

Wearflex[®]

expansion bellows

INSULCON

LEADER IN HIGH TEMPERATURE SOLUTIONS



WEAR FLEX[®]



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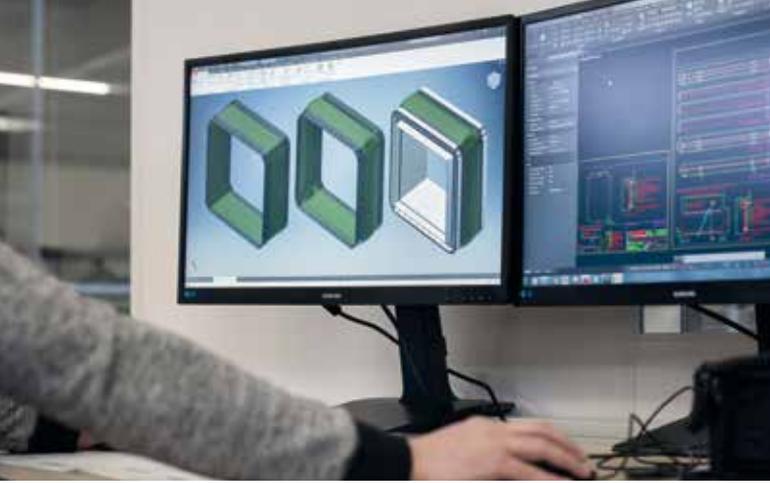
Introduction

Insulcon, an ISO 9001, ISO 14001 and VCA** certified company, is one of the leading manufacturers within the field of expansion bellows.

Our Wearflex® fabric expansion bellows are flexible connections in air and flue gas ducts, composed out of high-temperature resistant fabrics. They can absorb axial, lateral and angular movements due to thermal expansion misalignments and vibration. Wearflex® expansion bellows are suitable for hot air, dry and wet flue gases up to 1370°C.

Wearflex® expansion bellows are applied worldwide in several industries, even in ATEX environments. Not only because of the quality, but mainly because of our large experience in industrial applications, designing as well as in manufacturing.





Design and manufacturing

All Wearflex® fabric expansion bellows are designed and manufactured at our plant in Steenberghe, the Netherlands. They are customised to suit existing operating conditions and are available in any geometric shape (round, square, oval) and in any size.



They usually consist of one or several layers of technical insulation. Each fulfilling requirements, such as tightness, insulation and temperature decrease as well as mechanical protection.

Due to our large stock of technical textiles up to 1370°C, we are able to manufacture on very short notice.

Responding immediately in case of an emergency is our strength!



QC/QA, packaging and transportation



The Insulcon Group goes beyond delivering high quality products and solutions for maintenance activities. We also carry out new projects from design to delivery, including packaging, transportation and document handling - meeting the highest quality standards during the entire process.



Wearflex® fabric expansion bellows

Q-Flex expansion bellows

Wearflex® fabric Q-Flex expansion bellows are extremely flexible and specially designed for applications with low to moderate concentrations of aggressive components in flue gases. Wearflex® Q-Flex expansion bellows are multi-layer fabric expansion bellows, which are made of specially selected heat-resistant fabrics, whether or not in combination with other insulation materials.

For each individual situation, we examine how the Wearflex® fabric expansion bellow should be designed to meet the design conditions so that the desired movements can be caught.

ATEX and FDA environments

Insulcon has developed special fabrics which can be used in ATEX environments. These fabrics have been tested and certified by Kiwa - an independent organization. Insulcon's conductive fabrics prevent the accumulation of static electricity, which can form a source of ignition. A number of fabrics has also been FDA approved for use in the food industry. The temperature range of our Wearflex® fabric ATEX expansion bellows is 0-400°C, with a pressure range of -50m Bar to +150m Bar.

We can offer and supply all our expansion joints including steel frames and flow plates.





Q-Chem fabric expansion bellows

Wearflex® Q-Chem expansion bellows are specially designed for applications in which resistance against wet flue gases and a high acid content is critical.

Q-Chem expansion bellows are produced through the process of heat-sealing. Made of (multilayer) PTFE with reinforcement if required. This way a gastight expansion joint is achieved.

By using a combination of different materials special designs are being made for flue gas systems with chemical or abrasive components and for systems operating under extreme conditions.





