

Case story #10

INDUSTRY	PETROCHEMICAL PLASTICS
MEDIA – COND	HCl, 125°C
MATERIALS	GT KELITE
EQUIPMENT	SHELL & TUBES HEAT EXCHANGER COOLER
YEAR	2015

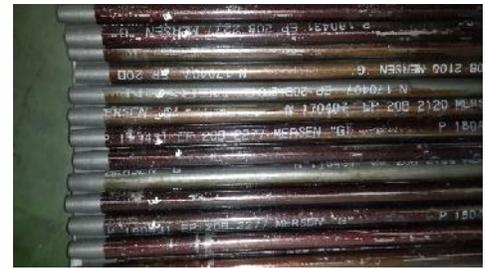
A graphite shell and tubes heat exchanger with water on service side was not drained during shut down period. Ambient temperature lead to ice in the shell which broke completely the bundle made of graphite tubes.



The original equipment was manufactured by SGL. The end user, a Taiwanese chemical company established in China, had in stock some graphite tubes from Mersen and wished to use these tubes to rebuild the bundle.

GT accepted the challenge to repair the equipment using and mixing graphite from Mersen and from SGL to rebuild the equipment.

GT received the equipment in its workshop. Equipment was completely disassembly. Tubesheet and baffle were removed.



Headers in graphite were hydraulic tested. Steel parts corrosion status were assessed.

The two tubesheets were machined and prepared for cementing with tubes according to GT connection design and procedure.



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GT knows that the cementing of tube into tubesheet is a weak corrosion point for such equipment. GT is the only company which after cementing heat up the cementing area up to 130°C to insure high reticulation of cement resin for the best corrosion and mechanical resistance. Competitors use infrared light heating tubesheet at 50 °C maximum.

The bundle was rebuilt and introduce in the same shell. The equipment was hydraulic tested and shipped back to end user in around 2 weeks.

GT can provide all models of gaskets used by its competitors and most of them are kept in inventory for fast after sales services.



Graphite Technology manufactures a wide range of equipment with a wide range of graphite materials for all chemical processes industries.

Heat exchangers, column, reactors, piping & fittings, fuel cells,...adapted to pressure, highest corrosion and wide temperature range up to 1500°C (2730°F).

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