

Features

- Laboratory shield for low-level high-resolution gamma spectrometry
- 12-15 cm thick lead with integral steel jacket – 10.0-12.5 cm bulk lead, 2.0-2.5 cm ULB lead liner
- Copper liner 1-5 cm thick
- Reduced-mass swing cover with variable opening direction
- Table with adjustable oversized foot pads
- Modular design for easy installation
- Compatible with both liquid-nitrogen and electrically cooled cryostats
- Visually pleasing ergonomic design

Description

The LS/LL Classic Series of lead shields is intended for use with ultra-low-background (ULB) HPGe detectors. It will prevent high background counts due to external sources, thus reducing counting times and improving the lower limit of detection.

Transport to the final location in the building and installation are facilitated by the modular construction with no part weighing more than 200 kg and strategically placed threaded holes for manipulation hooks. The cover features a special reduced-mass design making the opening and closing of the cover less strenuous. Minimal distance between the cover and the shield body prevents direct path radiation from entering the shield cavity.

The 1 – 5 cm liner made of 99.99% OF-Cu copper material prevents interference by lead x-rays. The exterior is attractively finished with light grey polyurethane paint, the interior is coated with clear polyurethane to prevent oxidation and facilitate cleaning. The shield will accommodate detectors with either vertical dipstick cryostats or U-style cryostats with relative efficiencies up to 100%. The shield is delivered with a robust table with adjustable foot pads providing a convenient means for leveling.

The 100-125 mm bulk lead ^{210}Pb content is guaranteed at below 50 Bq/kg while that of the 20-25 mm ULB lead insert is lower than 30 Bq/kg (optionally 10 Bq/kg).



All shields feature an annular lead back shield compatible with remote detector chamber (RDC)

detectors. The back shield minimizes the streaming path through the hole in the shield floor. Shields for U-style cryostats provide an integral RDC channel in the shield wall. As an option, an insertion and removal mechanism is available, allowing for detector manipulation without the need to disassemble the shield.

Specifications

- Mechanical
 - See drawings below
- Shielding
 - 100-125 mm bulk Pb
 - 20-25 mm ULB Pb liner, a(²¹⁰Pb) < 30 Bq/kg (10 Bq/kg optional)
- Liner
 - Cu, 1.0 – 5.0 cm
- Finish
 - Light grey (RAL 7035) polyurethane paint

Options

- Split back shield for RDC-6 detectors, 15 cm long, felt lined
- Simple detector lift for CP-5 detectors
- Advanced detector lift for CP-5 detectors
- Detector insertion/removal mechanism

Ordering Information

- Custom features such as non-standard lead and/or liner thickness, lead purity, liner material, and dimensions, need to be agreed with the factory.
- Information about the type and size of specimen/containers to be measured, e.g., Marinelli beakers, must be included in the order.
- Information about the detector to be used must accompany the order.

- Specify model number at the time of order.
 - LS0916/LL – model for vertical dipstick cryostats, includes annular lead back shield
 - LS0916/LL-U – model for U-style cryostats, includes Dewar support table
 - Custom models available upon request



