



**ROTHBAND**



## **PRODUCT PORTFOLIO**

Radiation Protection Equipment & Associated Products

**2025 / 26 - EDITION**

GLOBAL LEADERS IN RADIATION PROTECTION SOLUTIONS



## **PASSIONATE ABOUT** *Radiation Protection*

When it comes to X-ray protection, **Rothband** is a name you can trust

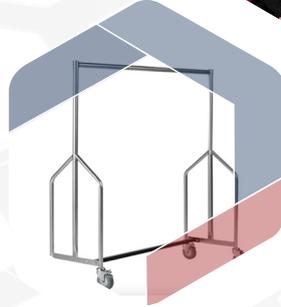
With over 100 years experience in designing and manufacturing x-ray garments, you can be confident that when you choose us, you are buying from a company who is passionate in providing radiation protection to healthcare professionals.

All Rothband products are manufactured in the UK, to the very highest standards, using the highest quality materials which help us produce some of the most durable products on the market.

Over the years, we have extended our portfolio and in addition to this protection catalogue, we now offer a separate accessories catalogue, which is available from your local Rothband representative.

*Our products are  
manufactured in the UK,  
to the very highest standards,  
using the highest quality  
materials.*





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*We have a dedicated customer services team on hand to talk through any questions you may have about our products*

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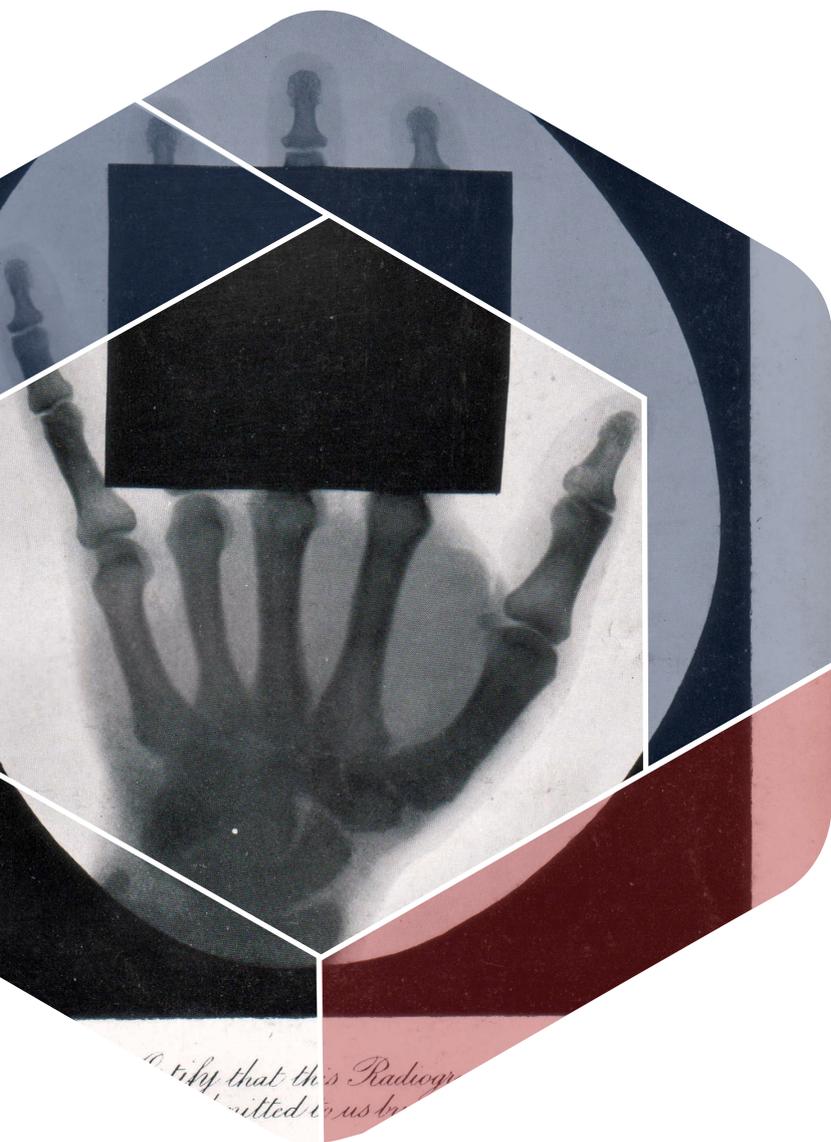
## Radiation Protection

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# A Brief History

With a History that stems over 100 Years, **Rothband** is a name you can trust



*Rothband, the first to add lead to rubber for x-ray shielding.*

*The original radiation protection manufacturer.*

Rothband's origins trace back to the early 19th century in Manchester, where the company began by producing waterproof cloth products such as makeup and sponge bags. By the turn of the century, it had expanded into manufacturing rubber sheeting under the "WSRM" trademark, supplying institutions like hospitals, asylums, and schools worldwide.

