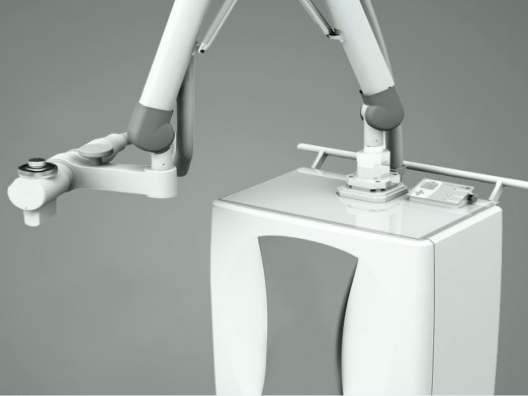




High Quality, Accurate, Patient Specific Superficial Shield

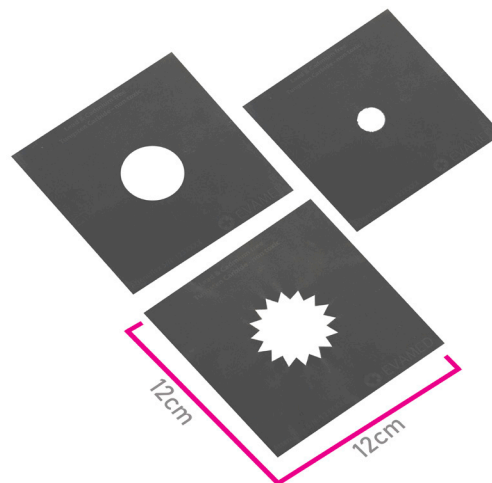
AttenuFlex

- NonToxic
- Tungsten Carbide material
- Patient specific capabilities



Custom Superficial Shield

Utilising advanced 3d computer aided design (CAD) and computer numerical control (CNC) techniques, Evamed has been able to develop streamlined manufacturing processes that utilises an accurate map of a patient's required radiation therapy treatment area to create a precise, customised superficial shield. AttenuFlex allows Radiation Therapists to deliver highly conformed X-ray beams whilst minimising exposure to healthy tissues. The Evamed AttenuFlex is malleable and available with and without, the precise aperture, designed from the patient's CT scan and confirmed in planning and cut utilising waterjet-cutting facilitating creation of high-accuracy, patient-specific, complex-profile apertures. AttenuFlex is created from proprietary Tungsten Carbide composite that attenuates similarly to lead; it is non-toxic, able to be physically handled, is reclaimable and can be sanitised. This process allows for a high degree of accuracy, to produce on-demand custom designed, malleable Tungsten Carbide shields for individualised patient treatment. This production process allows for quick and efficient production and delivery.



Tungsten Carbide Powder

Introduction

Lead shielding is commonly used throughout the world to define the shape of X-ray beams using kilovoltage x-rays¹ and electrons (plus wax)². The use of lead however presents a serious health concern for both patient's and hospital workers. Tungsten has previously been suggested as a substitute to lead for both x-ray³ and electron⁴ radiation therapy. AttenuFlex – Malleable Tungsten Carbide shielding is used in superficial radiation Therapy where a patient requires full prescription dose on the skin surface. The AttenuFlex acts as a lead equivalent material, placed on the patient's skin to minimise scattering of x-ray and electron beams to non-targeted areas. However, AttenuFlex has properties making it preferable for different applications. In general, the aim is that AttenuFlex will contact well with the patient's skin, resulting in minimal air gaps, reduced radiation scatter, be of uniform density and thickness, be reproducible to position, and not cause discomfort to the patient in either the creation or daily positioning of the shield.





Clinical Use

The testing thus far has shown that AttenuFlex has suitable physical properties as to be an alternative to conventional toxic lead options, providing reproducible densities coupled with ease of use. This confirms published studies which tend to focus on the technical aspects of the generation of the superficial and dosimetric properties when determined in phantom studies⁴.

Lead Free

The use of lead containing materials at room temperature, let alone melting point, is a serious health concern for the hospital workers and patients when it is placed onto radiotherapy machines for patient treatment. Special rooms and handling procedures have been developed to manage the risk but this comes at a high operating cost to the hospitals. Unfortunately, this does not eliminate the risk as lead is still toxic even in final form ready for use. Evamed has utilised a manufacturing process which is rigorously tested and is guaranteed 100% lead and cadmium free.

R&D

Evamed has invested over \$1 Million in R&D specifically to design an environmentally friendly material that can be used as a replacement for LMPA traditionally used within the Varian and Elekta LINACS.

Lead Time

Evamed's advanced technology allows for same day dispatch on orders placed before 9am.

Attenuflex Unique Features



A Superior alternative to traditional lead radiation shield devices

Laser etched labelling



Non-hazardous



Superficial & Orthovoltage use



Improved accuracy of all Attenuflex water jet cut apertures



Significant reduction in preparation time

1.) Hill R, Healy B, Holloway L, Kuncic Z, Thwaites D, Baldock C; 2014; Advances in Kilovoltage x-ray beam dosimetry, Phys. Med. Biol.; 59, R183-R231 2.) Butson M, Cheng T, Rattanavong S, Hellyer J, Gray A, Nelson V, Short R, Rajapakse S, Lee J, Fogarty G, Izard M, Hill R; 2015; Reducing shield thickness and backscattered radiation using a multilayered shield for 6-10 MeV electron beams; Australas Phys Eng Sci Med; 38, 619-626 3.) Taijiri M, Sunoaka M, Fukumura A, Eno M; 2004; A new radiation shielding block material for radiation therapy; Medical Physics; 31(11), 302-3023 4.) Yue K, Luo W, Dong X, Wang C, Wu G, Jiang M, Zha Y; 2009; A new lead-free radiation shielding material for radiotherapy; Radiation Protection Dosimetry; 133(4), 256-260

Testimonials

"The team at Evamed actively engage in customising their products to our departmental needs. They show eagerness in investigating improvements and thoughtful design modifications are proffered frequently. Exciting things have been made possible for us!"
- *Waikato Hospital, New Zealand*

Technical Specifications	
Density (g/cc)	> 9 (Equivalent to LMPA)
Size (cm)	10x10,12x12, 15x15
Working Temp (°C)	< 50 °C
Materials	Tungsten Carbide



TGA Registration no: 299710



E: info@evamed.com.au
W: www.evamed.com.au
T: +61 7 3255 5549

Unit 8, 201 Evans Road
Salisbury QLD 4107
Australia

Our unique Orders Portal <https://portal.evamed-global.com/users/login> allows our registered clients to upload patients redacted files in various formats such as .DAT, .CSV, .STL or .DCM

Orders Portal Login



Username

Password