APPLICATION NOTE

CAS DATALOGGERS

Prepreg Manufacturing Process Benefits from Temperature Monitoring

dataTaker Handles High Channel Count For Heat Treatment

Plants and factories working with prepreg injection and other curing or heat treatment applications can greatly benefit from continual temperature monitoring for their prepreg manufacturing process. Curing, molding, and heat treat applications all save cost and improve product quality by using a data logger to record product temperatures. Temperature monitoring is equally applicable to monitoring phenolic, laminated material, metals and more.

A solution built around a single product has in advantageous as it does not require linking multiple pieces of hardware and dealing with different software applications. We regularly provide manufacturers with high-channel applications for custom temperature monitoring systems using a dataTaker DT80 with a CEM20 20-Channel Expansion Model sometimes mounted in an enclosure.

Prepreg Process Monitoring

An example of well-made fiberglass parts are the parts on a Mack truck: the grill, fenders, and hood are each manufactured from a large piece of fiberglass. In one common molding setup, blocks of laminated fiberglass material are stacked high on a large cart. After loading this material into the fiberglass mold, workers close the press and the fiberglass is heated and compressed. The fiberglass material is then impregnated with resin, which is either sprayed on or otherwise saturated into the material.

At this stage of the prepreg manufacturing process, to ensure an evenly-heated product, technicians place multiple thermocouple temperature sensors into the fiberglass mold at many different points. Then the steam-heated molds close over the material and the thermocouples (typically Type K) log the resin temperature. The temperature sensors send their data to the dataTaker data logger for storage in internal memory. This collected temperature data is vital for improved quality control and documentation of best practices for vendors.

Intelligent Data Logger Monitors Temperature

The dataTaker DT80 is an intelligent data logger with an extensive array of features that allow it to be used across a wide variety of industrial applications. This robust, stand-alone, low-power data logger features 18-bit resolution, extensive communications capabilities and a built-in display. Additionally, the dataTaker DT80's Dual Channel concept allows up to 10 isolated or 15 common referenced analog inputs to be used in any combination.

Universal and Configurable

Analog and digital channels, high-speed counter inputs, phase encoder inputs and programmable serial sensor channels allow the DT80 to easily connect to most sensors and data measurement sources. Temperature, voltage, current, 4-20mA loops—almost any value– can be scaled, logged and returned in engineering units or with statistical values logged.

Expandable to Suit Your Application

It's easy to increase the channel capacity of the dataTaker DT8x range by adding the dataTaker Channel Expansion Module (CEM20). Each CEM20 connects 20 more universal data logging channels to the dataTaker data logger. A CEM20 connects to one analog channel of the data logger.

The CEM20 effectively expands the total channel capacity of the DT80 to 320 analog inputs and the DT85 to 960 inputs. Incorporating the same dual isolation technology as the DT8x range of data loggers, each channel of the CEM20 can be used for two isolated inputs or three common reference inputs. The CEM20 is powered directly from the data logger's 12V input.

For more info on our wide range of Series 4 dataTaker Data Loggers, the prepreg manufacturing process 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.