

# Tech L-Block

## Model 67-659



Nuclear Medicine

The Tech L-Block is specially designed to protect staff members working with  $^{99m}\text{Tc}$  isotopes. This lead-containing L-block gives full protection to the technologist's torso while the leaded glass window allows the technologist full view of the work area and offers shielding from radiation. This is an excellent product for facilities that compound significant quantities of  $^{99m}\text{Tc}$  based radiopharmaceuticals.

### Specifications

**Dimensions base** 13.5 (w) x 16 (d) x 23.7 in (h) (34.3 x 40.6 x 60.2 cm)

#### Lead glass window

**Dimensions** 11 (w) x 14.5 (d) 27.9 x 36.8 cm

**Density of glass** 5.2 cm<sup>3</sup>

**Base glass** 16 inch above the base (40.6 cm)

**View through the glass** High quality optical grade

**Finish** Smooth stainless steel

**Weight** 150.13 lb (68.1 kg)

#### Replacement parts

**Tech L-Block Lead Glass** (Model 67-657)

#### Available model(s)

**67-659** Tech L-Block



# I-131 L-Block

## Model 67-656

This shield is designed for facilities that prepare and dispense high activity  $^{131}\text{I}$  therapy doses. The shield offers excellent protection from beta and gamma radiation and has a fully shielded floor. The lead glass is 3.5 inches thick to shield out the high energy gamma photons from this radionuclide.

### Specifications

**Dimensions** 11.75 (w) x 13.5 (d) x 19 in (t)  
(30 x 34.3 x 48.3 cm)

#### Lead shielding

**Base** 1.75 in (t) (4.5 cm)

**Spine** 1.5 in (t) (3.8 cm)

#### Lead glass window

**Dimensions** 11 (w) x 14.5 (d) x 3.5 in (h)  
(28 x 36.8 x 8.9 cm)

**Density of glass** 5.2 cm<sup>3</sup>

**Base glass** 16 inch above the base

**View through the glass** High quality optical grade

**Finish** Smooth stainless steel

**Weight** 224.9 lb (102 kg)

#### Available model(s)

**67-656** I-131 L-Block



For additional information, please contact Cardinal Health, Radiation Management Services customer service at 440.248.9300, 800.850.4608, or fax: 440.349.2307; located at 6045 Cochran Road, Cleveland, Ohio 44139-3303, USA.

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67-659-ds rev 1 13 mar 03

# CLEAR-Pb® Lead-Plastic Protective Benchtop Shield

## Model 56-606



- Provide clear, distortion-free visibility and full protection when working with radionuclides
- Portable and attractive
- Available in various sizes
- Lead-equivalency of 1.5 mm

CLEAR-Pb Lead-Plastic Benchtop Shields provide protection from radiation exposure when working with radionuclides. All shields feature a fully-transparent, lead-plastic window (angled for convenience) that attenuates gamma radiation to the face and body while permitting clear views of operations. The shield comes in Standard, Jumbo, and Mini sizes, complete with all assembly hardware and sturdy plastic supports.

Nuclide	<sup>125</sup> I	<sup>133</sup> Xe	<sup>57</sup> Co	<sup>99m</sup> Tc	<sup>123</sup> I	<sup>67</sup> Ga	Model	Size	Dimensions	Weight
Attenuation%	99.99	97.6	99.8	98	99.5	67	56-606	Standard	12 x 18 in (31 x 46 cm)	25 lb (11.4 kg)
<i>Panel thickness, 35 mm (1.38 in); Lead equivalence, 1.5 mm (0.063 in)</i>							56-607	Jumbo	15 x 24 in (38 x 61 cm)	39.5 lb (18 kg)
							56-609	Mini	9 x 12 in (23 x 31 cm)	15 lb (7 kg)



# CLEAR-Pb® Lead-Plastic Protective Benchtop Barrier

## Model 56-608

- Eliminates most exposure to users when milking isotope generators
- Features shatterproof, optically-clear CLEAR-Pb lead-plastic window
- 12 x 12.875 inch (0.5 inch thick) lead wall; 12.875 x 20 inch window provides 1.5 mm lead-equivalent protection

Most commercial generators provide sufficient shielding against the eluted radionuclide. However, when milking <sup>99m</sup>Tc generators, a technologist can be exposed to radiation levels of up to 35 mR/hr. Such hazardous levels are eliminated by this benchtop barrier.

