



# BOND XTS WIRE INSULATIONS AND COATINGS

DATENBLATT

Bond XTS is a high-temperature thermoset epoxy bondcoat.

## BONDING INSTRUCTIONS

Bond XTS will soften and reflow with application of heat or after coil winding. Bond XTS can also be activated during coil winding with MEK solvent, Bond XTS exhibits low outgassing in specialized applications.

Bond XTS is typically applied as an overcoat over Polyurethane or Polyester type insulation basecoat to make a bondable magnet wire. Such wire will bond to itself when heat softens the overcoat on adjacent turns and the bondcoat flows together. Upon cooling the overcoat will harden, which locks the turns in place.

If coils are post-baked at 180°C (356°F) for one to four hours, depending on the application then the Bond XTS will maintain its bond strength until at least 200°C (392°F).\*

\*Maximum bond strength is based on the temperature at which the adhesive still retains 5-10% of its room temperature strength.

Post-baking of Bond XTS at lower temperatures for longer periods of time to achieve optimal bond strength is possible, but this post bake cure cycle must be optimized by the coil winder. To gain an improvement on the bond strength requires that the wire coil be held together during the post-baking process. Of course, service testing should be performed to verify the adequacy of the winding construction, the bonding process and outgassing properties.

The post-bake cycle above refers to time at temperature. Ovens of forced hot air stations may require additional time or higher temperatures to bring the wire up to required bonding temperature. Resistance heating of the windings by application of current is an efficient method of bonding. Wire temperatures up to 220°C (428°F) can be tolerated for up to a few minutes. Again it is up to the user to optimize the bonding process.

## LIMITATIONS OF BONDABLE WIRE

Note that bondable magnet wire is ineffective across gaps in a winding, nor will it bond well unless adjacent conductors are in intimate contact. Fine wire, 0.076-0.38mm (0.003-0.015 in.), and precision winding of coils allows one to realize the full benefits of bondable wire technology.

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