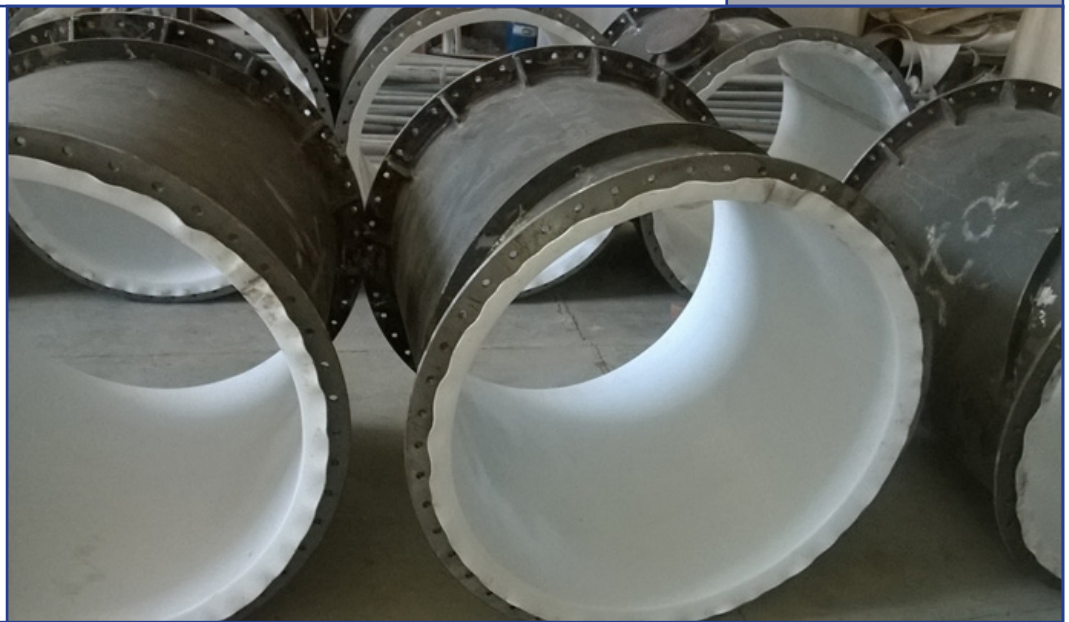




**Petrochemical
Industries Design
Equipment & Parts
Manufactring Co.**



Project Summary

Year:
2016

Duration:
6 Months

Client:
SPEC

Owner:
Arvand Petrochemical Co.

U:

Equipment Type:
Stack

Quantity:
1

Weight:
4 Tons

Work Scope:
Mechanical design, fabrication and PTFE lining

Fabrication of PTFE Lined Stack

Project Tchnical information:

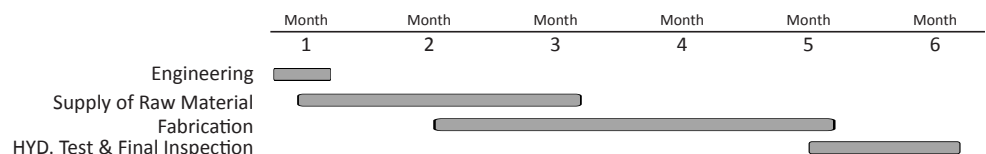
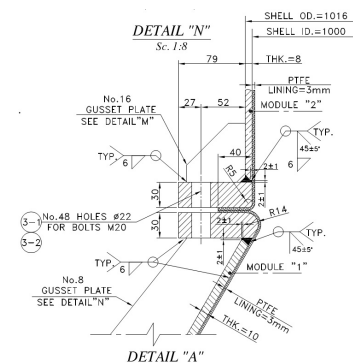
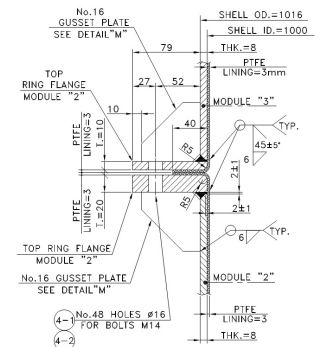
Item	PTFE Lined Stack
Construction Material	Carbon Steel
Design Code	ASME SEC.VIII Div.1
Material Code	ASME
Service	Safety Scrubber Stack
Design Pressure	atm.
Design Temperature	150 °C
Medium	Exhust Gas
ID * TL to TL (mm)	1000 X 10,000
Thickness (mm)	8

Overview:

This stack is used in EDC/VCM unit of Arvand Petrochemical company. Having major corrosion problems due to trace values of HCL in its flowing fluid (Vapor), every 6-7 months the stack was replaced by a new one. Pidemco fabricated this equipment with a new design and improved operating life. Considering that main working fluid in this stack is chloride which cause carbon steel and stainless steel stress corrosion cracking, we had to find a reliable solution. One economic and effective solution is PTFE Lining. The equipment has been 2 years in service (June 2018) and no failure occurred until this time.

Engineering

This STACK is specially designed to resist corrosive environment. PTFE lining is loose, thick and fully resistant to corrosion. It is suitable for almost all corrosive fluids within the temperature range from -50°C to +230°C. Due to the inertness of PTFE to



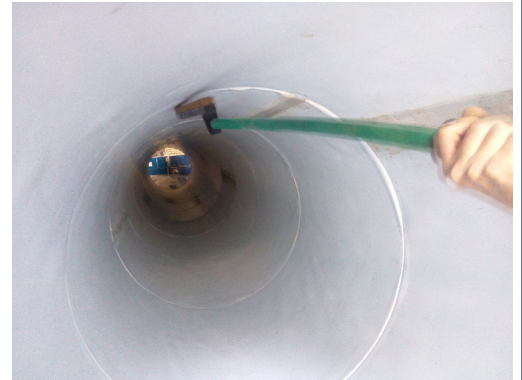
Project Features:

PTFE Lining of C.S.

almost all chemicals and solvents, it acts as an effective barrier between the chemical and steel, thus not only protecting the equipment, but also safe guarding working environment.

Fabrication

In order to Properly stick/attach PTFE layer to internal surface, the length of the cylinders should be shorter than 1 meters, while the stack in this project is 10 meters long. Therefore, the cylinder is divided to 10 parts and were joined to each other using flanges. PTFE lining of conical and flanged parts is a complicated work and should be done with care and experience.



Quality control

Lining integrity is critical, even very small micro cracks or defects can allow flow media to reach the body material. To inspect the lining, hydrostatic and Electrostatic test should be done on the equipment. In electrostatic test equipment is subjected to 25KV nondestructive spark test. The test is carried out as specified in ASTM F 1545. This test is carried to detect any defects, cracks pin holes in the liner. Spark occurs which is audible and visible if there is any defect in the lined part. Stack operates at Atm. Pressure so chances of leakage from bolted connection is very low, however the stack was air tested at 1.5 bar after assembly of segments together.

Find about Pidemco

at : www.pidemco.com

Contact Pidemco:

info@pidemco.com

+98 21 468 30200~209

No.33, Sanat Yekom
St., Enghelab Blvd.,
Shahr-e-Ghods, 20th km
Tehran-Karaj Old Road,
Tehran, Iran

