TECHNICAL SPECIFICATIONS

K-EDGE TECHNOLOGY

Each ProGuard core material is carefully formulated to more efficiently attenuate portions of the photon spectrum and limit “gaps” in protection due to over reliances on individual x-ray protective elements. Protech utilizes proper elemental balance to address k-edge concerns for key diagnostic imaging ranges. Protech’s advanced elastomers exhibit the best balance of toughness, flexibility, durability and cracking resistance.

* Antimony/barium provide more efficient attenuation of the photon spectrum below the K-edge window of lead (35 - 88 keV)
* Higher Z elements, tungsten, bismuth, and lead are more efficient for stopping higher energy radiation (>9/88 keV), and also cover the K-edge fluorescence window of antimony (< 35 keV).

LEAD

Our lead is an affordable, highly protective lead vinyl material providing consistent x-ray protection throughout a wide range of kV.
IEC certified.

ULTRALITE LEAD

Ultralite Lead is a lightweight, flexible x-ray protection material created from a mixture of antimony, lead, and durable vinyl. Ultralite lead is roughly 14% lighter than our lead product. (aka T-lite) IEC certified.

LEAD-FREE IEC

Lead-Free IEC is a light weight, highly flexible x-ray protective material made up of a more concentrated blend of antimony, bismuth, and plasticizers. Lead-Free IEC is 18% lighter than our lead product. IEC Certified.

PREMIER

Premier was developed as a cutting edge, flexible x-ray protective material composed of antimony, bismuth, and optimized plasticizers. Premier is 30% lighter than our lead product.

BILAYER

Our Bilayer material is an ultra-light weight lead-free, multilayered, x-ray protective material designed with individual layers of antimony and bismuth that optimize attenuation values for k-edge protection over a wide range of kV. Bilayer is 22% lighter than our lead product and one of the lightest IEC certified materials available.

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APRON CORE MATERIAL SPECIFICATIONS

LEAD

	Lead 0.25mm	Lead 0.35mm	Lead 0.50mm	Lead 1.00mm
Composition	Lead	Lead	Lead	Lead
g/m²	3300	4950	6600	13,200
Testing Standard	IEC 61331-1:2014	IEC 61331-1:2014	IEC 61331-1:2014	IEC 61331-1:2014
kV Class Range	50 - 150 kV	50 - 150 kV	50 - 150 kV	50 - 150 kV
Layers	1	2	2	4
Surface Weight	4.54 kg/m²	6.07 kg/m²	7.65 kg/m²	14.01 kg/m²

ULTRALITE LEAD

	Ultralite Lead 0.25mm	Ultralite Lead 0.35mm	Ultralite Lead 0.50mm	Ultralite Lead 1.00mm
Composition	Bismuth + Antimony	Bismuth + Antimony	Bismuth + Antimony	Bismuth + Antimony
g/m²	2900	4350	5800	11,600
Testing Standard	IEC 61331-1:2014	IEC 61331-1:2014	IEC 61331-1:2014	IEC 61331-1:2014
kV Class Range	50 - 150 kV	50 - 150 kV	50 - 150 kV	50 - 150 kV
Layers	1	2	2	4
Surface Weight	4.06 kg/m²	5.55 kg/m²	6.91 kg/m²	11.96 kg/m²

LEAD FREE (IEC)

	Lead Free (IEC) 0.25mm	Lead Free (IEC) 0.35mm	Lead Free (IEC) 0.50mm	Lead Free (IEC) 1.00mm
Composition	Bismuth + Antimony	Bismuth + Antimony	Bismuth + Antimony	Bismuth + Antimony
g/m²	2800	4200	5600	11,200
Testing Standard	IEC 61331-1:2014	IEC 61331-1:2014	IEC 61331-1:2014	IEC 61331-1:2014
kV Class Range	50 - 110 kV	50 - 110 kV	50 - 110 kV	50 - 110 kV
Layers	1	2	2	4
Surface Weight	3.65 kg/m²	4.89 kg/m²	6.29 kg/m²	11.96 kg/m²

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PREMIER

	Premier 0.25mm	Premier 0.35mm	Premier 0.50mm
Composition	Bismuth + Antimony	Bismuth + Antimony	Bismuth + Antimony
g/m²	2550	3825	5100
Testing Standard	ASTM 2547-08	ASTM 2547-08	ASTM 2547-08
kV Class Range	90 kV	90 kV	90 kV
Layers	1	2	2
Surface Weight	N/A	N/A	N/A

BILAYER

	Bilayer 0.25mm	Bilayer 0.35mm	Bilayer 0.50mm
Composition	Bismuth + Antimony	Bismuth + Antimony	Bismuth + Antimony
g/m²	2650	-	5300
Testing Standard	ASTM 2547-08	-	ASTM 2547-08
kV Class Range	50 - 110 kV	-	50 - 110 kV
Layers	2	-	4
Surface Weight	3.13 kg/m²	-	6.21 kg/m²

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