

UNIFRAX APPLICATION STORY



Product Solution: Isofrax[®] 1400 Modules
Industry: CPI (Petroleum Refining)
Application: Ethylene Steam Cracker
Location: Belgium

JUNE 2018

Business Challenge

The end user is a global chemical company with a portfolio ranging from oil and gas to chemicals, plastics, performance products, agricultural products and fine chemicals. Their Petrochemical group has gained over 50 years' experience in developing solutions in manufacturing various products from benzene and have one of the largest chemical complexes located in Europe, this forms the group's main production unit. Unifrax offer the highest quality products for their clients and combine this with comprehensive technical assistance to guarantee the best refractory lining and thermally efficient solution.

The unit was a double cell ethylene steam cracker furnace running at high temperature (1200 °C) and required a lining refurbishment.

Application

Working with our client, a leading refractory and fibre company serving the European markets, it was decided that Unifrax were the natural choice for the supply of the replacement lining.

An engineered solution was developed for this critical application. Considerations were made for the problems that they had previously experienced with the existing lining. Isofrax 1400 grade Anchor-Loc Modules were chosen as the ideal solution due to their thermal performance and temperature resistance. On site assistance from the Unifrax Application Engineering team was provided to train and assist the installation team, who were not familiar with the RX2 and Thread-Loc anchoring systems.

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Solution

Isofrax 1400 grade modules were chosen using the RX2 and Thread-Loc anchoring systems. The chemistry for Isofrax 1400 also passes EU requirements for health and safety due to unique LBP (Low Bio-persistent) qualities of the chemistry. Special shaped modules were also included

(Photo-1)



Photo-1 "L" shape Isofrax 1400 modules

After welding of the studs following the layout of the lining drawing, 25mm thick Isofrax 120LD Board was installed as a back-up layer. Each board was drilled during installation and placed over the M8 studs that were welded to the casing.

(Photo-2)



Photo-2 Isofrax 120LD Board back-up layer

After all of the back-up boards were installed the next stage was installation of the modules. All modules were supplied edge stack construction 300 x 300mm, 350mm thick x 190 kg/m³ density with the majority using the RX2 type side fixing system. The RX2 rows were closed with Thread-Loc Modules also 350mm thick, the same density. The base sections of the end and side walls were refractory brick construction.

(Photo 3, 4 and 5)



Photo-3 Fibre and refractory sections



Photo-4 Corner lining



Photo-5 Roof lining

Customer Advantages

The Application Engineer worked closely on this project with the client to develop an engineered solution. This was accomplished by providing engineered drawings and on-site support for the successful installation of the Isofrax 1400 Module lining.

The benefits included a thermally efficient lining with enhanced operating productivity. The installation guidelines allowed simple installation in the shortest time possible. As a non-classified solution, this installation was carried out within EU Health and Safety regulations.

About Unifrax

Unifrax is a global leader in high-performance specialty products used by many industries in a diverse group of industrial applications. Our products provide substantial improvement in thermal performance, save thousands of dollars in energy costs and can help reduce your operations environmental footprint.

Contact Us

To learn more about Unifrax Thermal Management Solutions, contact your Unifrax sales representative or the Unifrax Application Engineering Group in your region:

North America: +1 716 768 6460

Brazil: +55 19 3322-8000

Europe: +44 (0) 1744 88 76 00

India: +91 22 2921 2200

Asia: +86 533 3288764

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