



**Case story #12**

<b>INDUSTRY</b>	METALLURGY PICKLING
<b>MEDIA – CONDITIONS</b>	HCl pickling liquor
<b>MATERIALS</b>	GT TOYO KELITE+
<b>EQUIPMENT</b>	SHELL & BLOCKS HEATER
<b>YEAR</b>	2014

Danieli is a leader in the design and installation of equipment for metallurgy industries. Danieli install pickling line for carbon steel coils.

For a project in China the end-user requested the best quality on the market for the pickling liquor heaters. Graphite heat exchanger for such function has usually limited lifetime and expensive maintenance cost due to poor workmanship.

GT proposed to adopt grade GT-TOYO KELITE+, an ultrafine grain graphite impregnated with phenolic resin material. This grade is able to withstand temperature up to 220°C with pickling liquor for carbon steel.

Not only material is exceptional, but GT's has unique features for pickling equipment which bring exceptional resistance to harsh operating condition on pickling lines.

- STABLE LOAD, unique spring system which eliminate mechanical stress variations during thermal cycling of heaters. Reduce stress variation by more than 90% compared to competition design.
- FILT-IN, demister at inlet steam to stop water from steam flow, which can impact and damage graphite,
- SHOCK PROTECT, unique block drilling to resist water or steam hammer and increase block mechanical resistance.
- "HP" (high pressure) design with thicker ligament to better resist steam hammering
- C-HARD, inlet wear plate to protect graphite from erosion of metal particles from the pickling liquor.
- Special sealing surface which allow gasket material with low compression force.



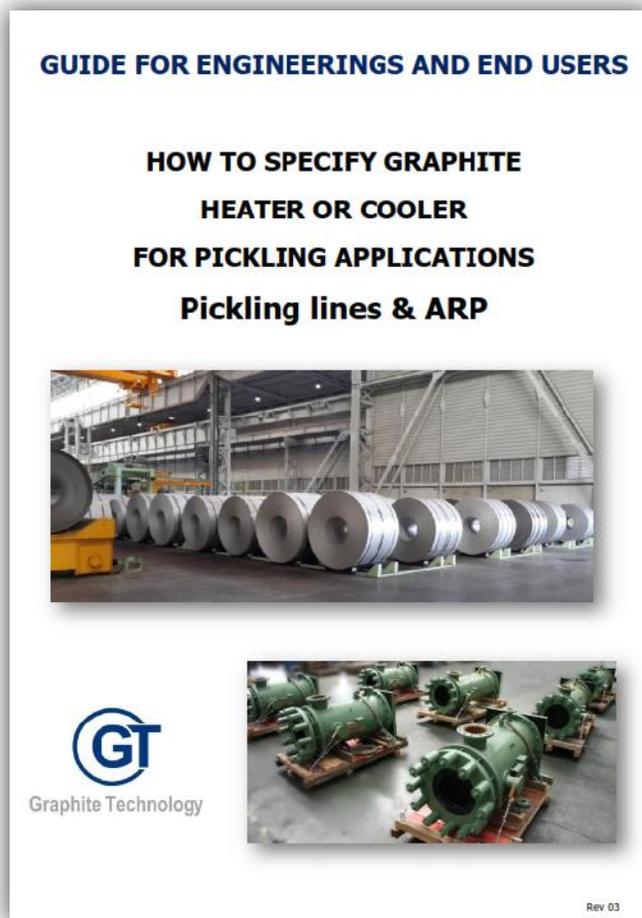
These GT's equipment for pickling are the most reliable on the market.

Danieli adopted GT's products for several project since 2014.

Allow customers to confidently and smoothly operate media in harshest conditions of corrosion, fouling, temperature and pressure.

Allow customers to push forward the efficiency and cost effectiveness of their chemical processes.

To help you specify equipment for pickling line, consult our “Guide for engineering and end users – Specification of graphite , Heater or Cooler for pickling Applications”



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).

Contact us : [info@graphite-technology.com](mailto:info@graphite-technology.com)