13 Sirius Rd, Lane Cove, NSW 2066
Telephone: +61 (0)2 9428 7300 • **Facsimile:** +61 (0)2 9428 7399 • **Email:** pogc@hmagroup.com.au
www.hmagroup.com.au
POGC Sensor Technology Pty Ltd : ABN 42 058 605 959

Gas Turbine Power Plant Expansion Joints

DEKOMTE

13 Sirius Rd, Lane Cove, NSW 2066
Telephone: +61 (0)2 9428 7300 • **Facsimile:** +61 (0)2 9428 7399 • **Email:** pogc@hmagroup.com.au
www.hmagroup.com.au
POGC Sensor Technology Pty Ltd : ABN 42 058 605 959

Gas Turbine Power Plant Expansion Joints

Gas Turbine Power Plant Expansion Joints

DEKOMTE de Temple manufactures fabric and stainless steel expansion joints for all applications within a gas turbine power station. Both fabric and metal expansion joints are used in many locations around the plant.

DEKOMTE is able to offer varying standards to suit the technical requirements/maintenance cycle and budget for each location of joint.

Gas turbine power stations subject the exhaust duct and HRSG casing to extreme stress and fatigue, with the expansion joint being the weak link.

Base load stations can obtain a good performance from a basic design, due to the reduced stresses and fatigue caused by cycling. On the other hand cycling plants are subject to increased maintenance when using basic duct construction.

DEKOMTE manufactures solutions for gas turbine plant with technically based guarantees of up to 20 years, depending on the site operating conditions.

Base Load Operation Plants

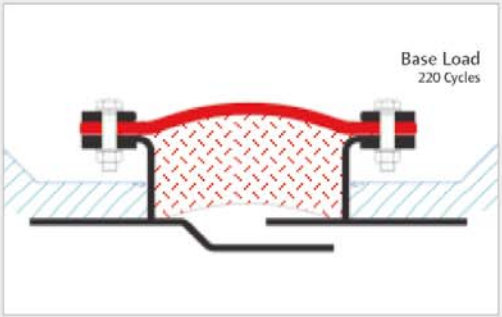
In plants that are operating at base load or minimal cycling conditions, including load varying, then a standard expansion joint frame design can be used.

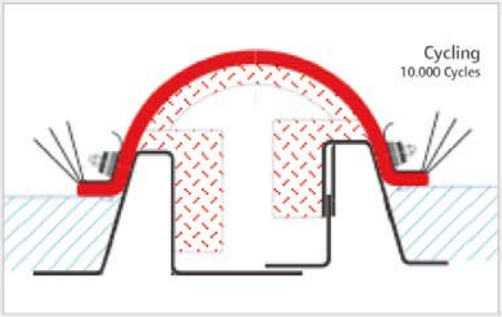
DEKOMTE offers improvements in the construction of the fabric and bolster to allow for the latest technology of materials and production process. The joints are formed on a mould to give the best life possible.

Internally Lined Duct Sections

Expansion joints which are installed within a section of duct with internal lining, known as cold casing duct arrangements, experience lower stresses than hot casing arrangements. The expansion joint frame and bolster can be protected from the highest gas temperatures, increasing the life and reliability.

DEKOMTE recommends the review of the connection and internal lining of the joints, to ensure that no heat path becomes a weak element of the design.





13 Sirius Rd, Lane Cove, NSW 2066
Telephone: +61 (0)2 9428 7300 • **Facsimile:** +61 (0)2 9428 7399 • **Email:** pogc@hmagroup.com.au
www.hmagroup.com.au
POGC Sensor Technology Pty Ltd : ABN 42 058 605 959

Cycling Operation Plants

The biggest challenge to the ducting and expansion joint designer is in a high cycling plant. The steel frame must be designed such that the stress and fatigue is minimised; this means the lowest possible temperature gradient across the steel frame. The flow plate is constructed so that the axial, lateral and possible angular movements are considered to make sure that no fixed points are caused.

