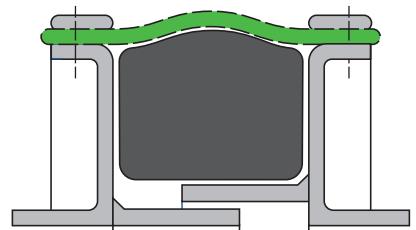
Expansion joint with cover plate.



Inner Sleeve

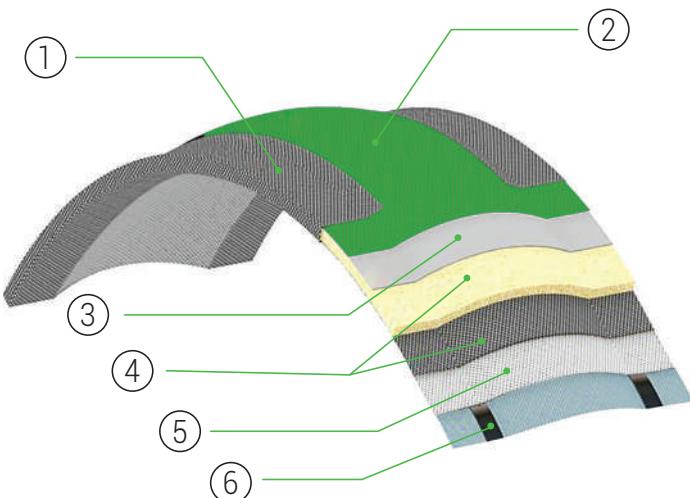


Floating sleeve



Bolster filling out the gap between expansion joint and sleeve.

FABRIC BELT CONSTRUCTION



Selection of the optimum construction for fabric expansion joints depends on a number of factors which need to be considered for the application, generally speaking there are no "standard" designs. Fabric expansion joints are available in many configurations with single-layer or multi-layer fabric elements.

The multilayer expansion joint is generally made from:

1. **Flange side material;** to avoid abrasion
2. **Outer layer;** to resist to whether conditions
3. **Sealing foil / layer;** for gas tight construction
4. **Layers;** against mechanical loads
5. **Inner most layer;** protection against internal ensuring strong abrasion
6. **Mechanical reinforcement ring**

ASSEMBLY & TRANSPORTATION

Texflex®

TEXFLEX can be supplied as a pre-assembled unit for easy installation.

The unit consists of:

- Fabric expansion joint
- Metal frames/inner sleeves
- Bolster (optional)
- Gasket (optional)
- Fasteners

Frame material:

- Carbon steel
- Stainless steel
- Heat resistant steel (Alloy)

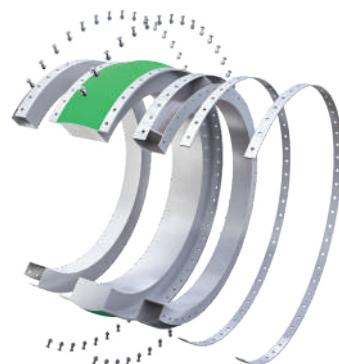
Pre-assembled expansion joint units can be supplied with surface treatment that is corrosion resistant (standard) and resistant to high temperatures.

TEXFLEX is offered in any RAL color code for the units.

Units can be delivered with seaworthy packing or standard packing for road transportation.



Pre-assembled unit with expansion joint and frame.



Pre-assembled unit with expansion joint, frame/inner sleeve and bolster.

INSTALLATION

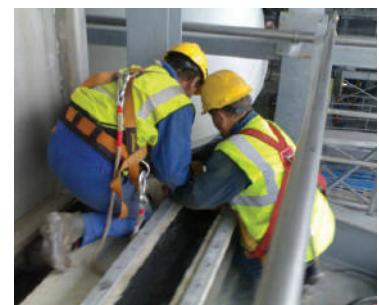


Our competence in the provision of fabric expansion joint solutions extends also to onsite services. We provide support from the initial design, construction and installation stages and continuously thereafter throughout the service life of the equipment. We have a team of skilled installation engineers with experience in a wide range of site conditions who work in compliance with the prevailing safety regulations.

Our services for fabric expansion joints include:

- Installation
- Replacement (dismantling and installation)
- Repair
- Assisting plant personnel in the installation/replacement work
- Inspection, i.e. estimation of remaining service life (incl. report of status, evaluation and recommendations)

For such onsite work we have equipment ready and packed to ensure quick support if needed. All equipment is calibrated and we use the very latest technologies.



Installation of fabric expansion joint between the diffuser and diverter in a gas turbine system.



OUR ENGINEERING EXCELLENCE



Performance Technical Textiles



Industrial Filtration



Flexible Expansion Joints



Flange Guards & Spray Protectors



Protective Gears and Apparels



Reg. Office & Works

Block # 1401 A&B, B/h Elysium Pharma,
Vil. Dabhsa, Tal. Padra,
Vadodara - 391440, Gujarat, INDIA

Email: wecare@supertechfabrics.com

info@supertechfabrics.com

Web: www.supertechfabrics.com

Helpline: +91 6358828838 (H.O.)

Contact information or visiting card

