Education Facility Case Study

EndoCool®

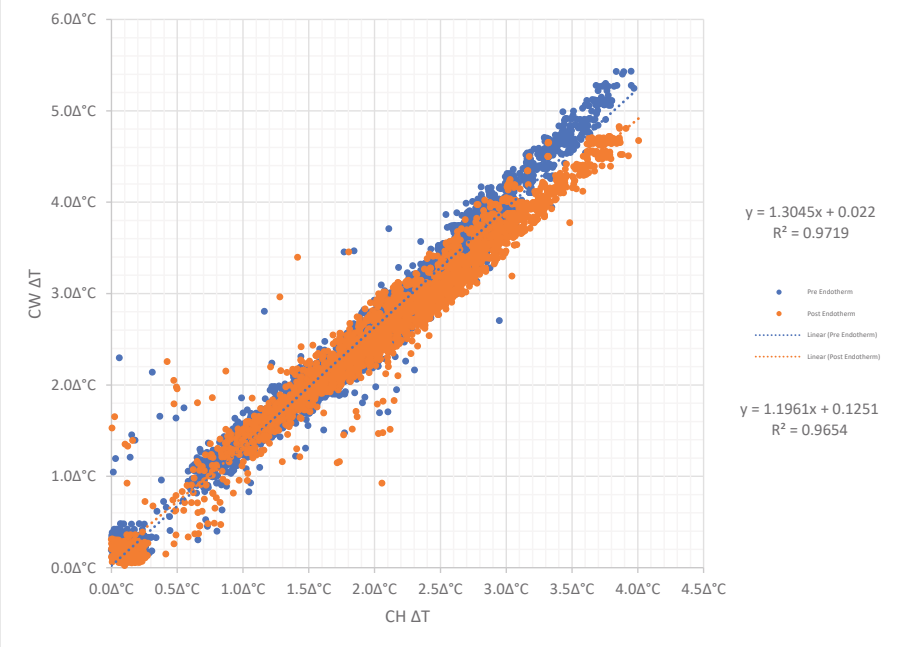
Following the success of EndoTherm with a major education facility a case study was run on EndoCool at a main campus building over the summer of 2018.

COMFORT COOLING

The campus building, built in 1998, is 241,747ft² in size and is home to a number of environmental science departments. The building is cooled by a 400-ton Smardt WA125 chiller plant.

ANALYSIS 1: IMPROVEMENTS IN ΔT

The education facility keeps 15-minute interval data recorded for flow and return temperatures for both the chilled water (CH) and condenser water (CW) circuit. A comparison of the condenser ΔT compared to the chilled water ΔT was undertaken before and after the EndoCool installation.



This analysis shows that before EndoCool was installed, the condenser ΔT would have to be 1.3045°C for every 1°C required by the secondary chilled water system. After installation this has reduced to 1.1961°C, an 8.31% reduction in the required ΔT.

ANALYSIS 2: CHILLER ENERGY CONSUMPTION VS COOLING DEGREE DAYS

The energy consumed by the chiller system is calculated by the education facility on a daily basis. This energy consumption can be compared with Cooling Degree Days from nearby Vancouver International Airport to identify a change in energy utilized once the EndoCool product is installed.

This comparison over a four month period shows an **overall reduction of 11.9%** in the required energy to maintain comfort cooling conditions at the campus building once EndoCool was installed.