

Waterloo LFG Power Plant - An Insulation Challenge

LFG power plants are a very high temperature application. These engines generate a lot of heat, and this heat is constant. "Our plant is running 24/7", says Chris Turner, plant operations supervisor at Toromont Energy. "Plus, you get exhaust leakage in the turbo and waste gate area".

Toromont understood that this heat would need to be contained in order to keep the plant temperature down to levels where personnel can work. But given the constant, high heat and exhaust leakage, regular insulation blankets just would not do. Chris Turner explains: "The soft style manifold blanket sections under the after cooler on the G3516 engine are prone to early failure. This is due to the heat they are subjected to and the lack of clearances between the exhaust manifold, the water manifold and the after cooler supports and the difficulty these narrow clearances create. The silicone impregnated fibreglass outer material becomes brittle with the heat and the blanket starts falling apart after 3 or 4 removals."



Toromont turned to Firwin for help. "Toromont needed a blanket that could stand up to the demands of an LFG power plant", notes Paul Herman, Firwin's president. Firwin's research and development department first proposed adding an aluminum outer coating to the company's standard blankets. However, it turned out that the continual high heat was putting too much strain on even these blankets. "We realized that the Waterloo LFG facility required a truly unique solution", recalls Paul. "We were committed to developing a blanket that could withstand the constant heat, exhaust leaks, and would last".

The result - a stainless steel welded blanket - was presented to Toromont, and has been in use ever since. "The hard style blanket is much easier to install due to its rigid design, and is not prone to coming apart. This new design lasts at least twice as long as the original soft-style blanket", notes Toromont's Chris Turner. "The other area where the hard style blankets stand up much better is the waste gate and exhaust elbow sections. These areas are subject to very high temperatures and are prone to exhaust leaks. The new hard style blankets in these areas are much easier to install and remove due to their design and they last much longer", adds Chris.



"We are always ready to help a customer through an insulation challenge", says Paul. "I am glad we have been able to provide Toromont with the solution they needed".