In the early 20th century, Rothband pioneered the use of x-ray proof cloth, marking its entry into the medical imaging field. This innovation laid the foundation for its current focus on radiation protection. Over the years, Rothband has become a leading UK manufacturer of protective lead aprons and other radiology shielding solutions, serving NHS hospitals and private clinics nationwide.

Today, Rothband operates from its facility in Haslingden, Lancashire, continuing its legacy of over 160 years in medical manufacturing. With a focus on quality, innovation, and customer service, Rothband remains a trusted name in radiation protection, both in the UK and internationally.





## Quality Standards

**At Rothband, safety and compliance are paramount.**

The current European standard IEC 61331-1:2014 BBG\* defines how the shielding properties of radiation protection materials must be measured. A key element of this standard is the use of inverse broad beam geometry, which helps identify any secondary fluorescent radiation—particularly relevant for lead-reduced or lead-free materials. These low-energy emissions are biologically active and can pose a significant risk, making strict adherence to the standard essential.

Manufacturers are required to demonstrate consistent protection across the full range of X-ray tube voltages, typically from 50 kV to 110 kV or even up to 150 kV.

This is critical, as protection can significantly drop at both the lower and upper ends of this range, especially when using alternative shielding materials. At Rothband, we rigorously test our garments to ensure full compliance and optimum performance throughout this spectrum.

Our X-ray protective apparel also meets the requirements of EU Directive 2016/425/EEC, which governs personal protective equipment (PPE). It's not enough for products to bear the CE mark—they must also display the four-digit ID of the notified certification body, confirming full regulatory approval.

When you choose Rothband, you're choosing a company that combines over a century of innovation with uncompromising standards. Our commitment to quality ensures that healthcare professionals and patients alike are protected with equipment that meets the highest levels of safety and certification.

To see our certifications and Declarations of Conformity please visit [www.rothband.com](http://www.rothband.com)

CE 2895



# STANDING OUT FROM THE CROWD



## SOLID COLOURS



## PATTERNS



## BINDING



WE'RE ALWAYS  
ADDING NEW  
FABRICS

Scan the link  
below to see  
the full range.



# CORE Materials

## LEAD-LT

Lightweight Lead  
60 - 150 kV

Standard lead protection material  
High quality, flexible

Hardwearing vinyl matrix for long lasting protection.

For applications in the upper X-ray tube voltage range, e.g. CT applications

Compliant with standards:  
IEC 61331-1:2014 BBG\*

## BILAYER-ET

Earth Metal Bilayer  
60 - 110 kV

Bilayer construction provides better levels of protection than composite lead free core materials.

Outstanding rating with regard to weight and radiation protection.

Tested radiation protection in the X-ray tube voltage range of 60 - 110 kV

Compliant with standards:  
IEC 61331-1:2014 BBG\*

## BILAYER-LF

Lead Free Bilayer  
60 - 110 kV

Bilayer construction provides better levels of protection than composite lead free core materials.

Lead-free protective material  
Outstanding rating with regard to weight and radiation protection.

Tested radiation protection in the X-ray tube voltage range of 60 - 110 kV

Compliant with standards:  
IEC 61331-1:2014 BBG\*

		δm BBG mm					Target Weight Kg/M <sup>2</sup>
Lead Equivalence		60 kVp	70 kVp	90 kVp	110 kVp	150 kVp	
LEAD-LT	0.25 mm Pb	0.241	0.241	0.241	0.244	0.246	3.43
	0.35 mm Pb	0.342	0.344	0.347	0.346	0.349	4.80
	0.5 mm Pb	0.490	0.492	0.495	0.5	0.496	6.60
BILAYER-ET	0.25 mm Pb	0.250	0.262	0.259	0.244		2.90
	0.35 mm Pb	0.425	0.392	0.346	0.345		4.05
	0.5 mm Pb	0.651	0.618	0.572	0.519		5.8
BILAYER-LF	0.25 mm Pb	0.232	0.272	0.304	0.294		2.83
	0.35 mm Pb	0.326	0.386	0.433	0.394		4.12
	0.5 mm Pb	0.575	0.566	0.567	0.518		5.66

