Radiation Protection Materials for Lead Aprons

Deutsch Medical offer three different radiation protection materials that assure maximum protection against harmful radiation in hazardous work environments. Each protection material has its own particular benefits in terms of protection, functionality, application and cost. All three materials conform with all major global standards AS/ NZS 4543.3:2000 (Australia/ NZ), IEC 61331-3:2014 (International), ASTM F2547 (USA) and DIN 6867-2 (Germany), independently tested and certified against a full range of energy levels; 60 to 150 kVp.

Lead	Light Lead Plus	Supreme Lead Free
Lead Material	Light Weight Lead & Lead Composite Material	Light Weight Lead Free Material
RECOMMENDED FOR • Lead (L) is specifically suitable for radiation protection because of its high absorption and attenuation of x-ray photons. Lead is often considered the budget choice. However, lead is a heavy option and can cause occupational health issues[1] when worn for a long time. Therefore, Lead is only an ideal protection when in use for shorter periods of time.	**RECOMMENDED FOR** • Light Lead Plus (LLP) consists of lead combined with antimony. This material is lighter than "lead-only" apparel (up to 285 Grams per square metre). • Light Lead Plus is considered the economical choice for a garment which provides optimum protection and is comfortable to wear when in use for short and medium periods of time.	**RECOMMENDED FOR** • Supreme Lead Free (SLF) is a revolutionary protective material which consists of two fundamental materials: Bismuth and Antimony, which protect throughout the full voltage spectrum required as per the most recent regulatory requirements. While antimony will shield the transmission of scatter radiation between 60-110 kVp, Bismuth will block the transmission of lower level scatter or fluorescent radiation between 50-90 kVp. • Supreme Lead-Free is the lightest material on the market, while offering optimum protection when considering current testing standards[2]. Combined with the ergonomic design of our apparel, you will be wearing the most protective and comfortable apron even during long procedures.
Independently tested and certified against a full range of energy levels; **60 to 150 kVp** by "Institut für Strahlenschutz und Dosimetrie" Austria. • IEC 61331.1-2014 Compliant • IEC 61331.3-2014 Compliant	Independently tested and certified against a full range of energy levels; **60 to 150 kVp** by "Institut für Strahlenschutz und Dosimetrie" Austria. • IEC 61331.1-2014 Compliant • IEC 61331.3-2014 Compliant	Independently tested and certified against a full range of energy levels; **60 to 150 kVp** by "Institut für Strahlenschutz und Dosimetrie" Austria. • IEC 61331.1-2014 Compliant • IEC 61331.3-2014 Compliant
Area Density in g/m² • 0.25mm Pb: 3359 • 0.35mm Pb: 4648 • 0.50mm Pb: 6747	**Area Density in g/m²** • 0.25mm Pb: 3208 • 0.35mm Pb: 4508 • 0.50mm Pb: 6462	**Area Density in g/m²** • 0.25mm Pb: 2762 • 0.35mm Pb: 3785 • 0.50mm Pb: 5267

Please click this link to view test report

REFERENCE:
1 Klein LW, Tra Y, Garratt KN, Powell W, Lopez Cruz G, Chambers C, et al. Occupational health hazards of interventional cardiologists in the current decade: results of the 2014 SCAI membership survey. Catheter Cardiovasc Inter 2015; 86: 913-24.
2 Heinrich Eder, Helmut Schlattl: IEC 61331-1: A new setup for testing lead free X-ray protective clothing, Physica Medica 45 (2018) 6–11.

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