



Y-RAY PROTECTION SHEETING FOR NUCLEAR

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Newlife specializes in new high-energy ray absorbers and lead-free shielding materials for more than 10 years, from raw materials to manufactured nuclear energy protection products are independently developed and produced.

radbar γ -ray protective rubber material is a roll material with strong protective ability, light weight, soft and green environmental protection developed by Newlife for nuclear energy and nuclear emergency. It is composed of γ -ray absorber and polymer material, which can effectively replace traditional lead and lead composite material.

For radioisotope sources such as Am241, below 100KeV, radbar ALF series can reduce weight by more than 30% compared with traditional lead rubber under the same protection effect, which has reached the advanced level abroad.

THREE ADVANTAGES OF γ -RAY PROTECTIVE RUBBER



EXCELLENT SHIELDING EFFECT

- Customized for specific sources
- Optimum shielding effect
- Excellent radiation resistance
- Strong aging resistance



ECO-FRIENDLY MATERIAL

- The raw materials and the production process are harmless to human body and the environment,
- Easy to recycle, and reduces hazardous waste.



CONVENIENT FOR CONSTRUCTION

- Made into columnar or complex-shaped products;
- Cut and bent freely;
- Combination with magnetic material for installation
- Easy to install and disassemble.

γ-RAY PROTECTION PRODUCTS FOR MILITARY INDUSTRY & NUCLEAR POWER

SPECIFICATIONS:

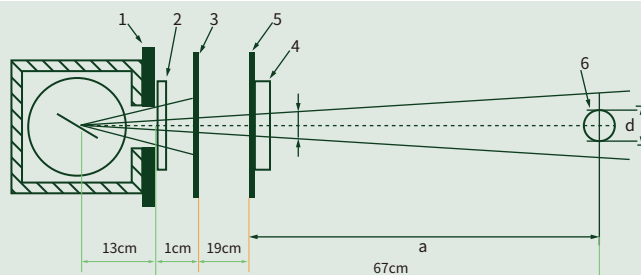
Model	Lead equivalent	γ energy	Weight	Thickness (mm)	Standard size
RLF-125W	0.125mmPb	N130kV/662kV/1132kV	1.55kg/m ²	0.3±0.02mm	700mmx10M/20M

CHARACTERISTICS:

- (1) Newlife has core materials development and preparation technologies
- (2) Excellent weight and shielding effect: the protection effect is more than 60% under N130kV energy, and the double-layer weight is only 3.1kg/m², far higher than the military requirements.
- (3) It can be fully domestication and effectively replace import products.

TESTING STANDARD:

MILITARY INDUSTRY: GB/T 12162.1-2000 X and γ reference radiation for calibrating dosimeters and dose rate meters and determining their energy response-Part 1: Radiation characteristics and generation methods



TESTING DATA:

	N120kV Shielding efficiency	N150kV Shielding efficiency	N200kV Shielding efficiency
Inherent filtration	1.5mmAl+2.5mmAl	1.5mmAl+2.5mmAl	1.5mmAl+2.5mmAl
Total filtration	4mmAl+1mmSn+5mmCu	4mmAl+2.5mmSn	4mmAl+1mmPb+3mmSn+2mmCu
Average shielding efficiency of single layer	43.41%	32.68%	15.60%
Average shielding efficiency of double layer	67.16%	53.46%	28.89%

RLF-125W single layer shielding efficiency is 39.43% at N130kV radiation mass.
RLF-125W double layer shielding efficiency is 63.54% at N130 radiation mass.

TESTING RESULTS:

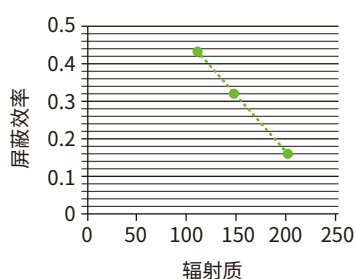
Fitting degree 99.96%

**Testing results
meet military
requirements**



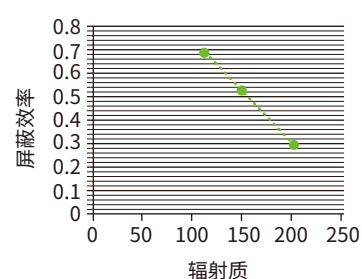
**50%
shielding
effect**

Fitting of single layer shielding efficiency



● 系列1

Fitting of single double shielding efficiency



..... 线性 (系列1)

γ-RAY PROTECTION PRODUCTS FOR NUCLEAR EMERGENCY

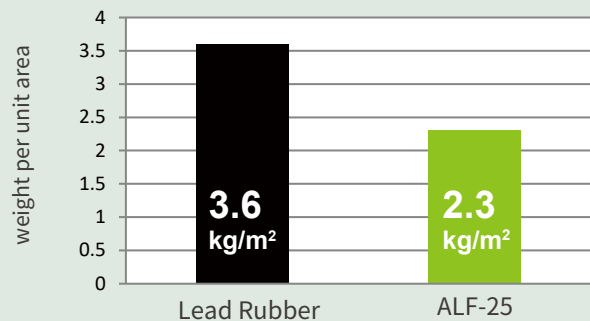
SPECIFICATIONS:

Model	Lead equivalent	γ energy	Weight	Thickness (mm)	Standard size
ALF-125W	0.125mmPb	Am241/Lower than 100KeV	1.2kg/m ²	0.31±0.02mm	1250mmx20m
ALF-250W	0.25mmPb		2.25kg/m ²	0.61±0.04mm	

CHARACTERISTICS:

- (1) Newlife has core materials development and preparation technologies
- (2) **Ray energy sources:** 238Pu、241Am、55Fe
- (3) The core lead-free formulation can reduce the weight by more than 30% compared with the traditional lead protective material.
- (4) **Global leading technology**

Weight contrast under the same shielding



TESTING DATA:

LD86-1996 Radiation protective clothing under 100kev

TESTING METHOD FOR PROTECTION EFFICIENCY OF RADIATION PROTECTIVE CLOTHING

A1 This appendix is applicable to the inspection of the protection efficiency of radiation protective clothing and radiation protective cloth.

