

**UniRay**

**KRYPTOLITE**

**WORLD'S LIGHTEST  
LEAD FREE PROTECTION  
MATERIAL**

UniRay LiteGreen

CE0120



# **KRYPTOLiTE**

## **High Absorption Protection Material**

UniRay's vision of innovation has led to the revolutionary development of KyrptoLite, a German collaboration product using Patented Chemical Formulation. KryptoLite with its Multi Layer Technology also absorbs Fluorescence Radiation and back scatter thus providing optimum safety to the user.

KryptoLite incorporates two or more elements with Radiation Absorption Properties that are coated considering their linear Attenuation Coefficients and energy photon spectrum. Metals with higher density are so organised that X-Rays from 50 keV to 150 keV are effectively absorbed by the layer of attenuating materials.

KryptoLite complies with new standards of IEC 61331-3:2014. It has been tested as per BBG method in compliance with IEC 61331-1:2014.

KryptoLite technology has a unique property which gives a very high PWR (Protection to Weight Ratio). This means aprons using KryptoLite technology will have a high protection as per the IEC Standard at a very low weight. KryptoLite is at least 15-20% lighter than any another Lead Free material in the world.



**KryptoLite is an environment friendly technology for easy disposal.**

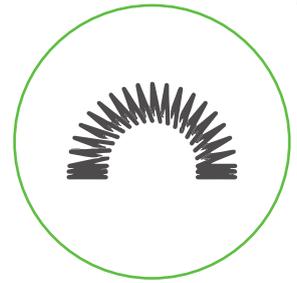
# FEATURES OF *KRYPTOLITE*



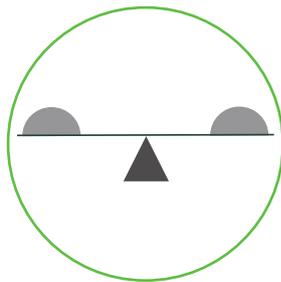
Higher protection due to Multi Metal Layering



Longer Life due to thermal coating



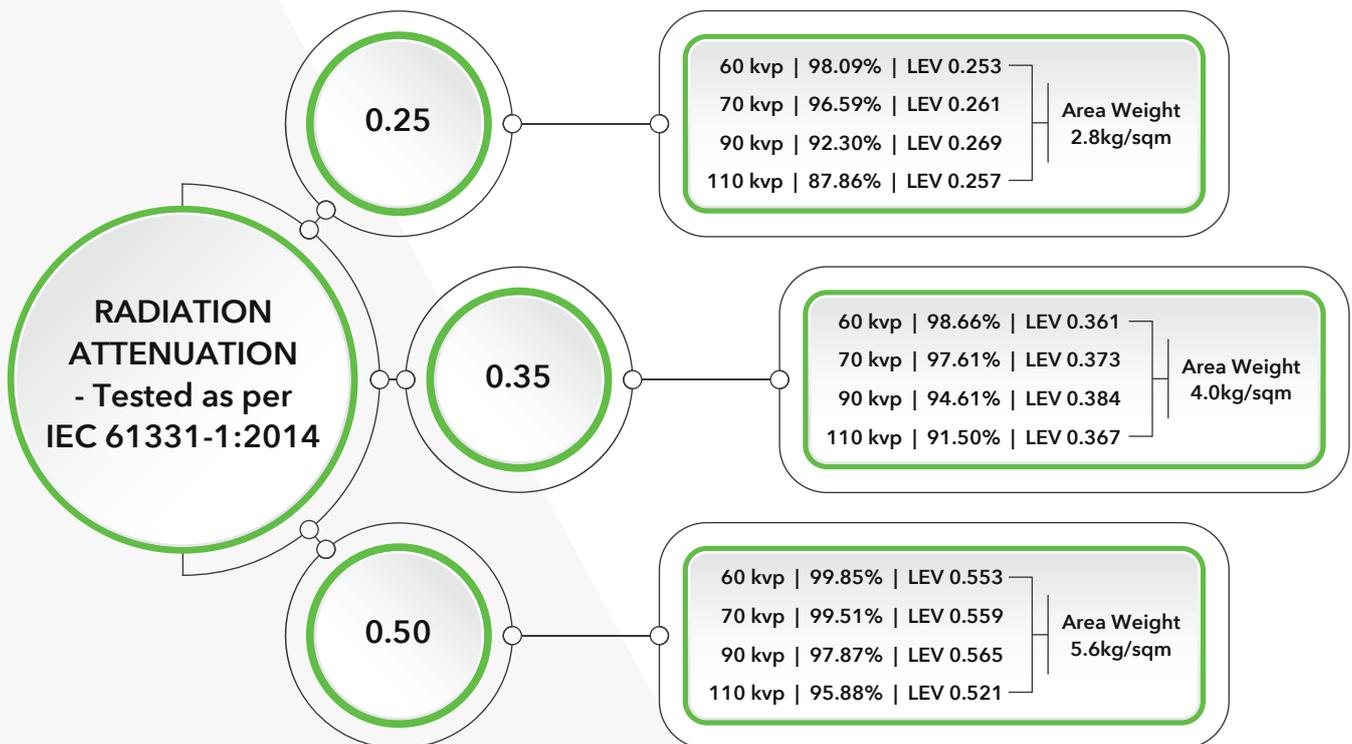
More flexibility due to fine grain metals