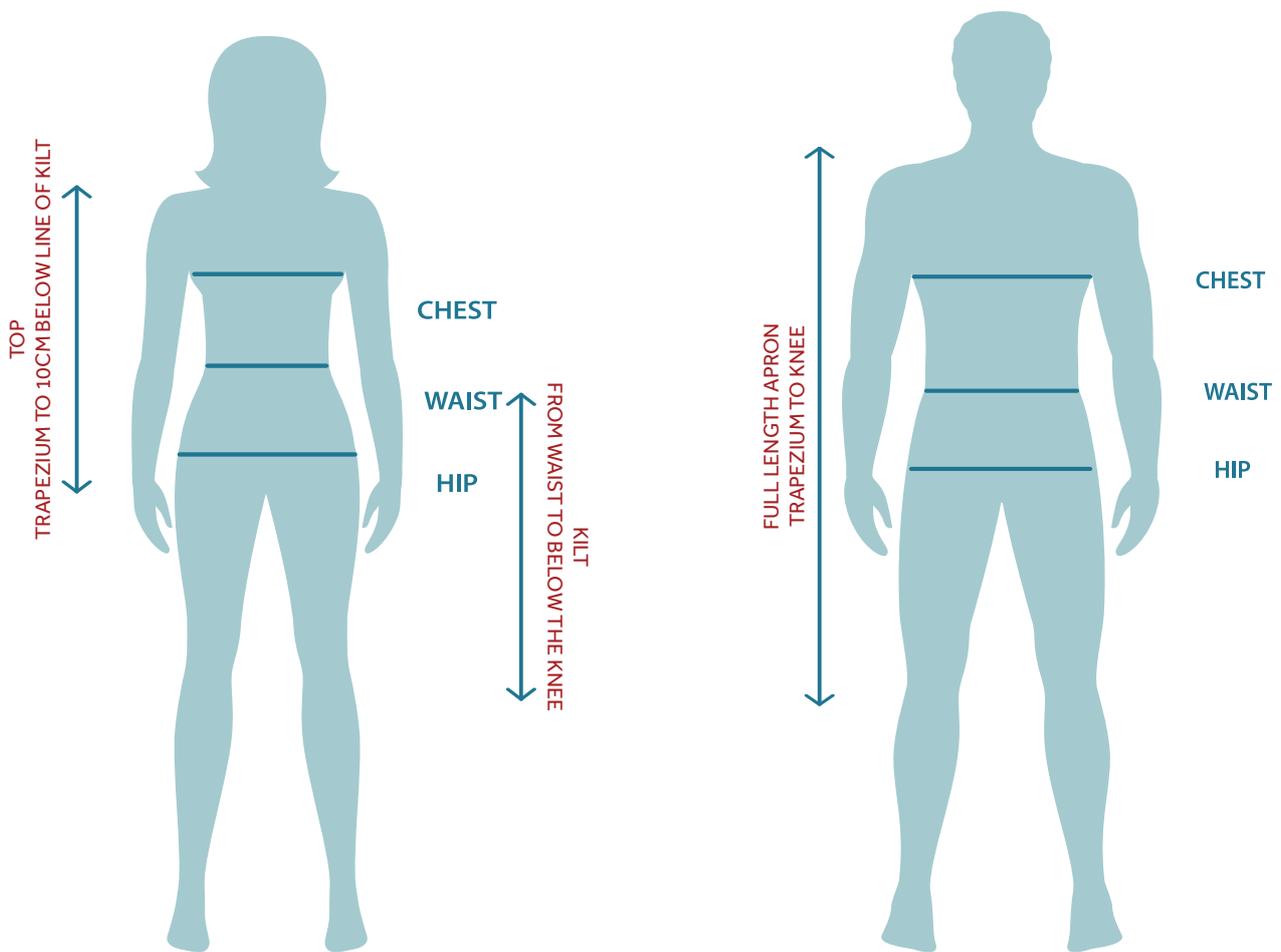
Testing in accordance with BS EN 61331-1:2014 BBG\* using inverse broad beam geometry.  
Figures are for guidance and all materials passed the relevant testing.  
For full report, please e-mail [sales@rothband.com](mailto:sales@rothband.com)

\* The response of the ionisation chamber was too low to record a value accurately. This value was extrapolated from a straightline fit of the 70-150kV values.  
\*\* Weights are based upon testing up to 110kV and indicative. The test weights up to 150kV are heavier than noted here.



# Sizing Information

Open Design				Closed Design					
Garment provides full protection in panales with a gap at each side.				Overlap Garment provides double protection at the overlap only.			Full Front Protection Garment provides double protection for the full 60% front aspect of the garment.		
Front Only Protection		Tabard		Apron	Top	Kilt	Apron	Top	Kilt
VXR-1	VXR-2	PXR-SC	PXR-TH	WXR	TXR-W TXR-W LITE	KXR-W	WXRF	TXR-F TXR-B	KXR-F



SIZE	XXS	XS	S	M	L	XL	2XL	3XL	4XL	5XL
Chest Measurement	70-80	80-90	90-100	100-110	110-120	120-130	130-140	140-150	150-160	160-170
Waist Measurement	48-57	58-68	68-78	78-88	88-98	98-108	108-118	118-128	128-138	138-148
Hip Measurement	70-80	80-90	90-100	100-110	110-120	120-130	130-140	140-150	150-160	160-170

