



PROTECH
Medical

**PROTECH LEADED EYEWEAR INC,
DBA PROTECH MEDICAL**

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ATTENUATION RESULTS: LENSES AND FACE SHIELD

ASTM F3094-14:

Standard Test Method for Determining Protection Provided by X-ray Shielding Garments Used in Medical X-ray Fluoroscopy from Sources of Scattered X-Rays.

$$\text{Attenuation (percent)} = \left(1 - \frac{\text{exposure with sample}}{\text{exposure without sample}} \right) \times 100 \quad (1)$$

X-RAY TUBE VOLTAGE	
100	
MEASURED TUBE VOLTAGE	
101.1	
HVL	MAS
5.2mm Al	10

SAMPLE	DOSE WITH	DOSE WITHOUT	ATTENUATION %	*mmPb
62mm + 4BC	21.60	736.8	97.07	0.52
73mm + 6BC	19.62	737.1	97.34	0.53
80mm + 4BC	22.95	735.8	96.88	0.50
Face Shield	142.70	737.1	80.64	0.15

X-RAY TUBE VOLTAGE	
80	
MEASURED TUBE VOLTAGE	
80.7	
HVL	MAS
3.93mm Al	10

SAMPLE	DOSE WITH (uCy)	DOSE WITHOUT (uCy)	ATTENUATION %
Lead 0.1mm Pb	98.09	471.5	79.20
Lead 0.2mm Pb	42.02	472.1	91.10
Lead 0.3mm Pb	22.39	473.1	95.27
Lead 0.4mm Pb	12.73	472.4	97.31
Lead 0.5mm Pb	7.735	471.1	98.36

X-RAY TUBE VOLTAGE	
100	
MEASURED TUBE VOLTAGE	
101.8	
HVL	MAS
5.1mm Al	10

SAMPLE	DOSE WITH (uCy)	DOSE WITHOUT (uCy)	ATTENUATION %
Lead 0.1mm Pb	208.6	737.1	71.70
Lead 0.2mm Pb	106.7	736.6	85.51
Lead 0.3mm Pb	64.1	736.6	91.30
Lead 0.4mm Pb	40.34	736.2	94.52
Lead 0.5mm Pb	27.32	737.0	96.29

ATTENUATION RESULTS: LENSES AND FACE SHIELD (CONT.)

The undersigned, being a high level representative of Protech, hereby states that the above x-ray protective materials were taken as a random sampling from Protech's inventory and tested in accordance with industry standard ASTM testing methods.



Signature

President

Title

12/14/18

Date