



Fast-curing epoxy cuts production time by 20 %

A patented, new ABB formula for epoxy resin used in a variety of power technology products slashes curing time from 15 hours to three, and cuts the production cycle by as much as 20 percent.

ABB manufactures more high- and medium-voltage products than any other company.

Products like dry transformers, embedded poles in medium-voltage breakers and instrument transformers are insulated with epoxy resin, preferred by ABB because of its superior mechanical and electrical properties, low water uptake, chemical and temperature resistance, and comparatively low cost.

There has traditionally been one disadvantage to epoxy resin, however – the long post-curing process, which takes an average of 15 hours to complete and limits production flexibility. It also requires significant capital investment in ovens and molds, and takes up valuable floor space for component curing.

A fast-drying formula

ABB's new epoxy formula eliminates this time-consuming and costly post-curing process, while maintaining the robustness and high quality that make ABB power products renowned worldwide. The new mixture means the overall process of mixing, casting and curing now takes only three hours.

ABB calls this new resin "high-speed epoxy." The formulation enables curing to take place at much higher temperatures, without damaging the components. Normally, higher curing temperatures would cause the epoxy to crack and render it unusable.

The new formulation was initially and successfully tested on medium-voltage breaker poles, and is now used to manufacture insulating components at ABB's switchgear factory in Brno in the Czech Republic. Rollout will continue in 2005 at a second production line at Brno and at ABB factories in Germany and Norway.

The innovation is a further example of ABB's research strategy of strengthening process technology while reducing lead times and production costs.