**Full Length Garments**  
Consider all measurements and take the largest

**Tops**  
Consider all measurements and take the largest

**Kilts**  
Consider waist and hip measurements and take the largest

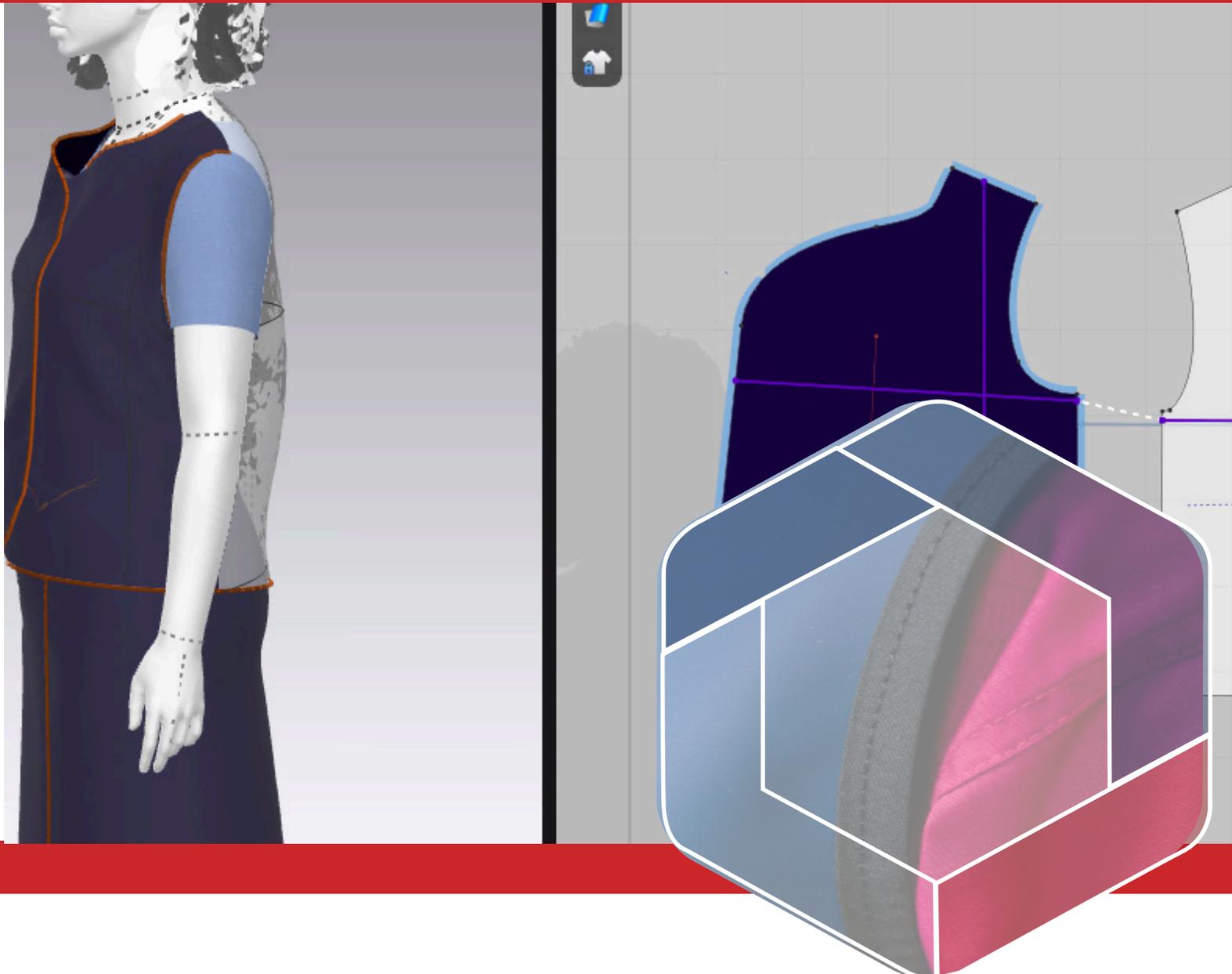


# RE-DESIGNED FOR **BETTER** **PROTECTION** *and a LIGHTER WEIGHT*

By utilising bespoke, avatar-based garment design software, we have RE-DESIGNED our radiation protection garments to offer a superior fit for ALL healthcare professionals.

This advanced technology has allowed us to closely analyse body coverage and ergonomics, ensuring that our garments provide optimal protection without compromising comfort or mobility.

The precise fit reduces strain during long shifts, while enhanced coverage ensures maximum safety in radiation-intensive environments. As a result, our innovative approach has led to the development of superior radiation protection garments, tailored to the specific needs of those working in the healthcare sector.



