

This abstract will be presented during LNG2023 conference on 10-13 July in Vancouver, Canada among many other innovative projects, ideas and outlooks. LNG2023 will provide a unique platform for the global LNG industry and key stakeholders to discuss, debate, and showcase the latest industry developments and opportunities.



LEAD AUTHOR

Nicolas Bilbault
ACHE Product Line Director, KELVION THERMAL SOLUTIONS HOLDING

CO-AUTHORS

Nicolas Bariteau
Head of Thermal design department KELVION THERMAL SOLUTIONS SAS

IMPROVING THE OUTPUT FROM LNG TRAINS USING DUAL ENHANCED SURFACE TUBES IN NON-CRYOGENIC EXCHANGERS.

Air Cooled Heat Exchangers (ACHEs) have a direct influence on Liquefied Natural Gas (LNG) production plants and especially on the refrigeration loop (refrigerant condensing and mixed refrigerant compression services). Moreover, ACHEs are by far the largest equipment items by area, having a direct impact on the plant size, and therefore on its capital expenditure. Designers of LNG plants are always trying to find solutions for increasing heat outcome from the ACHEs keeping the footprint of the plant acceptable. Based on the above, a consortium made of Kelvion Thermal Solutions (KTS), Wieland Werke and Technip Energies, have developed a dual enhanced surface finned tube called "DIESTA" for ACHE application in order to optimize LNG plants efficiency. DIESTA finned tubes have microstructures inside and outside which create turbulence and therefore increase the heat transfer coefficient on tube and air sides.

Figure 1 – Diesta finned tube

KTS offered the DIESTA finned tube technology to an ongoing LNG project in order to reduce the size and cost of ACHEs. The project team saw a good opportunity to reduce operating cost and improve future LNG production, keeping the footprint of the facility unchanged. The project team then asked KTS to fine tune ACHE design using maximum process flow rates for the 5 ACHEs of the refrigeration loop. The DIESTA finned tube technology allows for improving the ACHEs efficiency and performance.

To view the full conference agenda, visit <https://www.lng2023.org/lng-programme-overview>