### Specifications

The barrier consists of an optically-clear CLEAR-Pb window, 12.88 in x 20 in x 35 mm (t) (1.5 mm lead-equivalent) and a lead wall, 12 x 12.88 x 0.25 in (t). The barrier is mounted on a metal base, 20 x 22 inch

**Weight** 67 lb (30 kg)

#### Optional accessories

**Optional Lead Base Shield** (Model 56-610): 20 x 22 x 0.13 in (t) (fits inside metal base, protects the lower body)

#### Available model(s)

**56-608** CLEAR-Pb Lead-Plastic Protective Benchtop Barrier

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56-606-ds rev 1 13 mar 03

# Standard Table Shield and Mini Table Shield

## Models 56-620 and 56-630



Nuclear Medicine

These Table Shields are aesthetically pleasing in design and provide full safety. For working atop non-shielded tables and counters, an optional 0.125 inch thick lead base can be laminated into the Table Shield floor for greater protection. To maximize the shielded area optional lead-lined sidewalls are available.

### Specifications

#### Standard Table Shield

**Base** 16 (w) x 14 in (d) (41 x 36 cm)

**Front panel** 16 (w) x 15 in (h) (41 x 38 cm)

**Top panel view area** 16 (w) x 12 in (d) (41 x 30 cm), set at a comfortable 45° viewing angle

**Weight** 70 lb (31 kg)

#### Mini Table Shield

**Base** 10 (w) x 8 in (d) (25 x 20 cm)

**Front panel** 10 (w) x 8 in (h) (25 x 20 cm)

**Top panel view area** 10 (w) x 8 in (d) (25 x 20 cm), set at a comfortable 45° viewing angle

**Weight** 35 lb (16 kg)

#### Optional accessories

**Lead Base**, 0.125 inch (Model 56-630-4000)

#### Available model(s)

**56-630** Standard Table Shield, 2 mm Pb

**56-632** Standard Table Shield, 4 mm Pb

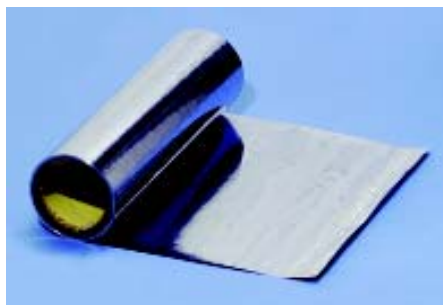
**56-620** Mini Table Shield, 2 mm Pb

**56-622** Mini Table Shield, 4 mm Pb



## Lead Foil

### Model 57-006



Foil can be cut easily and formed into almost any shape for shielding areas, parts of areas or objects of all types. Comes in rolls 14 inch wide, in assorted thicknesses.

**Weight** 10 lb (4.5 kg)

#### Available model(s)

**57-006** Lead Foil,  
14 in (w) x 22 ft (l) x 0.006 in (t)

**57-015** Lead Foil,  
14 in (w) x 9 ft (l) x 0.015 in (t)

**57-030** Lead Foil,  
14 in (w) x 4.5 ft (l) x 0.030 in (t)

## Lead Vinyl

### Model 57-901



This smooth, easy-to-clean material has a nonabsorbent, abrasion-resistant surface on both sides. Very pliable and easy to drape. Comes in 24 inch wide rolls in assorted thicknesses.

