THE PERFORMANCE DEGRADATION OF A HEAT EXCHANGER IS ESSENTIALLY DUE TO TWO PHENOMENA WHICH OCCUR OVER TIME:

- Fouling resistance due to impurity accumulation contained in both fluids
- Increased thermal resistance at the tube-to-fin bond due to thermal cycling dilatation of the materials and to corrosion at the fin base or root. These factors creates a loss of contact or bond pressure in between the fins and the tube.

HOW TO PREVENT LOSS OF PERFORMANCE?

- Fouling impact on heat exchanger performance can be reduced by an internal and external cleaning on a regular basis.
- There is No remedial solution (except tube replacement) for correcting performance degradation due to increased tube-to-fin resistance but **this can be prevented by using aluminum extruded finned tubes.**

WHY POWERFIN ALUMINUM EXTRUDED FINNED TUBES PREVENT LOSS OF PERFORMANCE DUE TO TUBE-TO-FIN BOND RESISTANCE?

- The aluminum completely encloses the tube material, No gap between fins ➔ No possibility of contaminant accumulation underneath the fins ➔ No possibility of corrosion in between fins and tubes.
• More than 1200 psi (>85 bars) applied on aluminum when forming the fins on tubes ➔ Excellent mechanical bond ➔ No risk of fin detachment over the years due to thermal dilatations or vibrations.

OTHER IMPORTANT BENEFIT OF POWERFIN ALUMINUM EXTRUDED FIN TUBES:

• Cold forming finning process ➔ Much more rigid fin than aluminum ribbon of same thickness ➔ Easy maintenance (severe coil cleaning without fin damage)

Did you know?

EXTRUDED ALUMINUM FINNED TUBES ARE ALSO CALLED:

• Integral aluminum finned tubes due to the fact this is the only fin technology where aluminum is completely covering the tubes.
• Bi-metal finned tubes.

THE FOLLOWING QUOTE FROM ALDO GUCCI PERFECTLY REFLECTS THE VERY ESSENCE OF OUR EXTRUDED FINNED TUBE TECHNOLOGY:

«THE BITTERNESS OF POOR QUALITY IS REMEMBERED LONG AFTER THE SWEETNESS OF A LOW PRICE IS FORGOTTEN»

*Pictures from "Fin tube performance", Chemical Engineering Progress, July 1996
Note: This article is based on several independent scientific articles which may be available upon request.