ELMET TECHNOLOGIES' RADIATION SHIELDING PRODUCTS FOR NUCLEAR MEDICINE

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Elmet Technologies' advanced engineered components enable nuclear medicine and molecular imaging to absorb X-ray and gamma radiation to provide safer diagnostic and therapeutic treatment. Elmet Technologies' tungsten alloy components are utilized in gamma cameras, PET scanners, brachytherapy, and the handling of radioactive isotopes.

As a global leader in refractory metals technology, Elmet Technologies has a trusted integrated supply chain delivering high performance materials from powders to semi-finished and finished products. We partner with customer to develop components for the latest radiation shielding technology including build-to-print components and design assistance in machining tungsten alloy materials.

Materials

> Tungsten and Tungsten Alloys

> Tungsten Alloy Powders for 3D Binder Jet Printing

Applications

> Radioactive Source Containers for Isotope

> Radioactive Isotopes Injection Shielding Storage and Transport

> PET Scanners and Radiotherapy

Radiation Shielding with Tungsten Alloys

Radiation shielding plays a key role in nuclear medicine, particularly, in the handling of radioactive materials. Radioactive source containers for transporting radioactive materials from PET isotope production centers to cancer treatment hospitals, and syringe covers for injecting radioactive isotopes require tungsten alloys for shielding against radiation contamination. Elmet Technologies' PET SEPTA plates are produced for collimation shielding in PET scanners.

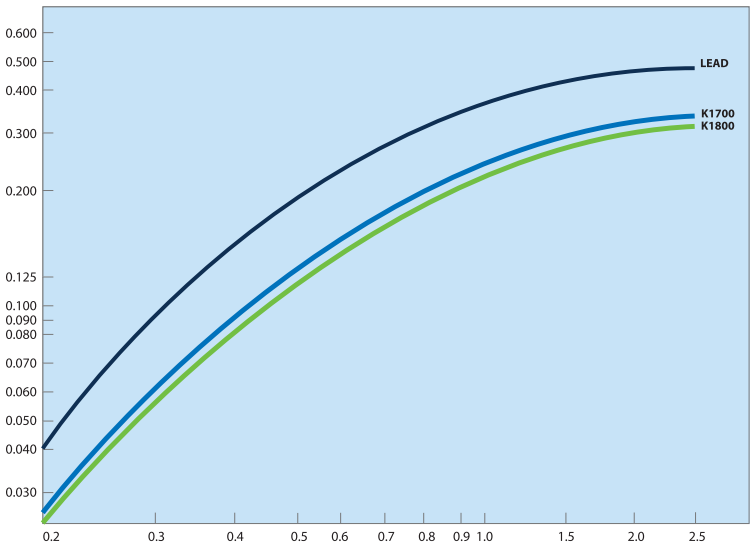
Elmet Technologies' Fabricated Products for Nuclear Medicine

Elmet Technologies offers complex-shaped components with density ranging from 17.2 to 18.5 g/cc per customer design.

MATERIALS	FABRICATED PRODUCTS	APPLICATION	END USE
Tungsten Alloys	> Isotope Containers	> Cancer Treatment "Afterloader"	> Radioactive Source Handling Components > Brachytherapy > Tc99 Generator
Tungsten Alloys	> Syringe Covers	> Radioactive Isotope Shielding > Vial Shielding	> Radioactive Isotope Injection
Tungsten Alloys	> PET SEPTA Plates	> Collimation and Shielding	> PET Scanners
Tungsten Alloy Powders	> Gamma Camera Collimator 3D Printed Parts	> Collimators > Anti-Scatter Grids > Binder Jet Printing	> Gamma Camera

Tungsten's Radiation Absorption Efficiency

The absorption of x-rays and gamma radiation is in direct proportion to the density of the shielding material. Elmet Technologies' tungsten alloys are more than 1.5 times as effective as lead and deliver extremely effective protection, particularly where space is limited.



Gamma Ray Energy (MeV)
RADIATION ABSORPTION EFFICIENCY

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