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Reference: **ELT\_295\_2**

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Type:

**Electra**

Title:

**Insulation degradation under fast, repetitive voltage pulses**

The use of power electronics in industrial drives has brought several advantages (e.g. flexibility of electrical energy conversion including regenerative braking, more compact and lightweight drives). However, power converters have been associated, already at the end of the eighties of the last century, with the reduced reliability of several components (the stators of low voltage random wound motors have experienced the most dramatic loss of reliability). In the future, these effects will become more and more an issue in the future due to the ubiquitous use of power converters in smart grids.

This brochure is aimed at presenting, for a number of equipment typologies, the reasons behind accelerated degradation of insulation systems subjected to repetitive surges induced by power electronic converters. Also, the solutions provided by the International Electrotechnical Commission for induction motors will be discussed, as they might be used as a reference for other type of electrical components. Eventually, the use of nanodielectrics as a tool to alleviate the aforementioned problems will be shortly discussed.

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More Informations :

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