ORICA CASE STUDY

EXPANSION BELLOWS SOLUTION

INDUSTRY:
Chemical

PROJECT:
NAP1 Stack Replacement Project

SOLUTION:
Expansion bellows: custom designed by KLINGER
DN600, DN1350

OVERVIEW

Orica is one of the world's largest providers of commercial explosives and blasting systems and a leading supplier of sodium cyanide. Given the volatile nature of chemicals or media stored, produced and monitored, any equipment utilised by Orica is required to meet stringent safety, design and quality standards.

The end user required six new expansion joints as part of their NAP1 Stack Replacement Project. The initial scope was to meet a pre-specified pipe size, a high temperature and corrosive application and long life cycle requirement. Scoping of additional specifications through consultation with the end user was required to identify design parameters.

APPROACH

The challenge faced was the need to meet a relatively high life cycle. Throughout the scoping and design process, KLINGER worked closely with the customer, collaborated across several departments and quickly responded to the end user. A number of product design options and drawings were created and submitted to the customer in order to arrive at the optimum design solution.

Our project team partnered with KLINGER Turkey to design and manufacture the custom bellows solutions. Both companies worked together to meet customer design requirements; product length, movement, application and life cycle specifications.

‘Orica have used KLINGER gaskets on site at our Kooragang Island facility for many years and when an opportunity to source flexible expansion joints or bellows arose, KLINGER offered their services as an alternative supplier.

Orica then included KLINGER in the tendering process to provide the bellows solutions to some technically challenging and difficult applications. The service conditions and environment for these bellows means high standards are required to maintain plant and community safety. Throughout the tender process, KLINGER responded to any enquiries promptly and professionally, whether on a technical or commercial level.

KLINGER as the successful tenderer, then ensured all the necessary quality assurance and material requirements were met. There were some hurdles that presented during the build and again KLINGER were quick to advocate on our behalf to ensure our needs were met.

The outcome was very satisfying and we would not hesitate to recommend KLINGER Australia in future bellows applications on site, as their professionalism, attention to detail and customer service guarantee a successful outcome.’

Paul van Balen, Project Engineer – PMO

ORICA

PRODUCT SOLUTIONS

- DN600 pipe diameter expansion bellows at 570mm in length.
- DN1350 pipe diameter expansion bellows at 3100mm in length; a more challenging design.
- 321H Stainless Steel materials were used in the construction of products to suit the corrosive applications.
- All materials were sourced through European supply chains and any materials outside of European origin achieved 3.2 Certification such as small DN15 and DN80 pipes.



DN600 pipe diameter Expansion Bellows



DN600 pipe diameter Expansion Bellows

KEY RESULTS

Delivery of products on time

Quality product build

Met project budget

Total package solution

KLINGER delivered the expansion joints by the agreed delivery date and met project budget requirements. Our ability to manage the project efficiently and swiftly throughout the process together with our partnership with KLINGER Turkey in manufacturing this solution were critical to success.

The customer was pleased with KLINGER’s engineered product solution, their quality build, the recommended maintenance and support services provided and all documentation submitted as part of the packaged solution.