**RE-DESIGNED FOR BETTER PROTECTION** and a *LIGHTER WEIGHT*

## VXR-1

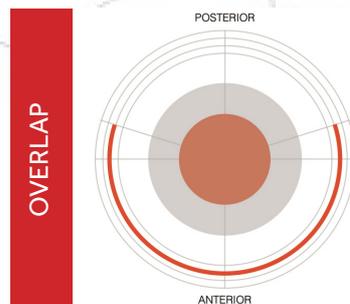
The VXR apron range provides modern radiation protection apparel designed to support your active workday with exceptional performance.

Superior comfort is achieved through elastic sewn into the back panels, ensuring an optimal fit for extended wear.

These aprons are ideal for various applications where only frontal radiation exposure occurs, offering maximum comfort and an excellent fit for the user.

✓ Optional protective back panels available.

✓ The VXR aprons are type-tested and certified in compliance with (EU) 2016/425, IEC 61331-1:2014, IEC 61331-3:2014



STANDARD LENGTHS (cm)	STANDARD SIZES	ARM HOLES	LEAD EQUIVALENCE		CORE MATERIALS
85	XS	SMALL	FRONT	BACK	<b>LEAD-LT</b>
90	S	REGULAR	0.25 mm	0.25	<b>BILAYER-ET</b>
100	M	LARGE	0.35 mm	0.35	<b>BILAYER-LF</b>
110	L		0.5 mm	0.5	
120	XL				
130	XXL				

OTHER LENGTHS AND SIZES AVAILABLE

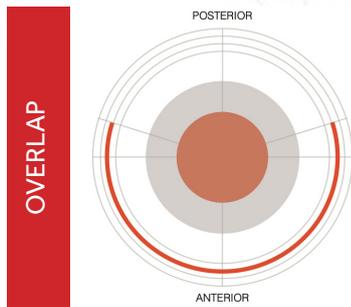
**RE-DESIGNED FOR BETTER PROTECTION** and a *LIGHTER WEIGHT*

# VXR-2

The VXR-2 apron range provides modern radiation protection apparel designed to be easily fastened.

These aprons are ideal for various applications where only frontal radiation exposure occurs, offering maximum comfort and an excellent fit for the user.

- ✓ Easy to fasten at the front facilitating simple removal
- ✓ Optional protective back panels available.
- ✓ The VXR aprons are type-tested and certified in compliance with (EU) 2016/425, IEC 61331-1:2014, IEC 61331-3:2014



STANDARD LENGTHS (cm)	STANDARD SIZES	ARM HOLES	LEAD EQUIVALENCE		CORE MATERIALS
85	XS	SMALL	FRONT	BACK	<b>LEAD-LT</b>
90	S	REGULAR	0.25 mm	0.25	<b>BILAYER-ET</b>
100	M	LARGE	0.35 mm	0.35	<b>BILAYER-LF</b>
110	L		0.5 mm	0.5	
120	XL				
130	XXL				

OTHER LENGTHS AND SIZES AVAILABLE



**RE-DESIGNED FOR BETTER PROTECTION** and a *LIGHTER WEIGHT*

# PXR-SC

Our PXR-SC apron is a re-engineering of the classic tabard design, offering enhanced comfort and fit around the axilla.

Available in multiple configurations, including single or double shoulder clip designs, it ensures a customisable experience tailored to individual preferences.

This essential piece in the lead apron range allows departments to maintain a versatile selection that accommodates a wide range of personnel while providing reliable radiation protection.

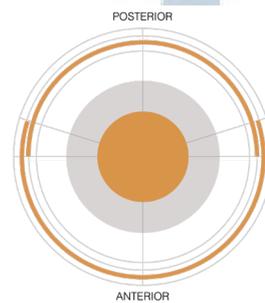
- ✓ Range of different fastenings available. Including a height adjustable elasticated belt.
- ✓ The PXR aprons are type-tested and certified in compliance with (EU) 2016/425, IEC 61331-1:2014, IEC 61331-3:2014.



REAR BUCKLES AS STANDARD



Elasticated belt option



STANDARD LENGTHS (cm)	STANDARD SIZES	ARM HOLES	LEAD EQUIVALENCE		CORE MATERIALS
85	XS	SMALL	FRONT	BACK	<b>LEAD-LT</b>
90	S	REGULAR	0.25 mm	0.25	<b>BILAYER-ET</b>
100	M	LARGE	0.35 mm	0.35	<b>BILAYER-LF</b>
110	L		0.5 mm	0.5	
120	XL				
130	XXL				

CUSTOM SIZES AVAILABLE

**RE-DESIGNED FOR BETTER PROTECTION** and a *LIGHTER WEIGHT*

# PXR-TH

Our PXR-SC apron is a re-engineering of the classic tabard design, offering enhanced comfort and fit around the axilla.

Available in multiple configurations, including single or double shoulder clip designs, it ensures a customisable experience tailored to individual preferences.

