



Ray-Bar Engineering Corporation

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STANDARD LEAD LINED STEEL DOOR SPECIFICATION SECTION 08100 METAL SLIDING DOORS

PART 1 – GENERAL

1.00 SUMMARY

- A. Doors shall be made of commercial quality, level, hot dipped galvanized steel (HDGS), Jetcoat or Galvanneal conforming to ASTM# A653 and door face sheet thickness of 18, 16 or 14 gauge, with no visible seams on either face and sheet lead meeting Federal Specification QQ-L-201f. Doors are available as non-rated.
- B. All doors will be 1-3/4”+ thickness, strong, rigid, neat in appearance, and free from warpage. Edge bends will be true and straight and of minimum radius for the gauge of metal used.
- C. Lead thickness as specified by a qualified health radiation physicist and expert as defined by NCRP familiar with the intended use of the radiation room and local standards and regulations.
 1. Must Comply with requirements of National Council on Radiation Protection and Measurement (NCRP) Report No. 49 “Structural Shielding Design and Evaluation for Medical Use of X-Rays and Gamma Rays of Energies up to 10 MeV”, and NCRP Report No. 147 “Structural Shielding Design for Medical X-Ray Imaging Facilities”.
 2. Must Comply with requirements of local regulatory agencies where standards and criteria exceed NCRP Reports 49 and 147.
 3. Lead thickness is to be of same or greater value as in partition door opening occurs in.
 4. Visionlites must be lead-lined and require X-Ray Safety Glass labeled as impact resistant meeting the requirements of ANSI Z97.1 and CPSC 16 CFR 1201 Category 2. (If fire-rated, additional clear ceramic fire-rated glazing is required).

1.01 PRODUCT HANDLING

- A. Follow special storage and handling requirements to prevent warpage. Keep flat until ready to use. Never store in sun or areas where moisture is present.

PART 2 – PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

Ray-Bar Engineering Corporation, Toll Free 1(800)444-XRAY(9729) Phone (626) 969-1818

24 Hour Fax (800) 333-XRAY(9729) website: www.raybar.com E-Mail: sales@raybar.com

A well established manufacturer regularly involved in the successful manufacture of standard and custom radiation shielding materials and products for over 70 years.

2.02 MATERIALS

- A. **Faces:** 18 gauge (unless otherwise specified) thick Hot Dipped Galvanized Steel (HDGS). Prime quality, conforming to ASTM A527. Wilsonart Plastic Laminate may be factory added to faces only, if specified.
- B. **Edges:** 16 gauge thick Hot Dipped Galvanized Steel (HDGS), Jetcoat or Galvanneal channel. Prime quality conforming to ASTM A653.
- C. **Core:** 99.9% Pure lead sheet per Federal Specification QQ-L-201f, Grade C and ASTM B749-85 Type L51121. Reference radiation shielding report for thickness requirement of lead in partition that door occurs in.
- D. **Finish:** Galvanized pre-treatment and manufacturer’s standard rust inhibitive primer.

2.03 FABRICATION

- A. The vertical edges will be reinforced by 16 gauge minimum continuous steel channel extending full height of the door. The top and bottom edges will be reinforced with 16 gauge channels spot welded to the face sheets.
- B. Internal construction for the door consists of 1/2" cell honeycomb core or wood with single layer unpierced sheet lead (lead sheet thickness as indicated on the Lead Protection Schedule). Apply lead sheet continuously from top to bottom and edge to edge.
- C. All doors shall be reinforced at the top to allow field application of pendant bolts and pairs of 4-wheel trucks in with an appropriate overhead track and brackets and hardware supplied by Ray-Bar.
- D. Fabricate metal work to required profiles for forming and welding exposed edges straight and sharp or radiused.
- E. Welding in accordance with AWS Standards. All exposed welds will be ground smooth.
- F. All lead lined steel doors are thoroughly cleaned and phosphatized to inhibit corrosion; doors receive one coat of primer.

PART 3 - QUALITY ASSURANCE

- A. Doors manufactured by Ray-Bar Engineering Corporation will comply with requirements of National Council on Radiation Protection and Measurement (NCRP) Report No. 49 "Structural Shielding Design and Evaluation for Medical Use of X-Rays and Gamma Rays of Energies up to 10 MeV", and NCRP Report No. 147 "Structural Shielding Design for Medical X-Ray Imaging Facilities".
 - 1. These doors comply with requirements of local regulatory agencies where standards and criteria exceed NCRP Reports 49 and 147.
 - 2. Lead thickness will be of same or greater value as in partition or wall that door opening occurs in.
- B. Fabricator Qualifications: Fabricator, Ray-Bar Engineering Corporation is experienced in, equipped for and insured for fabrication equal to standards specified herein. The fabricator shall furnish evidence of Fabricator having not less than ten (10) years experience in successful fabrication of radiation protection materials similar to products specified herein.

Single Source Responsibility: Provide X-Ray Protection Materials and accessories produced as standards products of Ray-Bar Engineering Corporation, Phone (800)444-XRAY, a manufacturer regularly engaged in the successful production of standard and custom X-Ray Shielding Materials and products for over 70 years.

PART 4 – EXECUTION

4.01 INSTALLATION

- A. Installation shall be by the contractor. Power operation by others (If required) to meet ANSI safety standards.

4.02 CERTIFICATION

Upon completion of material and products, manufacturer shall supply a certificate of compliance stating that all materials are in accordance with this specification and the radiation shielding report.