The fabric is manufactured on a mould exactly according to the movement and tolerances required. The clamping area and the bolts are designed so that there is no overheating and constant pressure during operation can be applied.

DEKOMTE proposes a proven design for a cycling operational plant. The design has been installed in a vast number of power stations around the world as OEM equipment and retrofitted in Black Point, Hong Kong and more recently with Connahs Quay, Keadby and Killingholme (E.ON) being notable UK retrofits.

DEKOMTE Integrating Solutions

The use of skilled design engineers, technicians and service engineers, together with qualified sub contractors means that DEKOMTE offers a complete turnkey contracting solution to duct problems.

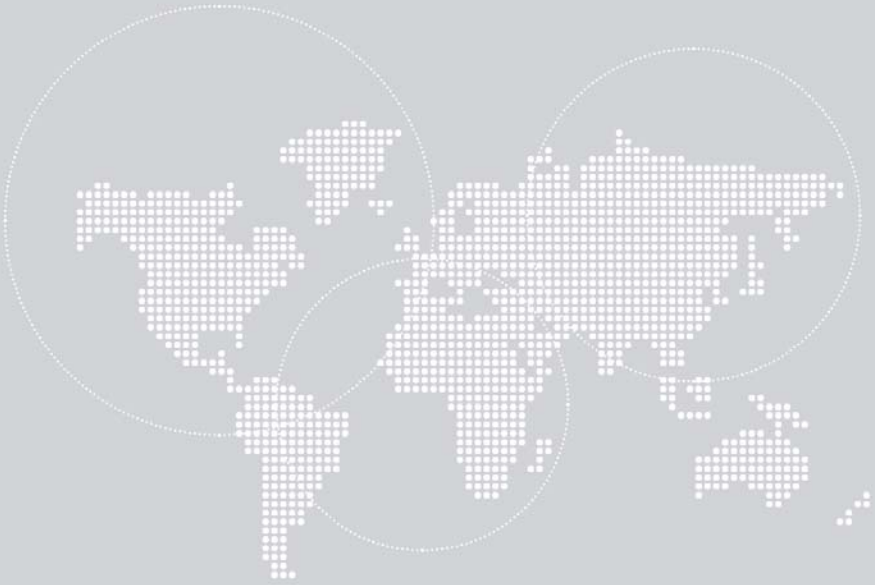
The integration of duct supports, stiffeners and bracing sections into the expansion joint supply can result in a complete problem solving package, rather than contractually interfaced scopes. DEKOMTE manages the technical and commercial aspects of various on-site disciplines and trades.

DEKOMTE site experience is available as a consulting engineering service or project management of a defined scope of work.

Critical Operation Design

DEKOMTE offers a design to meet the individual operating parameters of each power plant. However, for comparison we can see here the difference in a base load and cycling design.

13 Sirius Rd, Lane Cove, NSW 2066
Telephone: +61 (0)2 9428 7300 • **Facsimile:** +61 (0)2 9428 7399 • **Email:** pogc@hmagroup.com.au
www.hmagroup.com.au
POGC Sensor Technology Pty Ltd : ABN 42 058 605 959



World Offices

AUSTRIA	OMAN
BAHRAIN	PAKISTAN
BELGIUM	POLAND
BRAZIL	RUSSIA
CZECH REPUBLIC	SAUDI ARABIA
FINLAND	SINGAPORE
FRANCE	SPAIN
GERMANY	TURKEY
ITALY	UK
MALAYSIA	UNITED ARAB EMIRATES
MEXICO	U.S.A

Australasia Official Representative of DEKOMTE

POGC Sensor Technology - HMA Group
Website: www.hmagroup.com.au
Contact: 13 Sirius Road, Lane Cove, NSW 2066
Tel: 02 9428 7300 Fax: 02 9428 7399
Email: artarmon@hmagroup.com.au