High Protection to Weight Ratio (PWR)



Phthalate Free



\*Tested in a notified German Laboratory

A 100 cm x 60 cm Frontal Apron of 0.5 mm Pb equivalent will weigh only approx 3.4 kg using KryptoLite

# WHY *KRYPTOLITE*

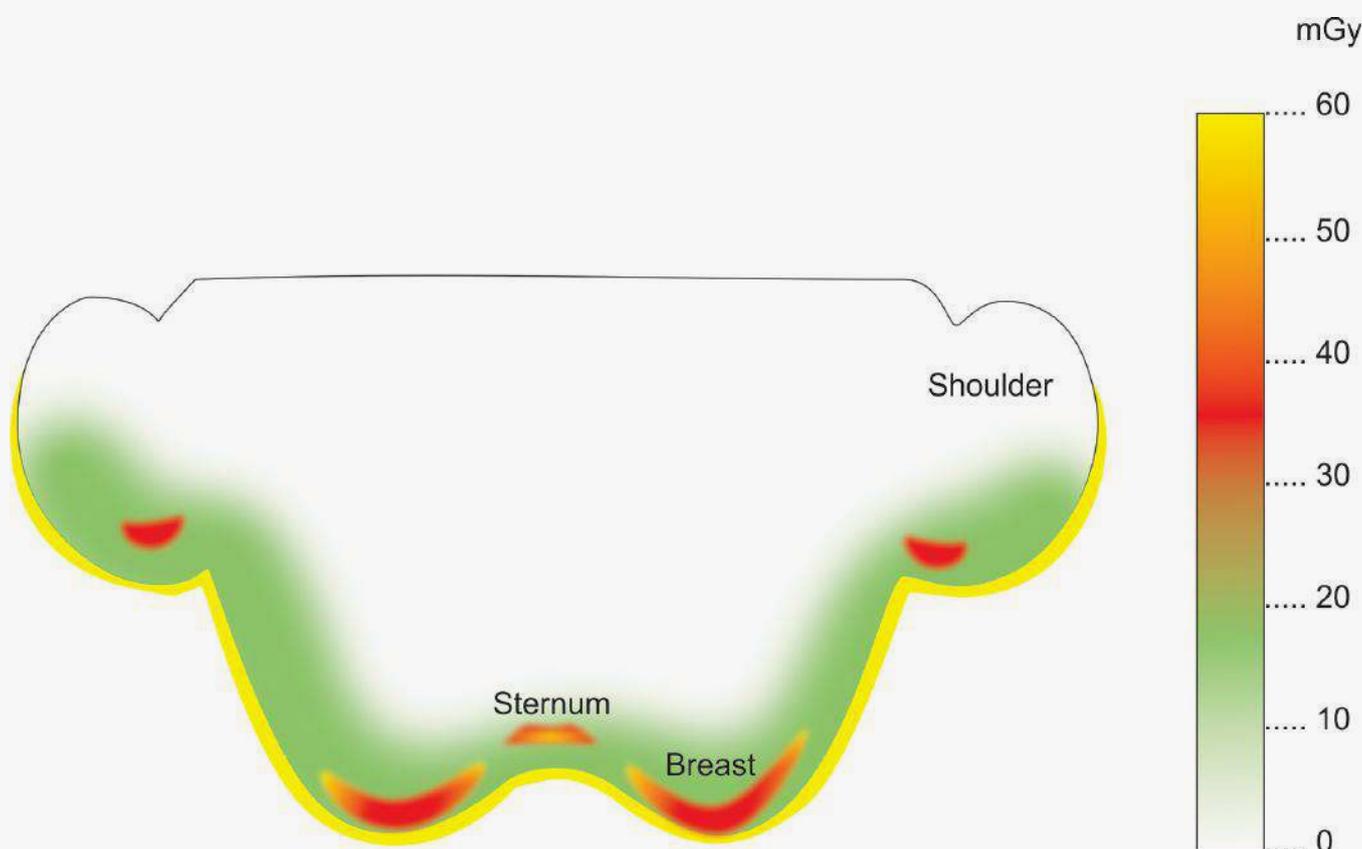
In a recent study in Germany, it has been concluded that, there are 2 factors that are of grave importance for Aprons:

## 1. WEIGHT OF AN APRON

German Federal Agency for Occupational Health and Safety (BAuA) has recommended maximum weight of 5Kg for an Apron. Further as per an US study, more than 42% of Interventional Radiologists suffer from Orthopedic Disorders. In fact even the EU Regulation 2016/425 has recommended that aprons must be as light as possible.

## 2. X RAY - FLUORESCENCE

X-ray fluorescence (XRF) is the emission of secondary or fluorescent X-ray Radiation from a material that has been excited by high-energy X-rays. Recent studies show serious damage to the body of the user due to X-ray Fluorescence Radiation and hence must be stopped within the material.



Cross section of a Female body using low quality Lead free Apron  
Red area is the Fluorescence created by low quality Lead Free Apron which is harmful to the body

**KryptoLite has addressed both the above concerns and it is validated by a test conducted in a German laboratory.**

# BENEFITS OF *KRYPTOLITE*

Absorbs Fluorescence Radiation

High Tensile Strength

Reduces Occupational Fatigue

Higher Flexibility

Suitable for Long duration procedure

Eco-Friendly

Prevents Radiation induced skin burns

Easy Disposal



**Kryptolite weighs lighter than any another Lead Free material in the world!!**

---

# OTHER PROTECTIVE SHEETING

Our radiation protective sheetings are manufactured for perfect uniformity, suppleness and durability.



This green material replaces all the lead with a mixture of lead free elements. It meets the European standards for safe disposal. LiteGreen™ also matches MaxLite™ in its lightweight qualities making it the material of choice for users.