#### Available model(s)

**57-901** Lead-Vinyl, 0.25 mm lead equivalent,  
24 in (w) x 6 ft (l) x 0.03 in (t).  
Weight: 9 lb (4 kg)

**57-902** Lead-Vinyl, 0.50 mm lead equivalent,  
24 in (w) x 4 ft (l) x 0.06 in (t).  
Weight: 12 lb (5.4 kg)

**57-904** Lead-Vinyl, 1.00 mm lead equivalent,  
24 in (w) x 3 ft (l) x 0.13 in (t).  
Weight: 18 lb (8.1 kg)

## Lead Bricks

### Model 51-246



These virgin-lead bricks offer maximum versatility for building temporary or permanent shielding and storage facilities. High-quality extrusions assure uniform density and smooth surfaces, practically eliminating open spaces between stacked bricks.

#### Available model(s)

**51-246** Lead Brick, 4 (w) x 6 (d) x 2 in (t).  
Weight: 19.69 lb (9 kg)

**51-248** Lead Brick, 4 (w) x 8 (d) x 2 in (t).  
Weight: 26.25 lb (12 kg)

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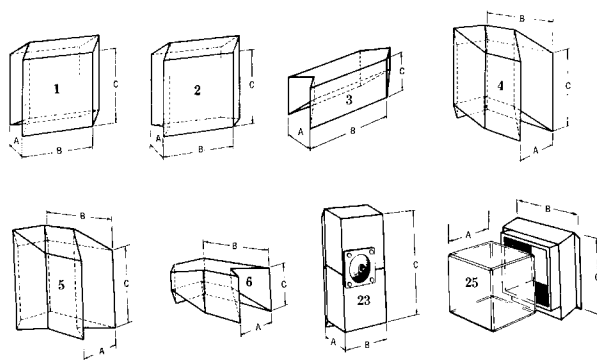
# Interlocking Lead Bricks

## Models 51-001 to 51-006

- Homogeneous and free of voids
- V-shaped edges eliminate leakage

Interlocking lead bricks make it easy to erect, modify and relocate protective walls and cells of any size. Their V-shaped edges (a) eliminate the danger of leakage common to all straight-edged bricks and (b) create sturdier, more stable walls.

The system accepts lead-glass windows, remote handling tools and other accessories which can be removed and used on other projects. All bricks are guaranteed to be homogeneous and free of voids.



Ref.	Model	Description	Dimensions (A x B x C)	Weight
1	51-001	Standard Brick	2 x 4 x 4 in	13.2 lb (6 kg)
2	51-002	Base Brick	2 x 4 x 4 in	14.9 lb (6.7 kg)
3	51-003	Top Brick	2 x 4 x 2 in	5.0 lb (2.2 kg)
4	51-004	Corner Brick	2 x 4 x 4 in	13.2 lb (6 kg)
5	51-005	Corner Base Brick	2 x 4 x 4 in	14.9 lb (6.7 kg)
6	51-006	Corner Top Brick	2 x 4 x 2 in	5.0 lb (2.2 kg)
23	51-023	Wall Sphere Unit	2 x 4 x 8 in	26.2 lb (11.9 kg)
28	04-113	Remote Handling Tool Handle-and-Barrel	36 in	2.5 lb (1.1 kg)
28	04-122	Remote Handling Tool Dual-Grip Jaw	36 in	0.6 lb (0.27 kg)

**Chart 1. Types of enclosures**

No. of walls*	A	B	C	C	E	F
4	3	4	3	4	3	
Inside length (inches)	26		22		18	
Inside depth (inches)	22		18		14	
Outside length (inches)	30		26		22	
Height (inches)	14		14		14	

