

**FIT & SIZING**

**Maximum comfort, proper protection, and body coverage require proper sizing.** Most of the aprons are separately patterned in MALE or FEMALE categories. The FEMALE fit has a smaller armhole, which provides superior side breast protection. All garments that are unisex are described as unisex in our brochure. Unisex products include all skirts, half aprons, and thyroid collars. Proper garment sizing is important. Under-, or over- sizing may provide inadequate body coverage, may be uncomfortable, may stress or damage seams or material, may be extra heavy, and over time may lead to premature cracking of the protective core sheets. For proper apron sizing procedures, please refer to our instructional online video: <http://www.xenolitexray.com/product/how-to-measure/>

**CARE, MAINTENANCE & INSPECTION**

The Warranty of the garments is 2 years from date of manufacture. With careful use and proper storage, the useful life should be several years. When not in use, garments should be placed on a hanger. We recommend storage and use in conditions below 35 C and 85% RH. **AVOID CONTACT WITH HOT SURFACES OR LENGTHY DIRECT EXPOSURE TO HOT SUNLIGHT, AS MATERIAL MAY HEAT UP AND MELT LAYERS TOGETHER. ALSO AVOID CONTACT WITH SHARP OBJECTS AS THESE MAY PENETRATE THE GARMENT'S PROTECTIVE CORE.**

For transportation, the garments should be carefully **rolled up** and place in a box or tube. The garments may be washed in luke warm water (<35 C) with mild detergent. Drip-dry on a suitable hanger.

Regular inspections of the garment, at least annually, are recommended, using radiographic or fluoro operating at 70-90 kV. Lines may indicate cracks; dots may be pinholes, (seen as dark on film, clear on fluoro) - consult your Radiation Safety Officer.

- DO NOT IRON
- DO NOT DRY-CLEAN
- DO NOT AUTOCLAVE
- DO NOT USE BLEACH
- DO NOT USE ALKALI DETERGENTS
- DO NOT USE ALCOHOL, OR ALCOHOL BASED PRODUCTS

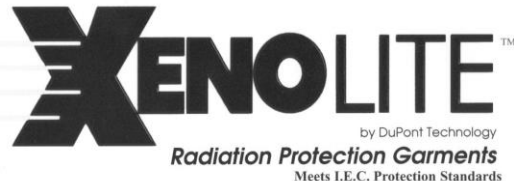
Lite Tech "XENOLITE" Strata 300 and EVAL 900 garments are CE Approved under (EU) 2016/425 Regulations, compliant with IEC 61331-1/3:2014 (\*BBG) and EU 2016/425 Modules B/C2

EC-Type Examination by:

SGS Fimko Oy  
 Takomotie 8, FI-00380 Helsinki, Finland.  
 Notified Body No 0598

The EU Declaration of Conformity is available upon request. Please email requests to [info@xenolitexray.com](mailto:info@xenolitexray.com), or visit website [www.xenolitexray.com](http://www.xenolitexray.com)

**Lite Tech, Inc.**  
 975 Madison Ave, Norristown, PA 19403 USA  
 Tel: (610) 650-8690 Fax: (610) 650-8694  
 Email: [sales@xenolitexray.com](mailto:sales@xenolitexray.com)  
[www.xenolitexray.com](http://www.xenolitexray.com)



**LITE TECH "XENOLITE" "STRATA+" 300 Series and "EVAL" Series 900**

**X-RAY PROTECTION GARMENTS & ACCESSORIES COMPLIANT WITH IEC 61331-1/3:2014 (\*BBG) EU 2016/425 MODULES B/C2**

**INFORMATION NOTICE TO USERS ISSUE # 10**

Dear User,  
 Thank you for selecting a Lite Tech "XENOLITE"-Strata Series 300, or EVAL Series 900 garment. These garments will give you safe X-radiation protection for several years if properly used and maintained. Recommendations and use limitations are provided below. If you have questions, please contact us directly, or your authorized dealer.  
**Before using, please read the User Information provided in this Notice.**

