

Irradiation of electrical insulating polymer Materials -High Voltage Studying-¹

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Abstract

The use of non-ceramic insulating materials was increased in the electrical and high voltage engineering. There are many advantages to use materials instead of ceramic insulators in electrical application like: Hydrophobic property, elasticity, light weight and inability to break. The increasing use of the radiation in the fields, civil development of electronic accelerator and new methods of polymer materials radiation give good results in cross-linking of these polymers, and the improvement of their electrical and physical properties.

The purpose of this study is to find the best way of irradiation to cross-link the polyethylene materials and to get the best properties. The theoretical and practical methods of irradiation with Gamma rays, was studied, and many similar test samples was made of polyethylene. Then we studied the change in electrical properties of polyethylene before and after irradiation. This paper deals with the important results which we have obtained in this study.

¹ For the paper in Arabic see pages (77-99).

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