



AT ISSUE:



Manufacturers promote product design features to give themselves competitive advantage in the marketplace. Potential customers may be influenced by these promotions, and act without careful consideration of alternatives. In transformers, specifying round coil designs does not necessarily result in benefit to the customer. In some cases, it may even cost the customer more.



Cooper Power Systems' transformer designs meet all ANSI Short Circuit and other performance requirements, and may provide significantly better value than competitive designs featuring round transformer coils.



RECOMMENDATION:

Identify essential performance needs throughout product specifications. In transformer requirements, specify adherence to ANSI C57.12.00 criteria and other applicable industry standards. Then, look for the best value among all alternatives meeting or exceeding your specifications.



RATIONALE:



PERFORMANCE

Cooper designs meet all ANSI Short Circuit test requirements for rectangular coils, and certified Short Circuit test data (design tests) are available on request for many of these designs. Measured performance on some test units actually exceeds the requirements for round coils.



At Cooper, all three-phase transformers undergo impulse testing. The impulse test, which consists of a reduced wave and a full wave, is performed on all primary windings as well as on all secondary windings designed to 60 BIL and above.



RELIABILITY

As a manufacturing standard, Cooper coils are compressed, then baked under pressure to set the "B" stage epoxy paper used to bond the coil.



With full width secondary windings, there is no significant vertical short circuit force. Horizontal short circuit forces are supported on the sides of the coil both by core clamps sized for the maximum radial short circuit forces as well as by solid pressboard phase-to-phase and phase-to-core clamp insulation. This added support protects coils against premature wear due to vertical and horizontal vibrations when subjected to repeated motor starting loads or when through-faults occur.



FIRST COST

In specifying a particular product feature such as "round coil", customers may be unknowingly limiting their transformer purchases to more expensive designs that do not provide corresponding increased value.



THE BOTTOM LINE:

Specify performance requirements instead of product features, and choose transformers from the supplier providing the best overall value - Cooper Power Systems.

