EPOXIES AND ELECTRONICS

EPOXY RESIN COMMITTEE

IT & electronics are a sector where the number of applications of epoxy resins has been increasing sharply in the past few years. In light of their properties as electric insulators, epoxies are a vital component in internal circuits, transistors and printed circuit boards, LED's, solar panels and many other devices. Without epoxies, essential everyday items such as smartphones or modern medical equipment like MRI scans would not exist.

Epoxies are easy to use thanks to their several formulations and variable liquid or solid state. Additional advantages include the absence of volatile organic compounds, not needing to sag the coating to make it thicker, less hazardous waste and a wide range of specialty effects further strengthened by the development of new materials and technologies.

In terms of production volumes, uses of epoxy resins in energy and electrical coatings account for 17,600 tonnes of epoxy resins produced by ERC members annually. The energy and electronics sectors combined use up to 69,000 tonnes, and represent the largest segment of epoxy applications in Europe.[1]

Greater and safer energy supply

Epoxy resins contribute to increase the reliability and efficiency of energy supply by lowering the costs of electrical transmission and distribution systems. Their properties are particularly useful for products working at high voltage levels, providing greater operational flexibility and durability. The use of epoxy resins brings benefits to end users and energy-intensive businesses alike, many of them being key economic drivers such as for example the manufacturing, distribution or logistics business.

Did you know? At the end of their life, electrical appliances must be collected in Europe in compliance with the Waste from Electrical and Electronic Equipment (WEEE)[2] Directive. Once collected, the appliances must be disposed of in compliance with the European waste[3] regulations. Epoxy coated parts of appliances are collected and processed at industrial plants to recover metals for re-use. The epoxy-based coating is converted into harmless by-products during the processing of coated metal reducing the overall environmental impact of its products.

[1] 'The Socio-economic Value of Epoxy Resins', 2015
[2] Recast of the WEEE Directive, European Commission WEEE Directive 2012/19/EU
[3] EU Waste legislation, European Commission, 2012

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