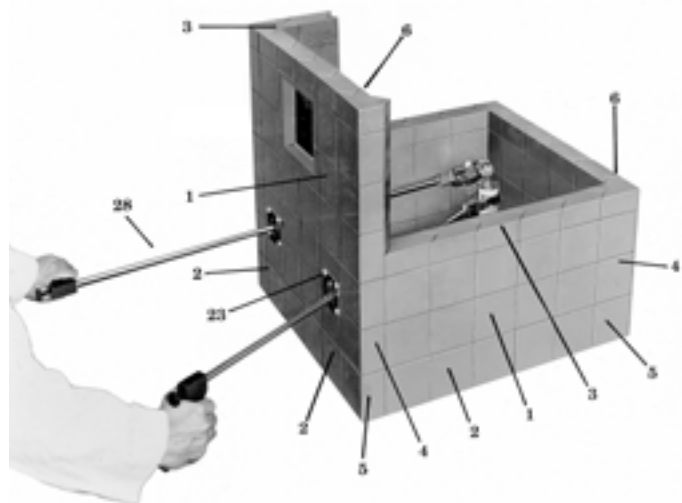
\* Most enclosures have 4 walls. If the rear of the structure faces an area that requires no shielding, three walls are usually sufficient.

## How to order lead bricks for standard enclosures

Building an interlocking enclosure requires careful calculation in order to select the proper combination of bricks. To simplify ordering, Chart 1 provides wall dimensions for six of the most popular three and four-walled enclosures (represented by letters A-F). Chart 2 provides you with the type and quantity of bricks needed for each of the six enclosures.

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51-001-ds rev 1 13 mar 03



Shielded enclosure shown with wall sphere unit, lead-glass window, and remote handling tools

**Chart 2. Type and quantity of bricks per enclosures<sup>†</sup>**

Model	Type of brick	Quantity of bricks per enclosure					
		A	B	C	D	E	F
51-001	Standard	44	32	36	26	28	20
51-002	Base	22	16	18	13	14	10
51-003	Top	22	16	18	13	14	10
51-004	Corner	8	8	8	8	8	8
51-005	Corner Base	4	4	4	4	4	4
51-006	Corner Top	4	4	4	4	4	4
Shipping Weight (lb)		1204	926	1018	787	833	648

<sup>†</sup> Wall sphere units or lead-glass windows can be built into a standard enclosure. A wall sphere unit replaces either two 51-001 bricks or one 51-001 and one 51-002 brick. A lead glass window replaces four 51-001 bricks.



# Leaded Multiple Syringe Holder

## Model 56-290



Nuclear Medicine

This Multiple Syringe Holder features both a leaded top and bottom, and holds up to 5 syringes, ranging in size from 1 cc to 10 cc. This syringe holder is shielded by 0.13 inch lead on its sides, top and bottom.

### Specifications

**Shielding** 0.13 inch lead (0.33 cm)

**Weight** 4 lb (1.8 kg)

**Dimensions** 6 (h) x 3 in (d) (15 x 8 cm)

**Available model(s)**

**56-290** Leaded Multiple Syringe Holder



# Syringe Holder

## Model 56-280

- Holds one syringe from 2 to 20 cc

This device is designed to allow the safe carrying and storage of radionuclide filled syringes within the nuclear medicine laboratory. It provides ample shielding for the highest activity diagnostic dosages.

### Specifications

**Dimensions**

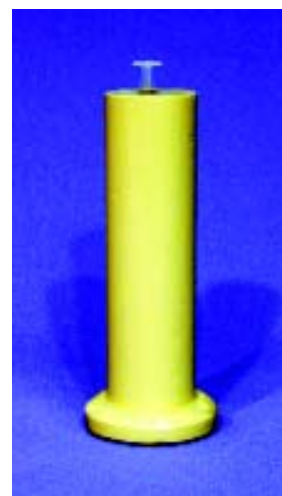
**Weight** 4 lb (1.8 kg)

**Lead cylinder** 0.38 inch thick x 0.97 inside diameter, with 5.4 inch inside depth

**Available model(s)**

**56-280** Syringe Holder

**Support base** 2.34 inch Ø



# Leaded Syringe Holder

## Model 56-289

This leaded syringe holder can accommodate unshielded syringes from 1 cc up to 20 cc. The holder has 0.5 inch of lead shielding, surrounded by a steel base. The extra large base provides greater stability.