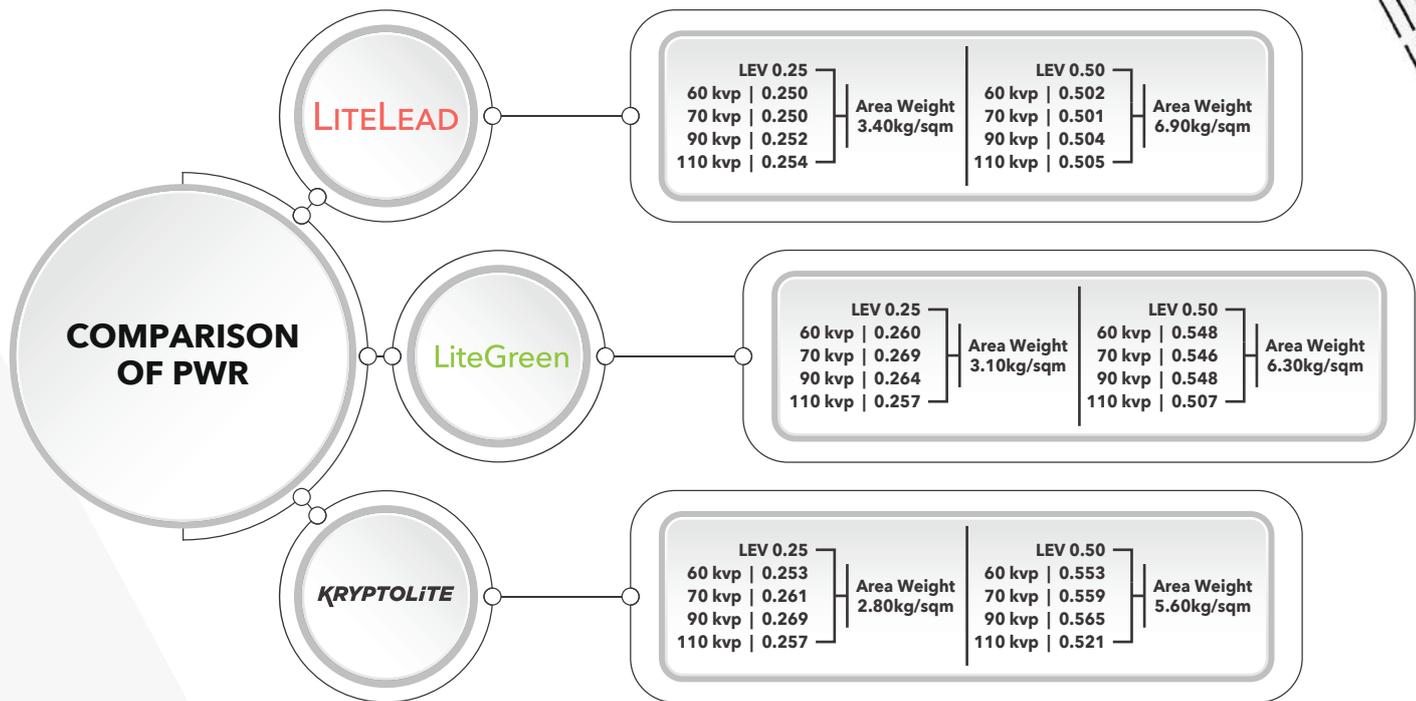
MaxLite™ uses the substitution technique over a large part of lead in protective sheeting to result in a product that is 20-30% lighter than most leaded materials and at least 10% lighter than all other available materials in the market. Apparel made with MaxLite™ are best used in x-ray assisted surgery or in Cath Labs where the user wears the apparel for long hours.



LiteLead™ is the lightest fully leaded material in the market. It is formulated using fine particles of lead rather than lead oxide, which along with the advanced binding system helps in lowering its weight without compromising its lead equivalence.

# THE K-FACTOR

The weight of KryptoLite as compared to the other UniRay protective sheeting



## TESTING AND APPROVALS

Our online x-ray testing and systematic quality monitoring systems result in a perfect product that meets and exceeds every well-known global test standard.

### Certified and Approved

All UniRay radiation protection products corresponds to IEC 61331-1 standards. Our quality systems are assessed and certified as per the guidelines of ISO 13485:2016. Our products conform to stringent quality norms of CE, as specified by European Council's Medical Device Directive (MDD), as per 93 / 42 / EEC as well as Personal Protection Equipment (PPE), as per Regulation 2016/425.



# UniRay

Do connect with us and get more information  
about our other radiation protection products.

**UniRay Medical LLP**

Mumbai, India

**E:** [sales@uniraymedical.com](mailto:sales@uniraymedical.com)

**W:** [www.uniraymedical.com](http://www.uniraymedical.com)