Tungsten Alloy
Vial Shield for Positron Emission Tomography (PET)

T&D Materials manufactures and supplies the premium and reliable tungsten alloy vial shield for positron emission tomography (PET). T&D understands the necessity of precision for these applications and ensures the highest quality.

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Positron emission tomography (PET) is one of the nuclear medicine techniques available for diagnosis. Whilst X-rays provide information on the structure of the body, PET shows the chemical function of a particular organism. PET involves the injection of FDG (a glucose-based radionuclide) from a shielded syringe into the patient. As the FDG travels through the patient’s body it emits gamma radiation which is detected by a gamma camera, from which the chemical activity within cells and organs can be seen. Any abnormal chemical activity may be a sign that tumours are present. PET scans are frequently used to detect cancerous tumours and diseases of the brain and coronary arteries.

Applications for Tungsten Alloy Shielding in PET include:

• PET Syringe Shielding
• Tungsten Vial Shielding
• Collimator for Gamma Camera
• Tungsten FDG Transport Container

Tungsten Alloy Vial Shield for Multi Leaf Collimator

Radiotherapy destroys cancer by directing beams of radiation directly onto the tumour. The beams of radiation require a very fine focus to avoid harming the surrounding healthy tissue. This focus is achieved by using a multi-leaf collimator, consisting of two rows of very thin tungsten alloy plates, which can be configured to exactly match the dimensions of the tumour.