Thermal Insulation Software..

A supplier of industrial insulation wanted to have a tool to predict and calculate the insulation thickness and type required to give the desired performance.

Microsoft Excel was requested as the platform to be used, it was to allow the user to input a number of insulation layers at the correct type, thickness and orientation. The user then inputs the conditions: temperature, convection, radiation, etc. From this the programme will calculate the temperature profile across the wall and generate a report for multiple cases so that the optimal design can be found.

Visual Basic was used to write the programme, a finite difference model was at the core to calculate the thermal profile and give all the needed functionality; a database for material properties, automatic reporting tool and a User form Wizard guide.

Insulation Effectiveness

Table compares and highlights which cases perform best and worst

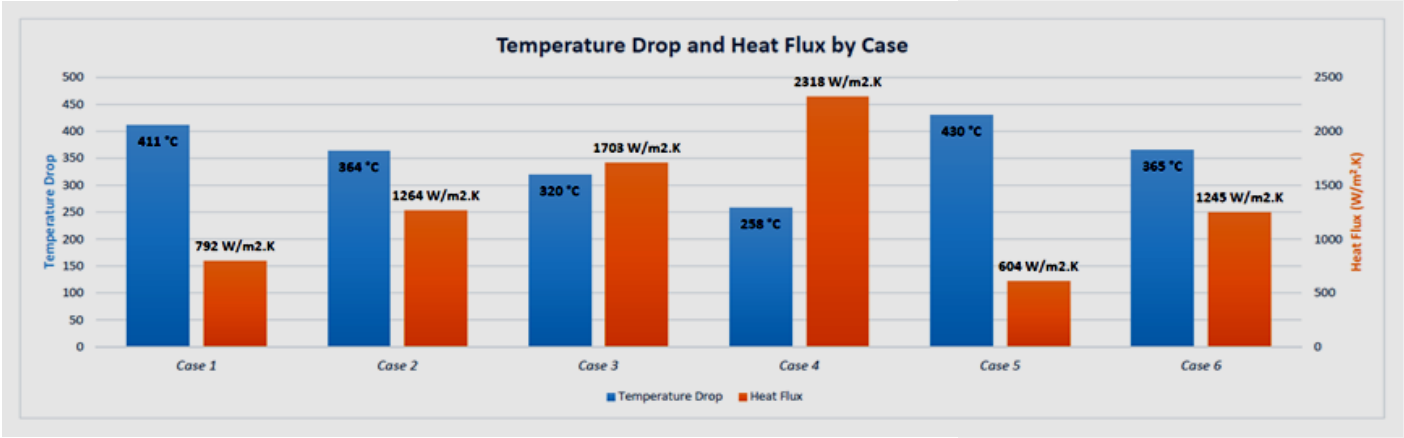
	Case 1	Case 2	Case 3	Case 4	Case 5	Case 6
Temperature Drop (°C)	411	364	320	258	430	365
Cold Face Temperature (°C)	89	137	180	242	71	135
Heat Losses (W/m^2.K)	792	1264	1703	2318	604	1245

KEY:

← Best Design Case — Worst Design Case →

High Temperature Drop / Low Heat Flux — Low Temperature Drop / High Heat Flux

The **Heat Wizard** and its functionality was built with customer input throughout to create an individual, bespoke tool that suited all their requirements. On any new enquiry or project this software is the first point of call to ensure the correct insulation type and thicknesses are used to get the best costed performance.



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