



Milled Components

KAEFER has developed a unique system that significantly reduces installation time and improves the quality of complex insulation components.

The main problem for insulation contractors are pipe bends and tees, flanges and valves and vessel heads. These components are traditionally hand-formed on site utilising highly skilled manual labour and is time consuming.

Our solution has taken CNC (Computer Numeric Controlled) Machine Technology to the next level to create an automated CNC Foam Carving System. Milled components that are difficult to install on-site are pre-fabricated in a workshop controlled environment.

The insulation components that fit perfectly are transported to site and installed efficiently saving time and labour.

The automated process eliminates inaccuracies and inefficiencies of the manual process.



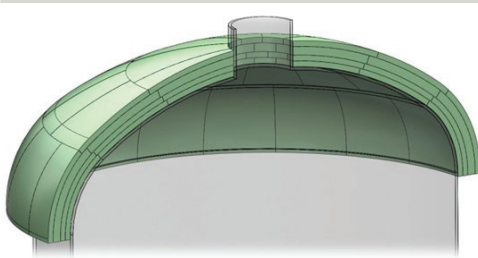
CNC Foam Carving Machine

Facts about Milled Components

- > Kits are produced that matches cladding and insulation components.
- > There is a vast library of standard components.
- > The system provides unlimited flexibility for the production of complex components.
- > PIR or other insulation material can be used for the process.
- > The system is totally flexible in regard to the types of cladding metal finish.

Advantages of Milled Components

- > Significantly reduces on-site installation hours equating to lower costs
- > Improves quality by automated production in a controlled environment
- > Decreased manual labour and associated potential errors
- > Accurate fitting of insulation - components are manufactured to fit
- > Reduces joints and mastics
- > Reduction of on-site skilled labour
- > Elimination of gaps
- > Unlimited manufacturing flexibility





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Milled Components Production

Step 1: MODEL

3D Cad design software used to model the parts and test for fit. Alternatively, the parts can be modeled using scanning or digitising techniques.

Step 2: OPTIMISE

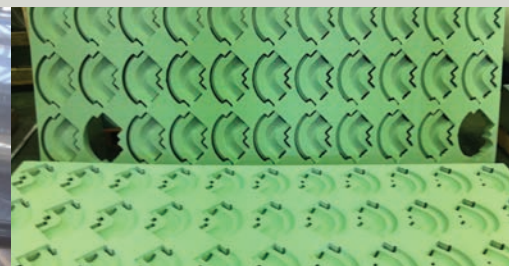
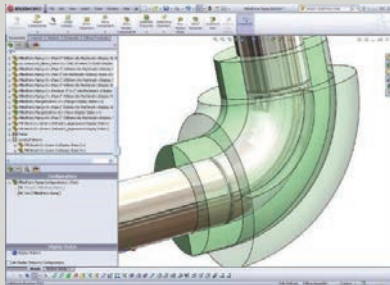
Cad files are converted to machine code and parts optimized/nested into standard block sizes.

Step 3: MACHINE

Blocks of PIR or other insulation materials are machined.

Step 4: INSTALL

Parts are cleaned, packed and then sent to site for installation.



References

KAEFER has supplied extensive product throughout to the following refineries:

- > Woodside Karratha Gas Plant
- > Woodside Pluto LNG
- > Chevron Gorgon LNG Malaysia, China and Indonesia
- > Petronas MLNG, Bintulu

The KAEFER Solutions Team

- > Technical experts in insulation design, fabrication and supply
- > Global procurement cost economies
- > Technical assistance with project execution
- > Supply only or supply and install