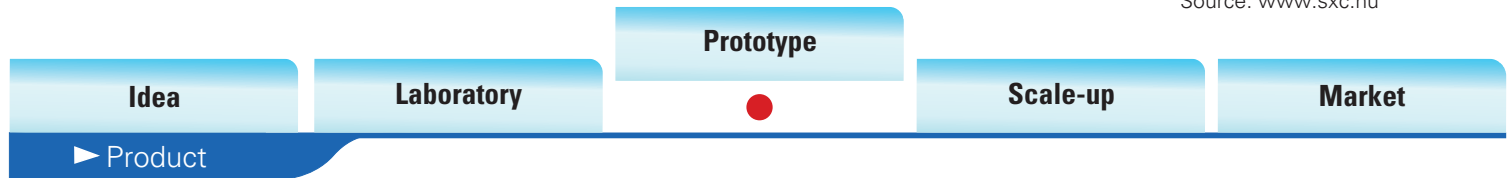


“Efficiency and cost effectiveness in the protection of electric power generation and transmission lines.”



Source: www.sxc.hu



Description

The technology consists of varistor compositions (nonlinear resistors) that can be used in protective devices against electrical surges against electrical surges in high voltage systems, as well as the process for obtaining them. The technology presents an innovative composition and low production cost.

Benefits

Compositions based on calcium copper titanium oxide (CCTO) enable the development of safety devices against electrical surges at much lower costs than those of competitors currently on the market, such as varistors based on zinc oxide (ZnO), silicon carbide (SiC) or titanates. Thus, they offer a cost-saving and efficient alternative for the protection of equipment used in high voltage systems, such as those used in the sector of electric power generation, transmission and distribution.

Problem

The market of equipment protection devices offers numerous varistor compositions. However, all these compositions involve high-cost materials.

Market potential

Electric power generation and distribution companies are engaged in a continual search for new technologies to protect their equipment. According to a survey by INPE (National Institute for Space Research), in Brazil, lightning causes annual losses of approximately US\$ 1 billion, which impacts the electrical sector the most, with estimated losses of US\$ 600 million. Varistors are among the group of products most imported by Brazil's electrical and electronics industry (semiconductors), accounting for US\$ 4 million in imports in 2008, which reinforces the need for the development of national technologies for the sector (ABINEE, 2009).

Proposed solution

The present technology offers varistor compositions based on calcium copper titanium oxide (CCTO), a material whose cost is significantly lower than that of its competitors.

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