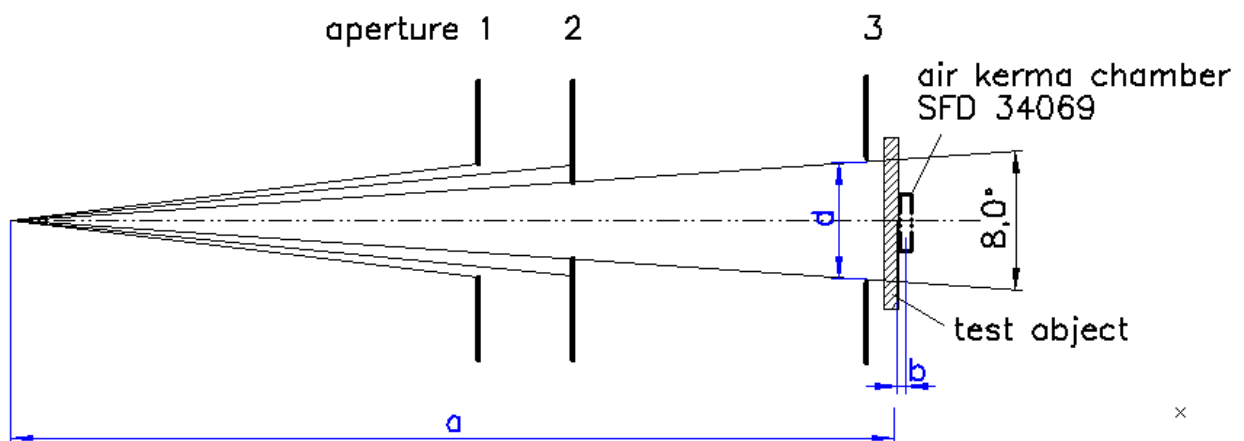


## **Note on the new IEC Standards 61331-1:2014**

The IEC Standard 61331-1:1998 was withdrawn from 11th June 2017 and the New Standard IEC 61331-1:2014 was adopted with a one year change over duration. The new Standard includes a new testing methodology called "Inverse Broad Beam" (IBG) to measure all Radiation Protection Aprons including Lead, Lead free and Lead Composite protection materials where the measurements considers even the fluorescence as well as back scatter by the material itself.

Since there were a lot of variance in the testing methodology, a "Lab Guidance Note" was issued in September 2016 which made it mandatory that any testing done without "Lab Guidance Note" or from a laboratory which is unapproved by the Notified Bodies will be invalid. **This means all testing done prior to September 2016 is also invalid.**

In June 2018, there was an additional revision where the Notified Bodies have decided to introduce revised test method called "Broad Beam Geometry". As per new standard requirements all products must be tested from 60 kV to 110 kV.



UniRay Aprons have been tested by the Notified Body approved laboratories and the results are as below:

0.25mm Pb

Material	60 kVp	70 kVp	90 kVp	110 kVp	Wt/sqm
LiteLead	0.250	0.250	0.252	0.254	3.4 Kg
LiteGreen	0.260	0.269	0.264	0.257	3.1 Kg
KryptoLite LiteGreen	0.253	0.261	0.269	0.257	2.8 Kg

0.5mm Pb

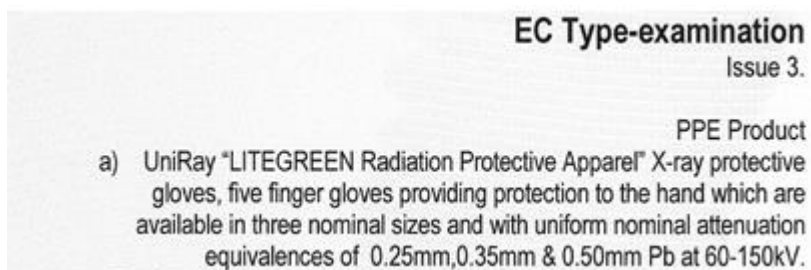
Material	60 kVp	70 kVp	90 kVp	110 kVp	Wt/sqm
LiteLead	0.502	0.501	0.504	0.505	6.9 Kg
LiteGreen	0.548	0.546	0.548	0.506	6.3 Kg
KryptoLite LiteGreen	0.553	0.559	0.565	0.521	5.6 Kg

**Important documents to verify that the CE certification is genuine**

1. CE certificate mentioning Regulation 2016/425



2. Every CE certificate should have valid EU type or EC type certificates



3. There must be a valid testing results from an approved laboratory for testing as per IEC 61331-1:2014

## 1 Scope

Determination of the lead equivalent class for a specified range of radiation qualities according to EN 61331-1 clause 5.5. The range of qualities is specified as 50 kV, 70 kV, 90 kV, 110 kV and 150 kV according to EN 61331-3 clause 5.3.

## 2 Description of the material and samples:

### 2.1 Product Description

Material Type	Protection in mm Pb
LITELEAD	0.25, 0.35, 0.50

### 2.2 Sample description

Material type	Nominal lead-equivalent mm	Identification #	Area density (Data sheet Uniray) kg/m <sup>2</sup>
Circular Ø10 cm			
LITELEAD	0,25	none	3,4
LITELEAD	0,35	none	4,8
LITELEAD	0,50	none	6,8

## 3 Results

### 3.1 Assignment of lead equivalent class

Material type	Nominal lead-equivalent / mm	Lead equivalent class according to 5.5 of EN 61331-1	Range of class
LITELEAD	0,25	Yes	50 kV – 150 kV
LITELEAD	0,35	Yes	50 kV – 150 kV
LITELEAD	0,50	Yes	50 kV – 150 kV

### 3.2 Statement of compliance

Material type	Statement of compliance
LITELEAD 0,25	Lead equivalent 0,25 mm Pb: inverse broad beam 50 -150 kV EN 61331-1:2014
LITELEAD 0,35	Lead equivalent 0,35 mm Pb: inverse broad beam 50 -150 kV EN 61331-1:2014
LITELEAD 0,50	Lead equivalent 0,50 mm Pb: inverse broad beam 50 -150 kV EN 61331-1:2014

## Important checks on an apparel to verify that the CE certification is genuine

Sewn in label or label on the product must show,

- Area weight "Ws" as mentioned in Test report by the valid laboratory when tested as per IEC 61331-1:2014.
- The label should mention compliance with Tube voltage "60 kV – 110 kV".
- The Label should mention CE affixed with number of the valid notified body.

