

Instructions for Use (IFU)

BLOXR® XPF® Radiation Attenuating Shields

Aprons, Vests, Skirts, Caps, Thyroid Collars, Bra Inserts, Mitts and Patient Protection



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BLOXR® XPF® Radiation Shields are intended for use as shields against ionizing radiation such as X-rays, Fluoroscopy or CT technology. These products are not sterile.

General Recommendations for Use and Care:

- Orientation of shields is important. The BLOXR® logo should face the radiation source.
- Always inspect radiation shields for damage before use. Discard if radiation leaks are detected during periodic inspection.
- If product is damaged, do not modify. This could alter protection and invalidate the product warranty. Contact the manufacturer to inquire about repairs.
- If products are exposed to any biohazard, follow healthcare facility protocols and all applicable laws and regulations.

Independent % Attenuation of BLOXR® XPF® at Four ASTM X-Ray Qualities in Broad-Beam Test Set-Up (NRC IRS-2014-1925)

X-ray Quality and Filter	BLOXR XPF 0.50 mm Lead (Pb) Equivalent	BLOXR XPF 0.25 mm Lead (Pb) Equivalent
60 kVp HVL: 2.95 mm Al	98.7	95.2
80 kVp HVL: 3.99 mm Al	94.7	87.3
100 kVp HVL: 5.25 mm Al	88.9	78.7
120 kVp HVL: 6.26 mm Al	84.9	73.8

Independent study by US Army concluded that between 50 kVp and 130 kVp, "the BLOXR XPF apron compares favorably with 0.5-mm lead aprons."

Inspection Recommendations: The proprietary manufacturing process in the production of our non-metallic attenuation material eliminates concern over metal fatigue and provides outstanding resistance against cracking and fracturing as verified in multiple independent and internal evaluations.* Periodic inspection should be completed per hospital and regulatory guidelines and may include the following inspection methods -- Visual: look for areas where product may be damaged by puncture, possibly indicated by tear or rupture of outer material; Tactile: physical examination of the garment by feeling with hands for imperfections, gaps or separation of the attenuation material; Fluoroscopic: x-ray examination per facility guidelines for non-metallic attenuation garments. Tip: hang garments to remove creases prior to scanning.

Storage: Product can be folded and stored on a shelf, or on an appropriate hanger or peg rack. Recommended storage and use temperature is below 35°C (95°F). Store in environments with less than 60% relative humidity. Avoid contact with hot surfaces and sharp objects. Do not subject to freezing temps. For transport, garments can be folded and placed inside a bag and/or box. Do not hang any apron by its tether.

Disposal: BLOXR products are non-toxic and contain no lead, lead by-products or heavy metals. No special handling is required. Dispose of per institutional protocols and all applicable laws and regulations.

*Available upon request

Recommendations for Care of DISPOSABLE Products

Disposable XPF caps and collars are limited use and are NOT intended to be cleaned by hand or by machine. Always inspect for damage before use. Discard when soiled, when casing is damaged or when radiation leaks are detected.

Recommendations for Care and Warranty of REUSABLE Products

Reusable XPF Attenuating Shields may be cleaned by hand or machine washed. Do not subject to high heat.

Hand Cleaning: Wipe down exterior using a soft sponge or cloth and detergent suitable for nylon or polyester fabrics following the detergent manufacturer's instructions. Once the item has been cleaned, wipe or rinse it with clean water to remove any detergent or chemical residue.

Machine Wash: Machine-wash using gentle wash cycle with water temperatures of 160°F (70°C) or lower. Follow the recommendations of the washing machine manufacturer for proper placement. Do not use fabric softener.

Drying: Hang dry or machine dry on low gentle cycle (suitable for delicate fabrics such as nylons and polyesters) until thoroughly dry.

Disinfection: Disinfect using alcohol, hydrogen peroxide or quaternary based disinfectants in accordance with the disinfectant manufacturer's instructions for use. Garment fabric may discolor from repeated disinfection over time.

Precautions:

- Fasten all closures before washing. If products are tethered together, untether before washing and drying.
- Do not use solvents, abrasive cleaners, metal brushes or abrasive pads. Cleaning chemicals and solutions may harm the outer fabric. Check compatibility of material with cleaning agents in a small area before using such chemicals.
- Because washing and drying cycles may vary, BLOXR Solutions is not responsible for any damage caused to the device due to washing and drying.
- Do not pierce through the garment as this will put a hole in the XPF technology and violate the warranty. If ID tags of any kind must be attached, use the outer fabric of the garment's pocket or the inner tag label.

Warranty: BLOXR Solutions manufactures its reusable, machine-washable XPF® Products to the highest industry standards and warrants, to the original purchaser, that products will be free from cracks or radiation leaks due to defects in material or workmanship for a period of three years from date of purchase. Product found to be defective during the warranty period will be repaired or replaced at our discretion, at no charge (customer pays freight). Warranty does not cover breakage or failure due to misuse, tampering, modification, neglect or shipping. Warranty is void if product is not used in accordance with the Instructions for Use.



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