

HIGH-DENSITY COMPOUNDS SUPPLANT HEAVY METALS IN FLUOROSCOPY SYSTEMS

A compound developed to curb lead pollution from blank rounds on U.S. military training grounds is now finding use in the medical field. Similar compounds are turning up in products ranging from golf clubs to seat-belt locks.

Xitec, in East Windsor, CT, makes low-power portable X-ray fluoroscopy systems for medical, industrial, security, and veterinary markets. It has switched from lead to a tungsten-containing compound, Ecomass, for its tube shields as a way to save production costs, improve product quality and reduce health and safety risks. Tungsten is an inert material.

Meanwhile, Ecomass, from PolyOne, is part of a new family of high-density Polymetal thermoplastic-metal composites. It has the density of lead (11 g/cm^3) and blocks radiation as effectively as lead does. Due to its complex shape, the Ecomass part is half the weight of its lead predecessor, and it is half the cost.

PolyOne says Polymetal compounds can be formulated using a variety of thermoplastic binders and filler composi-



Tungsten X-ray tube shields are lighter and cheaper than lead versions. [Photo, PolyOne]

tions to tailor the products' density, deflection temperature under load, tensile strength, impact strength, and flexural modulus.

LNP's Thermocomp HSG composites, produced in 14 resins, have densities ranging from 1.7 to 10 g/cm^3 . Golf club maker Ping uses different compounds to produce club heads of different weights without changing molds.

A high-density platable Valox polybutylene terephthalate compound from GE Plastics looks and feels like metal. NBV401 contains around 50% of an unidentified filler. GEP is target-

ing kitchen and bath hardware, cosmetics containers, and decorative items. Its high thermal conductivity makes it suitable for heat-exposed applications. The compound could also provide X-ray shielding, the company suggests. GEP cites high toughness, and excellent ductility for small parts and thin-wall designs. Valox NBV401 is available for sampling. *PolyOne, 33587 Walker Rd., Avon Lake, OH, 44012*