This essential piece in the lead apron range allows departments to maintain a versatile selection that accommodates a wide range of personnel while providing reliable radiation protection.

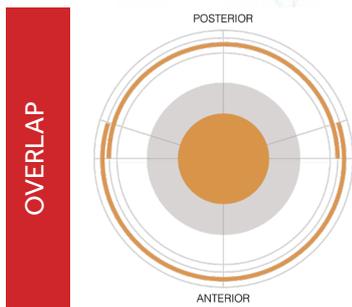
- ✓ Range of different fastenings available. Including a height adjustable elasticated belt.
- ✓ The PXR aprons are type-tested and certified in compliance with (EU) 2016/425, IEC 61331-1:2014, IEC 61331-3:2014.



REAR BUCKLES AS STANDARD



Elasticated belt option



STANDARD LENGTHS (cm)	STANDARD SIZES	ARM HOLES	LEAD EQUIVALENCE		CORE MATERIALS
			FRONT	BACK	
85	XS	SMALL			<b>LEAD-LT</b>
90	S	REGULAR	0.25 mm	0.25	<b>BILAYER-ET</b>
100	M	LARGE	0.35 mm	0.35	<b>BILAYER-LF</b>
110	L		0.5 mm	0.5	
120	XL				
130	XXL				

## RE-DESIGNED FOR **BETTER PROTECTION** and a *LIGHTER WEIGHT*

# WXR-F

The WXR-F apron is a full-length garment designed with overlapping zones across the front to deliver the labelled level of protection when properly overlapped.

This innovative design reduces the need for excess core material while still providing comprehensive coverage across 60% of the body's girth.

The unique panelling simplifies wear, making it a comfortable and efficient choice for those requiring full protection without the added bulk. Ideal for extended use, this apron

- ✓ The front sections have areas that overlap to achieve the labelled protection, allowing the garment to have a lower weight.
- ✓ The WXR-F aprons are type-tested and certified in compliance with (EU) 2016/425, IEC 61331-1:2014, IEC 61331-3:2014



STANDARD LENGTHS (cm)	STANDARD SIZES	ARM HOLES	LEAD EQUIVALENCE		CORE MATERIALS
85	XS	SMALL	FRONT	BACK	<b>LEAD-LT</b>
90	S	REGULAR	0.25 mm	0.25	<b>BILAYER-ET</b>
100	M	LARGE	0.35 mm	0.35	<b>BILAYER-LF</b>
110	L		0.5 mm	0.5	
120	XL				
130	XXL				

CUSTOM SIZES AVAILABLE

## RE-DESIGNED FOR **BETTER** PROTECTION *and* a *LIGHTER WEIGHT*

# WXR

Our WXR apron is designed for enhanced protection, featuring double-layered coverage where the apron overlaps.

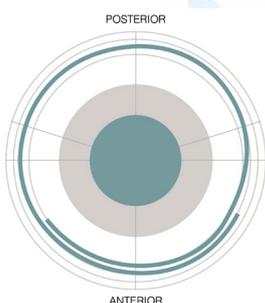
The variation in overlap ensures a tailored fit for different body types, while multiple armhole sizes optimise protection around the axilla.

The standard elasticated belt allows for lifting the apron's weight off the shoulders, improving comfort during extended use and making this a popular choice for those

- ✓ Easy to wear.
- ✓ Option to have different levels of protection in the front and back panels.
- ✓ The WXR aprons are type-tested and certified in compliance with (EU) 2016/425, IEC 61331-1:2014, IEC 61331-3:2014



OVERLAP



### STANDARD LENGTHS (cm)

### STANDARD SIZES

### ARM HOLES

### LEAD EQUIVALENCE

### CORE MATERIALS

STANDARD LENGTHS (cm)	STANDARD SIZES	ARM HOLES	LEAD EQUIVALENCE		CORE MATERIALS
			FRONT	BACK	
85	XS	SMALL			<b>LEAD-LT</b>
90	S	REGULAR	0.25 mm	0.25	<b>BILAYER-ET</b>
100	M	LARGE	0.35 mm	0.35	<b>BILAYER-LF</b>
110	L		0.5 mm	0.5	
120	XL				
130	XXL				

RE-DESIGNED FOR **BETTER PROTECTION** and a *LIGHTER WEIGHT*

## TXR-W-LITE

The TXR-W **LITE** design is a modification on the TXRW design offering all the design advantages and fit of the base model.

It has been re-RE-DESIGNED to reduce overlap at the front which helps save up to 15% of the overall weight of the TXRW.

Were the TXR-W designs offer more flexibility for fitting a number of different individuals, the TXRW-**LITE** is more suited for those who require a personal lead apron.