### Specifications

**Color** White

**Height** 6.5 in (16.5 cm)

**Shielding** 0.5 inch lead (1.27 cm)

**Weight** 6 lb (2.7 kg)

**Interior dimensions** 0.8125 inch (2.06375 cm)

**Available model(s)**

**Interior depth** 5.625 inch (14.2875 cm)

**56-289** Leaded Syringe Holder



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# Shielded Syringe Carrier

## Model 56-288



This carrier provides a convenient, safe means of storing and transporting syringes or vials that contain radionuclides. Its large handle and light weight (less than 6 pounds) make it easy to carry. It has a 0.13 inch lead wall (including cover). Inside dimensions are 7 inches long x 2 inches square. It is protected by a durable paint finish.

**Weight** 8.8 lb (4 kg)

**Available model(s)**

**56-288** Shielded Syringe Carrier



# Shielded Syringe Carrier

## Model 56-285

This carrier has 0.13 inch lead shielding, an European-type spring tension latch, and welded construction. It features a large moveable carrying handle, and a ribbed tray to prevent syringe movement.

**Dimensions** 3 (w) x 8.25 (d) x 1.5 in (h)  
(7.62 x 21 x 3.81 cm)

**Weight** 10 lb (4.5 kg)

**Available model(s)**

**56-285** Shielded Syringe Carrier



# Lead-Lined Syringe Carrier

## Model 56-286

This aluminum carrier with 0.13 inch (2 x 2 inch) lead shielding will safely store and transport syringes, vials, ampules and more, with maximum protection from carrier contents. Carrier is extra light for easy transport.

**Weight** 11.5 lb (5.2 kg)

**Available model(s)**

**56-286** Lead-Lined Syringe Carrier

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# Dual Container Sharps Shield

## Model 67-360



Nuclear Medicine

Dual Container Sharps Shield is a waste disposal system ideal for any location where injections are given. The shield is lined with 0.13 inch lead and is equipped with a sliding port that allows for safe disposal of syringes. This sharps shield houses two stacked containers held securely in place by spring clamps. The containers are accessible through a shielded door that provides additional protection from exposure. The lower container collects waste and is removed for proper waste disposal once the top container is filled. The top container is then rotated to the lower position and a fresh container is placed on top.

Holds two Monoject Small Containers (Model 67-325-3380).

### Specifications

**Weight** 70 lb (31.8 kg)

#### Optional accessories

**Monoject Small Container**  
(Model 67-325-3380)

#### Available model(s)

**67-360** Dual Container Sharps Shield

**67-359** Dual Locking Monoject Sharps Shield



# Shielded Safe

## Model 67-770

This safe provides a secure and shielded environment for the storage of radioisotopes, whether in syringes, vials or as sealed sources and devices. The safe is made of welded steel and it is constructed with a front swinging door. The safe is equipped with a key lock for security.

### Specifications

**Shielding** 1 inch lead (2.54 cm)

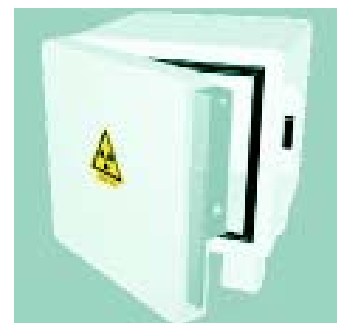
**Color** White & gray finish

**Inside dimensions** 7.9 (w) x 7.9 (d) x 7.9 in (h) (20 x 20 x 20 cm)

**Weight** 265 lb (120 kg)

#### Available model(s)

**67-770** Shielded Safe



# Generator Box

## Model 53-850

This shielded stainless steel case is designed to store multiple generators. The Generator Box completely surrounds the generators, offering 360° shielding. It is the ideal solution at those facilities that have an in-house nuclear pharmacy responsible for compounding radiopharmaceuticals.

