



VICTREX® PEEK FILM TECHNOLOGY

## Victrex APTIV® Film and Current Halogen Regulations

This document summarises current regulations regarding the permitted halogen content of polymer raw materials and the conformance of Victrex APTIV® film to those regulations.

There have been several initiatives in recent years for companies to use more environmentally friendly materials for making products. The electronics industry has been in the vanguard of this initiative.

Previous initiatives such as the RoHS legislation focused on the use of heavy metals such as mercury, cadmium and lead, along with specific chemicals such as hexavalent chromium compounds. Victrex APTIV film is manufactured by Victrex from those polymers conform to RoHS standards – product-specific certification confirming RoHS conformity is available separately from Victrex sales offices worldwide.

The recent thrust of initiatives around low halogen and “Green” materials, again lead by the electronics industry have been focusing on the area of flame retardants, and particularly materials like PVC and those materials containing polybrominated phenylether compounds.

During this search we could find no specific reference to fluorine, iodine, and astatine (other Group VIIA halogens) being restricted in the industry definition of “halogen-free.”

Our survey of the legislation as of February, 2008 has revealed the following standards which are relevant:

- ▲ JPCA (Japan Printed Circuit Association)- JPCA-ES-01-1999 defines criteria and method for “halogen-free” as follows:
  - Bromine, Br: less than 0.09wt% (900ppm)
  - Chlorine, Cl: less than 0.09wt% (900ppm)
- ▲ IEC ( International Electrotechnical Commission) – finalised requirements of IEC 61249-2-21:
  - Bromine, Br: maximum 900ppm
  - Chlorine, Cl: maximum 900ppm
  - Total Halogens: maximum 1500ppm
- ▲ IPC (International Printed Circuits) – IPC-4101B has adopted the IEC definition of halogen-free:
  - Bromine, Br: maximum 900ppm
  - Chlorine, Cl: maximum 900ppm
  - Total Halogens: maximum 1500ppm

Taking the above definition of IEC 61249-2-21, the classification of unfilled Victrex APTIV film as “halogen-free” remains unchanged as of February, 2008.

This applies to all APTIV film grades with the exception of APTIV 1200.

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