**LABELLING / MARKING**

Inside the garment you will find two labels like the ones shown opposite, which identify the specific model, size and protection of your garment:

- Type of 'core' material:
- XENOLITE Strata (Series 300) – Black on green
  - EVAL - (Series 900) – Red on white

- Manufacturer/ address/tel
- Unique Garment Serial ID #
- Date of manufacture (on reverse)
- Model/style # (& fabric color)
- Male or Female cut/style
- Lite Tech Size # - Length, cm
- Lead Equivalent protection @ 60-110/150 kV
  - mm Pb (front)
  - mm Pb (back)
- Area Density, Ws, kg/sq m



## PROTECTION, ATTENUATION / TRANSMISSION VALUES

The stated lead equivalency protection of your garment, 0.50/0.35/0.25 mm Pb (or front-back combinations of these), are measured under direct beam conditions at 60/70/90/110 kV (Strata) and 150 kV (EVAL) using the required test method of Standard IEC/EN 61331-1:2014 (\*BBG), and are certified to be in compliance, within an allowed +/- 7% manufacturing tolerance (as mm Pb).

The actual amount of X-radiation transmitted through the garment will vary with lead equivalence, beam kV, beam filtration (HVL), and in absolute "exposure values" with distance from the beam/table and exposed time. These transmissions, as a %, measured in the reality of simulated scattered broad beams, are shown (approximately) below and will also vary with beam filtration (HVL):

mm Pb	60kV	% Transmission @			
		70kV	90kV	110kV	150kV
0.25	2.5%	3.6%	8.8%	12.7%	19.0%
0.35	0.9%	1.7%	5.0%	7.7%	12.0%
0.50	0.4%	0.7%	2.5%	4.4%	6.2%



Under Clause 5.5.3 (1) of IEC 61331-1:2014 there is compliance to the new Standard in protection value if either the measured Attenuation Factor is > 250 (% transmission < 0.4%) or the measured mm Pb is within 7% of the stated mm Pb label value.

The following Lite Tech Apron & Accessory Models / Style # provide **only FRONT** protection, with mm Pb as marked on the label (0.25 or 0.35 or 0.50 mm Pb);

<b>X10A (Adjustable-weight)</b>	<b>X10Q (Quick-drop)</b>	<b>X10E (Elastic tab)</b>
<b>X10S (Strap)</b>	<b>X10K (Back Support)</b>	<b>X10R (Shoulder release)</b>
<b>X10B (Buckle)</b>	<b>X40H (Half-Apron)</b>	<b>X10PHP (Elastic back and shoulder release)</b>
<b>X10-NV</b>		

The following Lite Tech Aprons offer both **FRONT & BACK** protection, with combinations of mm Pb, front & back as marked on the label (0.25 or 0.35 or 0.50 mm Pb);

**IMPORTANT NOTE:** the designs are worn differently to achieve stated protection

## RECOMMENDATIONS AND LIMITATIONS OF USE

<b>X201 (Special Procedure)</b> <b>X30V (Vest)</b>	Have the stated mm Pb in <b>EACH separate front panel</b> and are designed to overlap only 7-15 cm at center, using the "Velcro" (where overlapped, the mm Pb is double, eg 1.00mm Pb)
<b>X250 (Full Overwrap Apron)</b> <b>X30S, X20S &amp; X35S (Skirt)</b> <b>X25V (Vest)</b>	Have only half (50%) the stated mm Pb in <b>EACH front panel</b> and are designed & sized to be worn with full front panel overlap (side-to-side +/- 5 cm) to achieve stated protection
<b>X20V, X35V, X200TS &amp; X10L</b> <b>X320, X240</b>	Have the stated protection in a single front panel

**WARNING - DO NOT MODIFY GARMENT AS THIS MAY AFFECT PROTECTION AND INVALIDATE WARRANTY**

## RECOMMENDATIONS AND LIMITATIONS OF USE

The recommendations given below are general and may be subject to local statutory or safety /use procedures mandated within your facility. If in doubt about proper usage or garment protection values, consult your Radiation Safety Officer or a qualified radiation physicist or radiologist. Their advice will minimize total dose based on equipment, kV, filtration, procedure, exposure time, distance, scatter and other important factors. It is proper practice, **at a minimum**, to wear at least one personal dosimeter inside the garment, at chest level; preferred practice may require a further abdomen dosimeter, worn inside, and/or a further chest dosimeter worn outside - usually on the chest pocket.

