UNIFRAX APPLICATION STORY

Business Challenge
Oil refineries provide one of the most challenging applications to service due to their infrequent shut down and maintenance schedules. Very specific specifications for components and process lend another level of difficulty when trying to determine the proper lining requirements, especially with a new product on the market.

Refineries will run two or more years between major shutdowns, so failures of the lining and/or the attachment hardware is completely unacceptable. Often applications of this type require PMI (Positive Material Identification) for all components installed. These and other quality control measures help to guarantee a lining solution that will not cause costly shutdowns.

Product Solution: Isofrax® 1400 Module
Industry: CPI (Petroleum Refining)
Application: Ethylene Cracker
Location: Europe

Application
One of the ethylene cracker furnaces located at this facility was undergoing a scheduled maintenance shutdown. This shutdown required the replacement of the cracker piping, providing an ideal opportunity to replace the existing refractory grade suspended brick arch lining within the radiant section. It was determined that a low thermal mass lining would provide energy savings thru efficiencies inherent to Fiber Modules. Fiber Modules also provide an installation advantage over much heavier refractory designs in this application.

Unifrax I LLC / Corporate Headquarters / 600 Riverwalk Pky, Suite 120 / Tonawanda, NY 14150
Telephone: 716-768-6500 / Website: www.unifrax.com
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“A LINING SOLUTION THAT WILL NOT CAUSE COSTLY SHUTDOWNS”

Solution
Isofrax™ 1400 Modules were determined to be the optimal product to use in this application due to their low thermal conductivity which met the customer’s energy saving expectations and temperature requirements. The chemistry for Isofrax 1400 also passes EU requirements for health and safety due to unique LBP (Low Bio-persistent) qualities of the chemistry. (Photo-1)

The arch area that was lined was made up of two rectangular sections 15,460 meters (50’) long and 1677mm (5’-6”) wide. The modules were supplied as square blocks 300 x 300mm (12’x12’). Specialty shapes and bullnose modules were also incorporated into the design and supplied by Unifrax. Installation of the arch lining was carried out successfully and the unit returned safely to service. (Photo-4 and Photo-5)

Customer Advantages
Working closely with the client, Unifrax helped develop an Engineering solution with the customer and the installation contractor. This was accomplished by providing engineered drawings and project direction for the Isofrax 1400 Module installation.

Benefits include a thermally stable lining with increased efficiency. The ease of installation allows for a shorter installation window, and the lack of a cure out schedule means that the system could be put back into service upon completion. 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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