

SECTION 13090 – HDR ENCLOSURE



Corporate

P.O. Box 607
Woburn, MA 01801-0707
Phone: (781) 933-1940
Fax: (781) 933-4763

Projects

800 West Cummings Park Suite 3950
Woburn, MA 01801
Phone: (781) 933-1940
Fax: (781) 932-8647

Regional Sales

Louisville: (502) 899-3726
Houston: (800) NELCO-13
Los Angeles: (714) 828-5698

Boston

98 Baldwin Avenue
Woburn MA 01801
Phone: (781) 933-1940
Fax: (781) 933-4763

Houston

4600 Homestead Ave.
Houston, TX 77028
Phone: (713) 675-3266
Fax: (713) 675-4778

San Francisco

1840 Williams Street
San Leandro, CA 94577
Phone: (510) 357-9940
Fax: (510) 357-7909

PART 1 - GENERAL

NELCO manufactures a freestanding shielded enclosure for use in HDR (High Dose Rate Brachytherapy) treatment. The product is intended as a dedicated HDR treatment room when existing shielded space is not available, or a modular unit is desired. Modularity has the advantage of requiring little disruption during installation as compared to construction of a non-modular facility, and also provides the opportunity to be relocated as future requirements dictate.

1.1 ACCEPTABLE MANUFACTURERS

The HDR Enclosure shall be manufactured by, and all accessories and parts supplied by NELCO.

1.2 SUBMITTALS

In accordance with conditions of the contract and Division I, submit six (6) copies of shop drawings for each type of duct shielding, including structural system, shielding products, doors & hardware, and finish and environmental systems, if included.

1.3 DESIGN

Unit is to be placed no less than 18" from existing side and rear walls. This space is required for access during installation. If not installed on grade level, shielding is required in slab below enclosure. Floor slab must be approved by others to support the estimated weight of the enclosure.

Enclosure to meet standards set forth in the Policy and Guidance Directive, FC86-4 Revision 1 of the United States Nuclear Regulatory Commission. Location and thickness of shielding materials will be determined by professional calculations based on the following criteria:

- Exposure Time 2 hrs/wk
- Source 10 Ci 192Ir
- Non-Occupational Exposure Limits 2mR/wk
- Minimum distance from source 2.1m (82.7")
- Booth will be tested to ensure that it meets the above requirements.

1.4 PRODUCT HANDLING

Materials are shipped to the site in crates and on pallets for off-loading by forklift.

PART 2 - PRODUCTS

2.1 MATERIALS

Booth is manufactured of sheet lead encased by steel sheets and steel perimeter flat bar. The panels are erected and joined by tubular steel battens, which act as shielding and structural supports. A door system will be supplied that will require effort to open and close.

SECTION 13090 – HDR ENCLOSURE

- | | | |
|--------------------------|-----------------|---|
| <input type="checkbox"/> | Steel Plate | ASTM A36 |
| <input type="checkbox"/> | Steel Flat bar | ASTM A36 |
| <input type="checkbox"/> | Steel Tube | ASTM A36 |
| <input type="checkbox"/> | Lead Sheet | QQL201F, Grade C |
| <input type="checkbox"/> | Bolt Fasteners | ASTM 325 |
| <input type="checkbox"/> | Exterior Finish | White Epoxy Paint |
| <input type="checkbox"/> | Interior Finish | To meet sterile clinical requirements. All dust collecting edges will be covered. |

2.3 STANDARD FEATURES

- Two color video systems, including cameras, monitors & cables
- Radiation Probe & Monitor
- Two wall lights w/ dimmers
- Two ceiling lights
- Ceiling HVAC supply and return duct connection
- Power connection for HDR unit
- Console emergency-off switch, two treatment room emergency-off switches, and Radiation-On light over door

2.4 WARRANTY

NELCO fully warrants the structural and shielding integrity of the booth.

PART 3 - EXECUTION

3.1 DELIVERY – NELCO

Enclosure will be delivered within 10 to 12 weeks, upon receipt of approved drawings and purchase order.

3.2 PREPARED SITE CONDITIONS – GENERAL CONTRACTOR

Concrete wall surface shall be stripped of concrete form work and be free of any protruding concrete ties, rebar or other protrusions which might interfere with lead placement. Immediate area should be accessible and clear of materials and equipment. HVAC contractor is to provide supply stub-outs and source of return air. Power is to be supplied to location by owner.

3.3 PREPARATION – NELCO

Examine structure, substrates and conditions under which work is to be installed for conditions detrimental to correct and timely completion. Installation constitutes acceptance of responsibility for performance.

3.4 INSTALLATION – NELCO

Enclosure: Unit to be installed on an acceptable concrete slab. Shop fabricated modular component panels to be assembled to form a shielded enclosure. Interior and exterior finish systems are to be completed. Set all structural steel framing as detailed on approved shop drawings. Install interlocking lead brick N series with staggered vertical and horizontal joints to thickness as detailed on drawings. Where built-in items penetrate shielding, provide special or additional shielding as required to maintain continuity of shielding. Touch up metal prime coat with compatible metal primer. The product will be installed in no more than three weeks.

Utilities: NELCO to complete hookup with enclosure electrical service. HVAC supply duct to be provided and connected to supply and return stub-outs. Utilities are to be surface-mounted on ceiling of enclosure by owner. Return air to filtrate through wall utility port and under doors to surrounding room area.