

KFAS Success Story: Flexpipe & RTP

KUWAIT INTERNATIONAL ADVANCED INDUSTRIES COMPANY (K.S.C.)¹ AND KUWAIT FOUNDATION FOR ADVANCEMENT OF SCIENCES²

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ABOUT THE PROJECT:

Kuwait International Advanced Industries (KAI) has partnered with Flexpipe to produce a Reinforced Thermoplastic Pipe (RTP) that can be used in upstream, middle stream and downstream transportation of oil & gas. KFAS supported the test pilot of such pipes in the oil fields for Kuwait Oil Company (KOC).

1. A BRIEF DESCRIPTION ABOUT THE COMPANY

KAI is a privately owned HDPE manufacturing facility situated in Western Shuaiba, Kuwait. KAI was established in 1998 as a Kuwaiti Joint Stock Company (K.S.C.C.) and has current a paid up capital of USD 11,500,000. It is owned by a group of highly influential and reputable individuals and companies, from both a local and regional perspective. Initially purely an HDPE pipe manufacturing facility, KAI officially commenced with commercial production of HDPE pipes for the first time in April of 2002.

Traditionally, the infrastructure market was dominated by clay and concrete pipes due to the fact that their rigid characteristics lead to the false perception that stronger is better. KAI's success during its early years proved significant as it was able to create a major shift in the market, moving away from customary piping systems and towards more flexible and advanced HDPE solutions. Today, KAI proudly boasts an impressive 85% of the local market share.

Having been a key player in the market for over a decade, KAI successfully pioneered the introduction of countless new products into the local and regional markets. Today, the company has two manufacturing plants, consisting of 7 pipe extrusion lines, rotational molding machines, recycling units, and custom fabrication teams.

2. WHAT IS RTP

RTP is an innovative solution which caters to the ever growing demand of the oil & gas industry. Due to the intense pressure requirements of this industry, steel pipes are typically utilized on a comprehensive level; upstream, middle stream, and downstream applications. RTP is a relatively new cost-cutting product which combines the flexibility of plastics with the sturdiness of metals, thus providing the end user with the perfect answer to all their piping requirements. Critically, RTP fulfilled KFAS's requirement of falling under the STI related solution of testing of new advanced technology material.

3. GETTING INTO RTP

The State of Kuwait is a major producer of crude, and is internationally recognized as one of the world's major players in the oil and gas industry. Consequently, this industry alone amounts to approximately 50% of the nation's GDP and 95% of its export revenues.

After first learning about RTP in 2003, and coming to understand the considerable contributions it can add to the country's dominant industry, KAI has been vigorously searching for the ideal partner to introduce this relatively new product into the region. KAI's executive management team was wary of the fact that introducing new products into the market is an extremely delicate task, and typically, there is little margin for error. After nearly 8 years of research, including a meticulous vetting process of the finest RTP manufacturers available, KAI found that Flexpipe is the best and most suitable candidate. Almost immediately afterwards, in July of 2012, the KAI Team flew out to Calgary, Canada to meet the Flexpipe Team for the first time.

Since then, a productive partnership emerged in which KAI became the official agents for Flexpipe for the territories of Kuwait, Iraq, and Qatar. Today, KAI and Flexpipe work closely together as one team, successfully completing numerous milestones, with the unified goal of integrating RTP into the local and regional markets.

4. KOC PILOT TRIAL

Despite the fact that RTP is widely recognized and used internationally, it is still considered relatively new to the Middle East, and specifically, the Gulf region.

KAI has approached the Research and Technology Department (R&T) of KOC, the responsible department for scoping new technologies that are potentially beneficial to the company, to consider RTP for future KOC tenders. Subsequent to R&T's clear and overt interest in this product, an agreement was reached between KAI and KOC to implement a Pilot Trial in which the performance of RTP would be tested and monitored in an existing and operating crude oil flow line.

The project's success was contingent on the following factors:

1. Laying and installation of RTP pipe at a rate \geq 1km/day
2. Hydrotest of RTP spool at x1.5 the design pressure for period of 24 hours
3. HSE compliance
4. No leakage
5. Successful testing of spool AFTER trial period - trial period is nine (9) months

In accordance with the stipulated success criteria mentioned in the contract (above), the project was eventually deemed a success. On the 24th of February 2016, KOC furnished a completion certificate confirming the official success of the project. RTP has now taken a major step into penetrating the oil & gas industry in Kuwait, and ultimately, the entire region.

KFAS'S INVOLVEMENT

KFAS played a key role in encouraging this ambitious effort by KAI. KFAS is an acronym which stands for the Kuwait Foundation for the Advancement of Sciences, and in this particular project, KFAS stayed true to its name in displaying unwavering support to KAI throughout. // [0.05cm]

Moving forward, KAI would definitely consider reapplying for KFAS support in the future, and would moreover encourage local companies to do the same.

FUNDING INFORMATION

This project was co-funded by the Innovation & Enterprise Directorate, Kuwait Foundation for Advancement of Sciences to support in-house R&D for the development of Science, Technology and Innovation in Kuwait International Advanced Industries Company (K.S.C).

CONTACT INFORMATION

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