Q-Fire fabric expansion bellows

Wearflex® Q-Fire expansion bellows are A60 fire resistant, according to IMO FTP 3. During tests, the Wearflex® Q-Fire expansion bellow was exposed for 66 minutes (60 minutes +10%) to a simulated fire where the temperature raised to approx. 1000°C.



Metal expansion bellows

Next to a full range Wearflex® fabric expansion bellows, we also deliver metal expansion bellows. Wearflex® metal expansion bellows (expansion joints) are flexible connections, made out of high quality metal alloys. They can be delivered with or without a guide tube, weld ends or connection flanges.

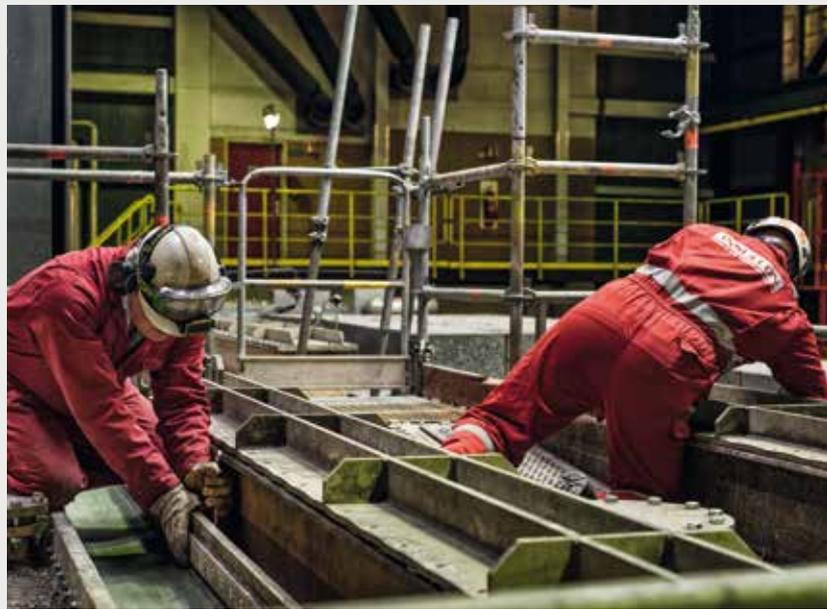


Rubber expansion bellows

Wearflex® rubber expansion bellows are made out of several types of specially selected rubbers. They are widely used to provide efficient ways to relieve movement stresses, reduce noise, isolate vibration or to compensate for misalignment.

On site services

We can provide you with support from the initial design, construction into the installation stage. We have a team of skilled supervisors with experience in a wide range of site conditions, who can assist you with dismantling and installation or repair.



As operational reliability and long service life of fabric expansion bellows are crucial, our team can also inspect your existing bellows and make an estimation of the remaining service life. All off course including a report of the status, an evaluation and recommendations.



The Insulcon Group goes beyond delivering high quality products and solutions. Projects are carried out according to our multidisciplinary service concept, including inspections with thermograph cameras (to check your installation for hot spots) and supervision of various maintenance activities. Since we solely work with VCA** certified experts, we can also take care of necessary scaffolding, welding and assembly of steel parts - always with the highest safety standards in mind.



Other Wearflex® products

Next to a wide range of Wearflex® fabric expansion bellows, our Wearflex® department manufactures several engineered heat resistant textile systems.



Tube seals

Wearflex® tube seals are flexible seals around pipe penetrations in the roof of a furnace. They prevent cold air ingress as a result of slight under pressure in the furnace. They can absorb both axial and lateral movements. Wearflex® tube seals are applicable up to more than 900°C.

Quilted sleeves

Wearflex® quilted sleeves are flexible seals and designed to seal all kind of tube penetrations, through the wall or the roof of for example cracking furnaces. They are suitable to absorb large axial and lateral movements, prevent cold air ingress through the protrusion and are applicable up to 900°C.



Multi tube seals

Wearflex® tube seals are flexible tube seals applicable in the roof or walls of a furnace. They prevent cold air ingress and are manufactured from several high temperature resistant fabrics. Wearflex® tube seals can absorb large axial as well as lateral movements and can be applied up to 750°C.



Spring joints

Wearflex® spring joints are flexible seals around pipe penetrations in petrochemical furnaces. They are applicable up to 250°C. By using our Wearflex® spring joints you will prevent cold air ingress in your furnace as a result of small under pressure. Due to the unique spiral design, a Wearflex® spring joint has large axial and lateral freedom of movement at the pipe penetration.