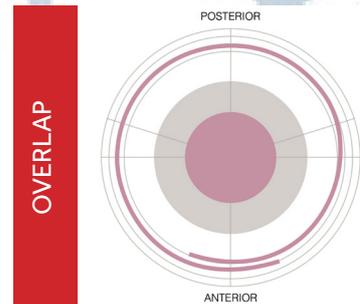
- ✓ Optional, different protection levels in the front and back.
- ✓ The TXR-W aprons are type-tested and certified in compliance with (EU) 2016/425, IEC 61331-1:2014, IEC 61331-3:2014



**KXR-W**  
STANDARD  
WRAP  
KILT



**KXR-F**



STANDARD LENGTHS (cm)		STANDARD SIZES	ARM HOLES	LEAD EQUIVALENCE		CORE MATERIALS
TOP (TXR)	KILT (KXR)			FRONT	BACK	
50	53	XS	SMALL	0.25 mm	0.25 mm	<b>LEAD-LT</b>
58	58	S	REGULAR	0.35 mm	0.35 mm	<b>BILAYER-ET</b>
60	60	M	LARGE	0.5 mm	0.5 mm	<b>BILAYER-LF</b>
65	65	L		1.0 mm		
70	70	XL				
		XXL				

OTHER LENGTHS AND SIZES AVAILABLE



**RE-DESIGNED FOR BETTER PROTECTION** and a *LIGHTER WEIGHT*

# TXR-W

The TXR-W design is part of a two-piece protective garment designed to evenly distribute weight between the shoulders and hips, enhancing comfort during extended wear.

Its overlapping design offers double protection over vital areas.

As one of our most popular designs, the TXR-W has been **RE-DESIGNED** for a better fit around the armholes, providing improved comfort and mobility. seeking reliable, comfortable radiation protection.

- ✓ The ~30cm overlap zone allows the TXR-W to accommodate a range of sizes.
- ✓ Optional, different protection levels in the front and back.
- ✓ The TXR-W aprons are type-tested and certified in compliance with (EU) 2016/425, IEC 61331-1:2014, IEC 61331-3:2014



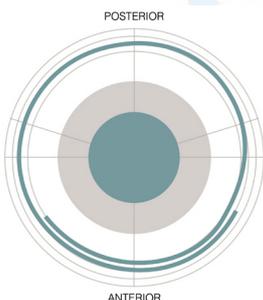
## KXR-W

STANDARD WRAP KILT



## KXR-F

OVERLAP



STANDARD LENGTHS (cm)		STANDARD SIZES	ARM HOLES	LEAD EQUIVALENCE		CORE MATERIALS
TOP (TXR)	KILT (KXR)			FRONT	BACK	
50	53	XS	SMALL	0.25 mm	0.25 mm	<b>LEAD-LT</b>
58	58	S	REGULAR	0.35 mm	0.35 mm	<b>BILAYER-ET</b>
60	60	M	LARGE	0.5 mm	0.5 mm	<b>BILAYER-LF</b>
65	65	L		1.0 mm		
70	70	XL				
		XXL				

OTHER LENGTHS AND SIZES AVAILABLE

RE-DESIGNED FOR **BETTER PROTECTION** and a *LIGHTER WEIGHT*

## TXR-B



The TXR-B design is part of a two-piece protective garment designed to distribute weight evenly between the shoulders and hips, enhancing comfort during use.

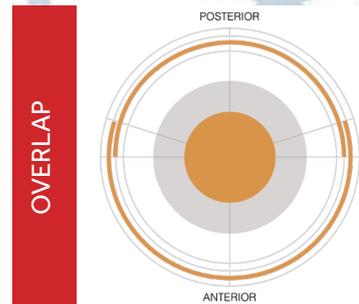
It has been re-RE-DESIGNED for a better fit around the arm-holes, and with hundreds of combinations available, it ensures a perfect fit for both men and women.

A unique feature of the TXR-B is its elasticated back, which provides a supportive and snug fit, making it one of the most comfortable designs in our range.

- ✓ Optional, different protection levels in the front and back
- ✓ The TXR-B aprons are type-tested and certified in compliance with (EU) 2016/425, IEC 61331-1:2014, IEC 61331-3:2014



**KXR-W**  
STANDARD  
WRAP KILT



STANDARD LENGTHS (cm)		STANDARD SIZES	ARM HOLES	LEAD EQUIVALENCE		CORE MATERIALS
TOP (TXR)	KILT (KXR)			FRONT	BACK	
50	53	XS	SMALL	0.25 mm	0.25 mm	<b>LEAD-LT</b>
58	58	S	REGULAR	0.35 mm	0.35 mm	<b>BILAYER-ET</b>
60	60	M	LARGE	0.5 mm	0.5 mm	<b>BILAYER-LF</b>
65	65	L		1.0 mm		
70	70	XL				
		XXL				

OTHER LENGTHS AND SIZES AVAILABLE

**RE-DESIGNED FOR BETTER PROTECTION** and a *LIGHTER WEIGHT*

# TXR-F

The TXR-F design is part of a two-piece protective garment designed to distribute weight between the shoulders and hips, maximizing comfort for the wearer.

