

TEMPERATURE AND HUMIDITY MONITORING PROTECTS THERMAL INSULATION IN BUILDINGS

GRANT SQUIRREL DATA LOGGERS OFFER A PORTABLE SOLUTION



CAS DataLoggers provided the datalogging solution for a large manufacturer of insulation materials which had an ongoing problem with moisture getting in during storage and shipment of their insulation rolls. The company's thermal insulation in buildings was crucial to its customers in construction due to its ability to improve energy efficiency and to help reduce [greenhouse gas emissions](#). Unfortunately, if this insulation material was not stored in the correct way or was stored in an unsuitable environment, it would absorb a significant amount of moisture, which damaged its insulating properties and

greatly lowered its efficiency. To fix this problem, the company wanted to conduct a 'microclimate' study of the best ways to pack their product and needed a portable temperature and humidity monitoring solution which could withstand seasonal rains and operate as a stand-alone solution.

INSTALLATION

CAS DataLoggers supplied a [Grant SQ2020 Series Portable Data Logger](#) to monitor the microclimate conditions within the manufacturer's plastic hood-wrapped pallet of insulation rolls.

This study was conducted to assess the changes in humidity in different areas of the pallet (i.e. spaces between insulation rolls and within the insulation rolls themselves) and the effect of using different packaging methods to try and keep humidity/moisture from entering. To this end, the data logger was configured to monitor 7 channels of humidity and 9 channels of temperature using its 8 to 16 universal analog inputs. The battery-powered Squirrel datalogger monitored the pallet's temperature and humidity with high accuracy, allowing the company to continually monitor their material over 2 months (taking readings every 30 mins) and to record how vapor moved through the pallets daily.

USAGE

The compact and lightweight Squirrel data logger kept logging throughout its exposure to the elements. A built-in display and keypad enabled operation as a stand-alone system, and the device could record up to 14 million readings utilizing a removable SD card. The SQ2020 was easily configured via the built-in buttons and display interface or via PC and offered users both USB and Ethernet connectivity.



BENEFITS

The data was downloaded without interrupting logging using the included SquirrelView configuration and analysis software, complete with a user-friendly, spreadsheet style interface allowing quick set-up of the data logger for any application, speedy data download, and direct export to Excel. As a high-powered option, SquirrelView Plus software was also available for additional benefits such as graphical data analyses and advanced reporting options.

The manufacturer's study was begun and finished in a very short time frame (3 months) and after the data was fully analyzed, a new cost-effective method of packing was identified and implemented. This maintained the properties of thermal insulation in buildings by keeping the insulation material in an ideal condition and ready for immediate use by the end customer. As a result, the company experienced lower product return rates, less rejected stock, and better end customer relations and approvals.

For more information on [Grant Squirrel Loggers](#), thermal insulation in buildings or to find the ideal solution for your application-specific needs, contact a CAS DataLogger Application Specialist at **(800) 956-4437** or www.DataLoggerInc.com.