HT spring joints

Wearflex® HT spring joints are high temperature resistant, flexible connections to be used for example at cooling / exhaust ramps in anode baking furnaces. They can absorb large axial as well as lateral movements. Wearflex® HT spring joints are applicable up to more than 800°C.



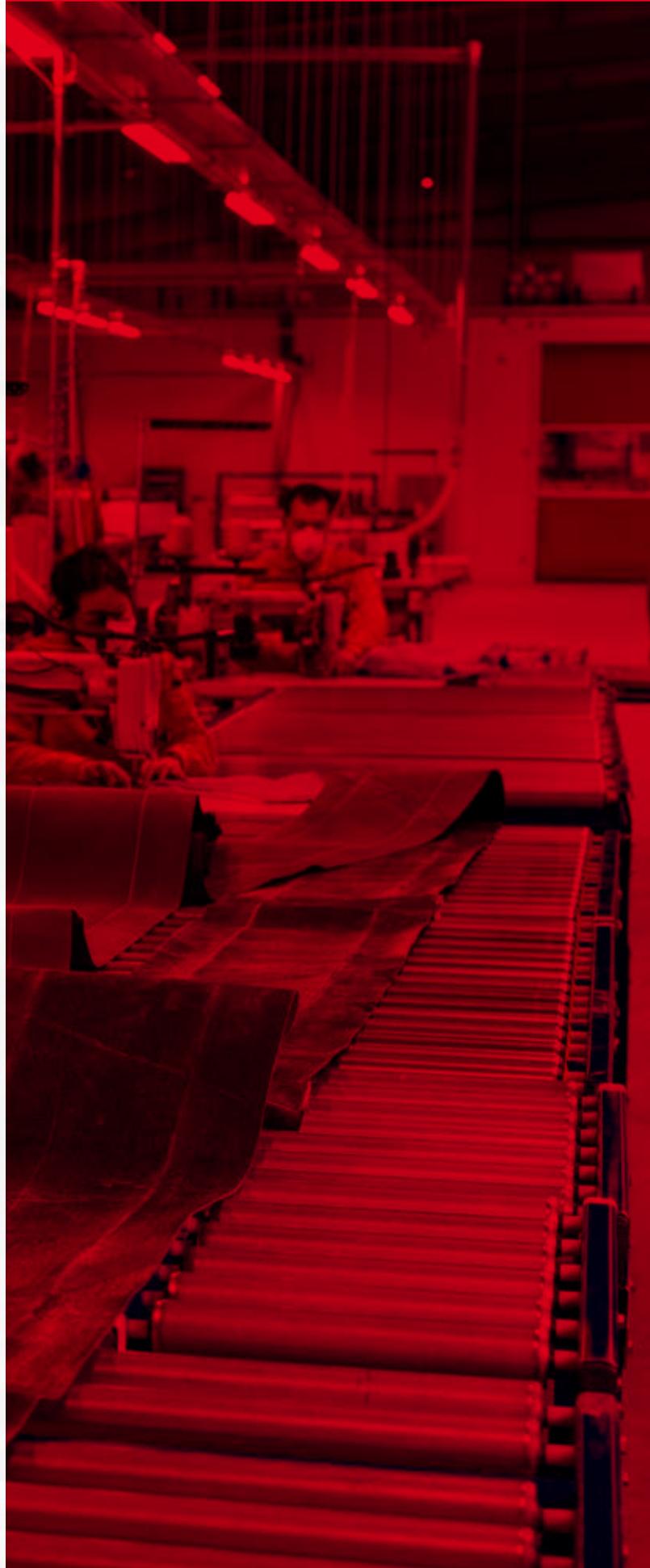
Telescopic seals

Wearflex® telescopic seals are seals around pipe penetrations at the roof of a hydrogen / ammonia reformer. They prevent cold air ingress into the reformer as a result of a slight under pressure. They are capable to absorb large axial movements (100-350 mm). Wearflex® telescopic seals are applicable up to more than 900°C.



Multi tube bellows

Refrex® multi tube bellows are flexible seals around multiple pipe penetrations in the roof of a petrochemical furnace. They are manufactured from Refrex® fabrics and prevent cold air ingress due to under pressure. They can absorb both axial and lateral movements and can be applied up to 1370°C.



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