

## Challenge

### Background

A chemical plant which produces raw materials for use in the body care industry was experiencing sealing issues with their shell and tube heat exchangers. The equipment was subjected to constant temperature cycling and had premature failure despite preventative maintenance.



The heat exchanger operated at pressure of 20 bar (790 psi); 220°C (428°F)

## Solution

### Product

The heat exchanger was upgraded with **Chesterton's Live Loading System:**

- **Chesterton 5500 Flange Bolt Disc Springs** maintain constant compression on the gasket seal to reduce/eliminate leakage.
- **Chesterton Steel Trap™** metal/graphite gaskets withstand high pressure and high temperature as well as increased blow out safety. It can be manufactured in virtually any shape.

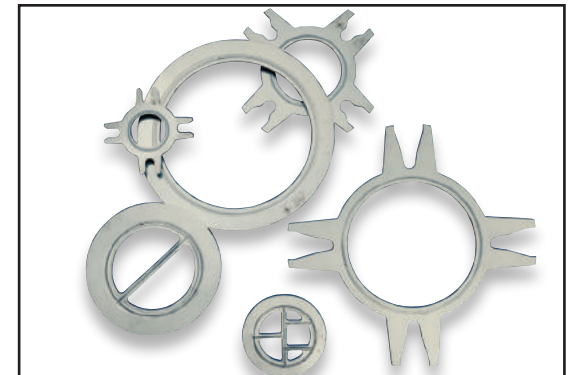


The new system provided constant pressure for the M20 bolts.

## Results

Premature failure of the heat exchanger is no longer an issue with **Chesterton Live Loading** systems. The **Steel Trap** gasket is changed yearly for preventive maintenance.

Three additional heat exchangers were upgraded to the same solution.



The **Steel Trap** gasket provides improved performance with minimum seating stress