JJI granted European patent for fully recyclable computer housing

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According to the company, the patent covers a specially formulated polypropylene compound using proprietary non-halogent flame retardant technology that it says is ideally suited for injection molding recyclable plastic computer housings and constructions boards.

JJI Technologies (Painesville, OH) is a developer and supplier of flame retardants with its focus on environmentally friendly grades of these additives. The European patent is was granted for the material for fully recylable computer housings, EP2045288, could grab the attention of OEMs that in Europe must follow the Waste Electrical Electronic Equipment (WEEE) directives. These directives mandate that suppliers of electronic devices sold in Europe must finance the cost of treating and recovering the types of products they import, rebrand or manufacture. The products also must meet Restriction of Hazardous Substances (RoHS) directives that limit the use of brominated and halogenated flame retardants, among other substances, in some products.

JJI reports there have been assembled prototypes of the housings and the material has been independently tested to confirm that the flame retardant material may be recycled at least five times without loss of the UL94 V0 flammability standard with minimal impact on physical properties.

In answer to PlasticsToday questions, JJI Technologies replied that the compounds used to mold these fully recyclable computer housings (see photo) can be processed on standard plastics processing machinery. Standard injection molding machines were used to mold the prototypes, with lower temperature profiles generally used to mold products containing the compound.

In addition to the recyclable computer enclosure, JJI Technologies says it has additional proprietary material technology that can be applied to internal electrical components such as wiring, connectors and circuitry allowing recovery of precious metals without using burning processes. In answer to our question on this, the company replied that it could not go into detail because of the proprietary nature of the separation process. "Technology exists where some materials can be separated and precious metals remain without mechanical chopping, grinding or burning," added JJI.

JJI Technologies says it is in discussions with manufacturers and retailers regarding the technology, and is seeking parties interested in licensing the material technology for incorporation into product manufacturing.