A2 Testing instrument

X (γ) dosimeter, such as S80 multichannel analyzer, Farmer2570 dosimeter.

A3 Testing conditions&methods

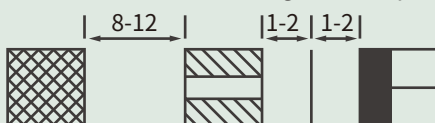
A3.1 Conditions

Silicon-lithium probe is used for X-ray testing, and high-purity probe is used for α-ray testing.

The ray sources are 238PU, 241Am and 55Fe .

A3.2 Methods

The Fig 1 shows the testing theory. The radioactive source beam hole is 8mm~12mm, the distance between the beam hole and the sample is 1 mm ~2mm, the distance between the sample and the dosimeter is 1 mm ~2mm, and the probe diameter is 2mm~ 2.5 mm. Adjust the radiation generated by the radioactive source to the range received by the probe.



SHIELDING PERFORMANCE TEST RESULTS OF CHINA INSTITUTE OF ATOMIC ENERGY IN BEIJING

国防科技工业电离辐射一级计量站

核工业辐射计量测试中心

检测报告

证书编号: JCT-DM-2011060001

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检测结果

1. 测试条件: 样品面积300cm, 探测器中心距离100cm;

2. 测试仪器: PFW UNIDOR®FW32002剂量仪 (No. 00002-20443+255)

3. 测试结果:

编号及称厚度	参考辐射	衰减比	铅当量 mmPb
JCT-DM-2011060001 (样品1) 样品厚度: 0.125mm	²⁴¹ Am, 59.5keV	23.14	0.85

注: 衰减比与未经过材料衰减的空气比动能与经过材料衰减后的空气比动能的比值

以下空白

The shielding effectiveness of new ALF-25W lead-free gamma shielding material with double layer shielding can be 90% for 241Am radioactive sources.

Y-RAY PROTECTIVE EQUIPMENT

radbar® FULLY ENCLOSED NUCLEAR RADIATION PROTECTIVE SUIT



APPLICATIONS:

Nuclear & Radiological Emergency Handling / Nuclear Terrorism & Nuclear Accident / Nuclear & Chemical Environment / Maintenance of Nuclear Facilities and Equipment Nuclear accident rescue team / nuclear environment operation & inspection personnel / immigration & customs inspection/anti-terrorism team / Radioactive source disposal personnel

TECHNICAL PARAMETERS:

γ 、 X 、 β 、 α ray protection; 0.25mmPb lead equivalent -- 100KVp low energy β rays (according to Id86-1996 Testing requirements for radiation protective clothing up to 100keV) Protective nuclear aerosol/Protective chemicals

Weight: 6.5Kg/175mm

radbar® PORTABLE NUCLEAR RADIATION PROTECTIVE VEST



APPLICATIONS:

Nuclear & Radiological Emergency Handling / Nuclear Terrorism & Nuclear Accident/Nuclear & Chemical Environment / Maintenance of Nuclear Facilities and Equipment Nuclear accident rescue team / nuclear environment operation & inspection personnel / immigration & customs inspection / anti-terrorism team Radioactive source disposal personnel

TECHNICAL PARAMETERS:

γ 、 X 、 β 、 α ray protection; 0.25mmPb lead equivalent -- 100KVp low energy β rays (according to Id86-1996 Testing requirements for radiation protective clothing up to 100keV) Protective nuclear aerosol/Protective chemicals

Weight: 0.25mmPb 1.2Kg, 0.25mmPb 2.4Kg

NUCLEAR RADIATION PROTECTIVE SHOES



Nuclear radiation protective shoes are widely used in nuclear power, scientific research, troops and other special emergency occasions.

Size: 40/41/42/43/44/45/46

Lead equivalent index: 0.25mmPb

NUCLEAR RADIATION PROTECTIVE GLOVES



Nuclear radiation protective shoes are widely used in nuclear power, scientific research, troops and other special emergency occasions.

Size: L/M, 350mm

Lead equivalent index: 0.25mmPb

NUCLEAR POWER PIPELINE SHIELDING MATERIAL



The lead-free radiation-protective material is adopted for shielding the pipeline of radiation hot spot. The lead sheet of 200*800mm is adopted for the pipeline of 25mm~50mm, and the lead sheet of 500*500mm is adopted for the pipeline of 100mm~150 mm, which is soft and easy to operate.

SPECIFICATIONS:

200mm × 800mm, 2mm lead equivalent

500mm × 500mm, 4mm lead equivalent

500mm × 1000mm, 3mm lead equivalent



MOBILE SHIELDING FRAME



This product is a mobile nuclear shielding frame, with movable pulley under the shielding frame, which can be moved in specific application. It is use for shielding ray source in non-destructive testing and shielding nuclear power hot spot overhaul, and can provide effective ray protection for operator.



广州新莱福新材料股份有限公司
GUANGZHOU NEWLIFE NEW MATERIAL CO., LTD

广州新莱福磁材有限公司
GUANGZHOU NEWLIFE MAGNETICS CO.,LTD

Email: newlife@kingmagnet.com
www.kingmagnet.com www.newlife.cn