### Specifications

**Storage case size** 21.25 x 45.25 x 23.5 in (54 x 115 x 60 cm)

**Base size** 18.5 x 45.25 x 23.5 in (47 x 115 x 60 cm)

**Material** 16 gauge rolled steel

**Color** Stainless steel

**Sheeting** 0.5 inch lead sheeting (1.27 cm)

**Weight** 844 lb (383 kg)

#### Available model(s)

**53-850** Generator Box



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# Under Counter Refrigerator

## Model 53-380



The under-counter, lead-lined refrigerator, allows for the shielded storage of radiopharmaceuticals and tagged biological material in a temperature controlled environment. It is designed to be easily placed underneath a counter top to optimize the laboratory area.

### Specifications

**Outside dimensions** 24 (w) x 22.4 (d) x 31.5 in (h) (61 x 57 x 80 cm)

**Capacity** 74 qt

**Weight** 660 lb (300 kg)

**Finish** White epoxy

**Available model(s)**

**53-380** Under Counter Refrigerator

### Features

- Safety locking door
- Adjustable feet
- Sealed front door

## Iodine Lead Waste Barrel (1.9 cm)

### Model 53-328

- Iodine Lead Waste Barrel surrounded in stainless steel

### Specifications

**Barrel** 18.5 in Ø (47 cm)

**Height from ground** 31.5 in (80 cm)

**Handles** 4 every 90 degrees

**Wheels** Bolted to removable circular bottom

**Wheel base** 3.5 inch. This lifts barrels 5 inches off the ground

**Alternative wheels** 5 in Ø (12.7 cm)

**Height at cover handles** 32.75 in (83.185 cm)

**Height at lid handles** 33.75 in (85.725 cm)

### Iodine lead waste barrel components

**53-328** Iodine Lead Waste Barrel (1.9 cm)

**53-327** Iodine Lead Waste Barrel Top

**53-339** Dolly: Iodine/Tech Lead Barrels



## Tech Lead Waste Barrel (1.27 cm)

### Model 53-330

- Tech Lead Waste Barrel surrounded in stainless steel

### Specifications

**Barrel** 18.5 in Ø (47 cm)

**Height from ground** 31.5 in (80 cm)

**Handles** 4 every 90 degrees

**Wheels** Bolted to removable circular bottom

**Wheel base** 3.5 inch. This lifts barrels 5 inches off the ground

**Alternative wheels** 5 in Ø (12.7 cm)

**Height at cover handles** 32.75 in (83.185 cm)

**Height at lid handles** 33.75 in (85.725 cm)

### Tech lead waste barrel components

**53-330** Tech Lead Waste Barrel (1.27 cm)

**or 53-331** Tech Lead Waste Barrel (0.75 cm)

**53-339** Dolly: Iodine/Tech Lead Barrels

**53-332** Tech Lead Waste Barrel Top (0.5 inch)



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# Lead-Lined Waste Container

## Model 53-370



Nuclear Medicine

This rugged container safely holds radioactive waste awaiting disposal. It consists of a lead-lined inner container and a stainless steel outer receptacle for easy decontamination.

When foot pressure is applied to the recessed step-on lever, the outer cover swings open, revealing the inner container. The inner container and its removable lid are lined with 0.13 inch thick lead. The container has a foldaway handle that allows it to be easily lifted from its recess and emptied. A disposable liner protects the inner container from contamination and allows waste to be transferred with minimal effort.