TYPE	MODEL CODE # & NAME	FRONT mm Pb	BACK mm Pb	RECOMMENDED USE/LIMITS
FRONT	X10A Adjustable -weight	0.25/0.35/0.50	0	X-Ray garment for FRONT
APRON	X10Q/X10R (Quick-Drop)	0.25/0.35/0.50	0	protection only. For use in
	X10K Back Support	0.25/0.35/0.50	0	general radiology and X-ray
	X10S Strap, X10-L	0.25/0.35/0.50	0	or operating rooms etc, where
	X10B Buckle/ X10NV	0.25/0.35/0.50	0	radiation comes from the front
	X10E/X10PHP	0.25/0.35/0.50	0	NOT for nuclear/ gamma use
	510VET / 910VET	0.50	0	
COAT	X201 Special Procedure	0.25/0.35/0.50	0.25/0.35/0.50	X-Ray garment for FRONT &
TYPE	X250 Full Overwrap Apron	0.25/0.35/0.50	0.25/0.35/0.50	BACK protection. For use in
	X30V Vest, X30S Skirt	0.25/0.35/0.50	0.25/0.35/0.50	X-ray, OR, angio, cardiac cath
	X35V Vest, X35S Skirt	0.25/0.35/0.50	0.25/0.35/0.50	labs, etc especially for long
	X20V Vest, X20S Skirt	0.25/0.35/0.50	0.25/0.35/0.50	duration procedures
	X25V Vest, X25S skirt	0.25/0.35/0.50	0.25/0.35/0.50	NOT for nuclear/ gamma use
	X200TS X320 Wrap	0.25/0.35/0.50	0.25/0.35/0.50	
HALF APRON	X40H Half-apron	0.25/0.35/0.50	0	
THYROID	X40T Thyroid shield	0.50/0.35		Collars for thyroid protection
HUMERUS	X50H Humeral shield	0.25/0.35/0.50		Upper arm shield for apron

Vest and skirt must be worn together. Where possible avoid direct beam exposure.

## ERGONOMICS & USE OF ACCESSORIES

Lite Tech "XENOLITE" S-Strata garments use patented composite mixtures providing weight-savings of up to 15% compared conventional materials. These lightweight aprons, especially those with front and back protection, are most appropriate for use in long duration fluoro procedures, reducing fatigue and back strain. All garments, except skirts, thyroids and half-aprons have shoulder pads. Models X201/ X250/ X10K are further provided with an elastic belt to transfer weight off the shoulders. The X10Q, and X10R quick-drops are designed to be worn over your scrub and under your O.R. gown where it can be quickly removed without breaking the sterile field. We suggest the protection garments are worn over cotton clothes to remain cool. The use of a thyroid collar, X40T, is recommended at all times.

## USE & LIMITS OF USE

Lite Tech "XENOLITE" STRATA 300 garments provide personal protection against scattered X-ray radiation up to 110 kV, corresponding to X-ray tube kV's up to 125 kV. Do not use at higher energies, where kV's exceed 125 kV. Conversely, "EVAL" grade uses lead only as attenuator and retains its mm Pb values at all kV levels, is tested to 150 kV and may be used for higher kV energies, above 125.

Attenuation/lead equivalence, mm Pb, is by testing to IEC/EN 61331-1:2014 (\*BBG)

**WARNING: Except for lead-based EVAL, these garments will not adequately protect against gamma radiation and should not be used in Nuclear Medicine. Most conditions of gamma exposure invalidate the lead equivalent values shown.**