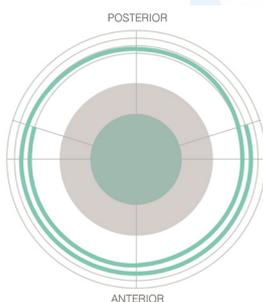
Its overlapping design meets the requirements of IEC 61331-3:2014, ensuring fully labelled protection when properly overlapped.

The TXR-F has been re-RE-DESIGNED for a better fit around the armholes, with hundreds of combinations available to ensure a perfect fit for both men and women.

- ✓ Optional, different protection levels in the front and back.
- ✓ The TXR-F aprons are type-tested and certified in compliance with (EU) 2016/425, IEC 61331-1:2014, IEC 61331-3:2014



OVERLAP



**KXR-F**

FULL WRAP KILT WITH HALF THICKNESS IN THE FRONT PANELS



STANDARD LENGTHS (cm)		STANDARD SIZES	ARM HOLES	LEAD EQUIVALENCE		CORE MATERIALS
TOP (TXR)	KILT (KXR)			FRONT	BACK	
50	53	XS	SMALL	0.25 mm	0.25 mm	<b>LEAD-LT</b>
58	58	S	REGULAR	0.35 mm	0.35 mm	<b>BILAYER-ET</b>
60	60	M	LARGE	0.5 mm	0.5 mm	<b>BILAYER-LF</b>
65	65	L		1.0 mm		
70	70	XL				
		XXL				

OTHER LENGTHS AND SIZES AVAILABLE

# ACCESSORIES

## THYROID COLLARS



magneto



TPV



TPD



TPB

## ANCILLARY



SCATTER CAP LIGHT



SLEEVE



MINI SLEEVE



CRICKET PADS  
OPTIONAL FOOT PROTECTION

## PERSONALISATION



EMBROIDERY



POCKET



POCKET  
EMBROIDERY

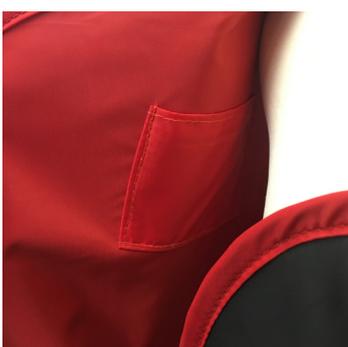


REPLACEABLE  
VELCRO ID



CLEAR ID POCKET

## OPTIONAL EXTRAS



INTERNAL POCKET



OUTLAST



KILT POCKET



INTERNAL BELT



**INTEGRATES WITH MOST LEAD APRON DESIGNS**  
**MOVES WITH THE ARM TO ENSURE PROPER COVERAGE OF THE AXILLA**  
**COMFORTABLE TO WEAR, EASY TO APPLY**

## **ADDITIONAL PROTECTION DURING SURGICAL PROCEDURES**

The global topic of axilla & breast protection is currently at the forefront of radiation safety as some procedures can expose clinicians to ionising radiation in this anatomical area.

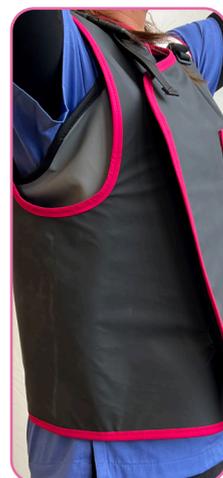
This is where the mammo-SHIELD™ comes in. Specially designed to sit comfortably under the arm and move with the wearer to help provide protection in this vulnerable area.

### **DEVELOPED WITH HEALTHCARE PROFESSIONALS**

We have worked alongside leading orthopaedic surgeons to develop the mammo-SHIELD™- our solution for enhanced axillary protection, offering added peace of mind.

Our simple yet robust design seamlessly integrates with most lead aprons & tops. The flexible configuration ensures adequate axilla coverage in a variety of arm positions.

**Contact your local Rothband representative for more information and a demonstration**



# STORAGE

## RAILS



HA172



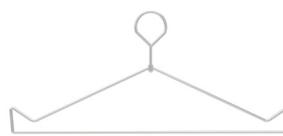
PSMAR



HA170



PS170



HA175C



HA175

## SWINGARM



HA10KT



PS10KT



M10S



SKHK



HARODPS10



HA5K



**WSR Medical Solutions Limited**  
Unit 2 Hargreaves Mill, Hargreaves Street,  
Haslingden, Lancashire BB4 5RQ

T. +44 (0) 1706 830086      [www.rothband.com](http://www.rothband.com)  
E. [sales@rothband.com](mailto:sales@rothband.com)      [www.xray4vets.com](http://www.xray4vets.com)

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