### Specifications

**Dimensions** 12 (w) x 9 (d) x 19 in (h)  
(30.5 x 23 x 48 cm)

**Capacity** 20 qt

**Weight** 40 lb (18.1 kg)

### Optional accessories

**Replacement Liners** (Model 14-186),  
heavy-duty 4-mil polyurethane, 10 x 8 x  
26 in (h) (25 x 20 x 66 cm), 100 liners

### Available model(s)

**53-370** Lead-Lined Waste Container



# Lead-Lined Storage Safe

## Model 52-022

■ Shielded with 2 inches of lead

Conveniently loaded from the front, this Storage Safe is ideal for storing large quantities of high activity radioisotopes. Shielded with 2 inch lead thickness, the safe is encased in a stainless steel jacket and features an adjustable shelf. The lead lined door is hung with heavy duty non-sagging hinges and is key-locked to prevent unauthorized access.

Transporting this half-ton safe is made easier with the built-in lifting lugs for use with hoist or other means.

### Specifications

**Wall thickness** 2 in (5 cm)

**Finish** Durable, powder coat paint

**Inside dimensions** 12 x 12 x 12 (31 x 31 x 31 cm)

**Weight** 1,000 lb (450 kg)

### Available model(s)

**52-022** Lead-Lined Storage Safe



# Square Lead Container

## Model 52-880

For storing radioactive materials. Inside volume is 8 x 8 x 8 inch with 0.5 inch lead walls. Removable tray provides a second tier for maximum use of storage area. Carrying handles on tray, cover and sides of container. Cover can be locked with a padlock.

### Specifications

**Weight** 114 lb (52.1 kg)

### Available model(s)

**52-880** Square Lead Container



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# Vial Shield Container

## Model 56-287



This Vial Shield Container, with an easy clean plastic outside cover, protects the technologist from radiation exposure. It is designed for use in the Hot Lab.

### Specifications

**Color** White

**Shielding** 0.5 inch lead (1.27 cm)

**Inside diameter** 1 inch (2.54 cm)

**Outside dimension** 2.5 x 2.125 inch (6.35 x 5.3975 cm)

**Weight** 2.8 lb (1.2 kg)

**Available model(s)**

56-287 Vial Shield Container



# Rectangular Lead Container

## Model 53-509

This lead container is shielded with 1 inch (25.4 mm) of lead for maximum protection from radiation. The shielded container can be used to safely store and transport high activity sources. The container is 8 x 11 inch and has a hinged cover that can be secured with a padlock for added safety. The container also has two handles attached to opposing sides.

### Specifications

**Lead walls** 1 inch thick (2.54 cm)

**Inside dimensions** 6 x 6 x 8 inch (15 x 15 x 20 cm)

**Weight** 180 lb (82 kg)

**Available model(s)**

53-509 Rectangular Lead Container



# Round Storage Container

## Model 52-885

This item is recommended for storing small containers of radioactive material. The storage area is divided into two levels by a removable tray which rests on the shoulder of the interior wall. The lower level has a 0.63 inch lead wall and the upper level has a 0.63 inch lead wall. There are two heavy-duty handles on the container body. The cover also has a handle and can be locked to prevent unauthorized access. Storage area is 8 inch deep x 8 inch diameter.

### Specifications

**Weight** 83 lb (37 kg)

**Available model(s)**

52-885 Round Storage Container

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# Rotund Container

## Model 56-208



Nuclear Medicine

This Rotund Container features 1 inch thick shielding for higher activity. It also features a handle with thumb screws that secure the top. The container can hold up to a 30 cc vial and can quickly transport 511 keV products when needed.

### Specifications

**Weight** 18 lb (8.2 kg)

**Available model(s)**

56-208 Rotund Container



# Lead Carrying Case

## Model 52-131

This portable lead container is used to shield and carry small radioactive sources. The carrying handle slides down and out of the way when not in use. Source cavity is 3 inch deep x 1.5 inch diameter. Lead wall is 1 inch thick.

### Specifications

**Weight** 18 lb (8.2 kg)

**Available model(s)**

52-131 Lead Carrying Case



# Lead-Lined Storage Container

## Model 53-510

This container is designed for storing “hot” syringes and used syringes for decay, prior to disposal. The container offers a 0.125 inch of lead shielding.

### Specifications

**Dimensions** 6 (d) x 7 in (h) (15 x 18 cm)

**Weight** 9 lb (4.1 kg)

**Available model(s)**

53-510 Lead Lined Storage Container



For additional information, please contact Cardinal Health, Radiation Management Services customer service at 440.248.9300, 800.850.4608, or fax: 440.349.2307; located at 6045 Cochran Road, Cleveland, Ohio 44139-3303, USA.

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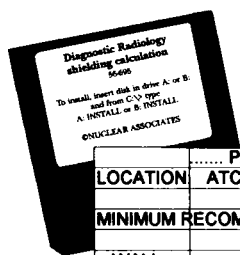
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56-208-ds rev 1 13 mar 03

# Diagnostic Radiology Shielding Calculation Software Program\*

## Model 56-695

- You select the parameters...the software calculates how much radiation protection is needed
- Highly accurate; based on current published data
- Reduces calculation errors
- Easy-to-use
- Provides hard copy documentation of parameter values and facility conditions
- Cost-effective
- In Microsoft® Excel format



Diagnostic Radiology shielding calculation sheet  
To install, insert disk in drive A: or B:  
and from C:\V type:  
A: INSTALL or B: INSTALL.  
ENUCLEAR ASSOCIATES

..... PAGE #1 .....		ROOM#:	MAMMO
LOCATION	ATCHLEY		
<b>MINIMUM RECOMMENDED SHIELDING THICKNESSES FOR WALLS</b>			
	THICKNESS	THICKNESS	
WALL	(mm LEAD)	(CM GYPSUM)	
A	0.038449	0.470164	
B	0.07324	0.895586	
C	0.094135	1.151103	
D	0.082636	1.010482	
E	0.082636	1.010482	
CEILING	0.072529	0.886894	
FLOOR	0.005892	0.072045	

### Available model(s)

**Model 56-695** Diagnostic Radiology Shielding Calculation Software Program†; Microsoft Excel format, 3.5 inch disk

Regulatory requirements specify that radiological physicists must determine the type of barrier and the radiation protection needed for all new x-ray installations. The Diagnostic Radiology Shielding Calculation Software Program virtually does the job for you.

The software program consists of three spreadsheets for calculating the required amount of radiation protection for various diagnostic radiology rooms. They are:

- SHLDNEW.WK1: Radiographic, fluoroscopic, cardiac cath, and angiography rooms
- SHLDCT.WK1: CT scanner rooms
- SHLDMAMO.WK1: Mammography rooms

With this easy-to-use program, you simply input design data for the facility such as maximum kVp, the distances to the walls (Dprim, Dsca, Dsec), the workload (W), the use factor (U), the occupancy factor (T), and the permissible weekly radiation levels outside of the barrier (P). Using these factors, the software will determine the required shielding thickness for your choice of materials: lead (mm), leaded acrylic (mm lead equivalent), concrete (cm), steel (mm), glass (cm), and Gypsum (cm).

Using this invaluable program eliminates the need to utilize “lookup” tables or perform time-consuming hand-calculations, so calculation time is dramatically reduced from hours to just minutes! With the Diagnostic Radiology Shielding Calculation Software Program you’ll always get the accuracy such vital calculations demand. Attenuation for various shielding materials in this program were derived from recently published articles pertaining to generators with only minimal ripple in the kVp waveform (high frequency, three-phase, and constant potential generators fall into this category).

\* Developed by Edward L. Nickoloff, D.Sc., Professor of Clinical Radiology, Department of Radiology, College of Physicians & Surgeons, Columbia University, New York, NY.

† The Diagnostic Radiology Shielding Calculation Software Program should only be used by a qualified medical physicist who understands the selectable parameters, radiation safety issues and regulatory requirements. The responsibility for the radiation shielding specifications belongs to the user of the software; this software is merely a tool to expedite and document the evaluation process.

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