



**Subject: Lead Door Guidelines**

**1. Maximum Size Doors**

All lead doors will be constructed at Neenah. The manufacturing process will limit the door dimensions to 48" in width and 10' in length.

**2. Core types available**

Lead doors are available with all standard core types. Specific core-related size or availability limitations will apply to lead doors constructed with that core.

**3. Fire Ratings**

Lead-lined 20-min doors are available for Category A or B or as Neutral pressure applications (UL & WH).

Lead-lined 45- and 60-min doors are only available as Category B or Neutral pressure (UL only).

**4. Special Faces or Finishes**

Doors having any of the following will be quoted using Two Rivers pricing.

- A. Special finishes that only Two Rivers utilizes
- B. Sketch face doors
- C. Special veneers (i.e. soft wood veneers, blue print, burls, horizontal grain)

Doors being sanded and finished at Neenah will be constructed using pre-made skins from Two Rivers. Doors that will have faces applied at Two Rivers will be manufactured and machined at Neenah using hardboard in place of the skin. The construction will be completed at Two Rivers per their Standard Instruction 1-10.

**5. Maximum Thickness Lead**

Due to safety and material handling limitations our standard lead door offering is limited to a maximum lead thickness of 1/8" (1/16" each side). Doors having up to 1/4" of lead (1/8" each side) may be available upon engineering review. The maximum manufactured door weight will be limited to 500 lbs.

**6. Pair Applications**

Lead-lined pairs will require the use of a leaded astragal. This astragal may be our lead-lined wood astragal for non-rated doors and 20-minute doors that do not require the astragal for their fire approval.

For 45- and 60-min pairs, where an astragal is not required for the fire rating, a lead-lined flat steel astragal is required for x-ray protection. Where a MEA set is required for the fire approvals the astragal must be lead-lined for x-ray protection.

7. Hardware limitations

Concealed vertical rod hardware cannot be used with lead-lined doors. The latch machining of many of these devices will remove the lead from both faces of the door. Other types of hardware may involve removal of the lead shielding and would void the protection in that area of the door. See our individual hardware tables for notes regarding lead door applications.

8. Construction

Our lead door construction involves gluing lead to both sides of particleboard core and applying a 3-ply skin over the lead. Each sheet of lead will represent 1/2 the total lead thickness required. (i.e. 1/16" lead door = skin-1/32" lead-core-1/32" lead-skin). We will no longer supply 3/32" lead doors as a standard product because we do not inventory the 3/64" lead thickness and delivery time is too long for our standard lead-time.

Because the lead is under the faces as opposed to being in the center of the core there is no special lining required for mortised lock machining.

9. Lites

To be consistent with the International Building Code, glazing used in doors glazed by Eggers, must be safety rated. This has increased the thickness of 1/16" equivalent leaded glass from 1/4" to 9/16". We also have a 1/8" lead equivalent glazing available at a thickness of 3/4". Both of these glazing options require the use of metal vision panels for all glazed lead applications (see last page for glazing disclaimer).

For non-rated 1/16" lead applications use the All Metal 105M L-2 lead-lined frame with 9/16" leaded glass. For non-rated 1/8" lead applications use the All Metal 115-L1 with tempered glass as the center pane and a 3/4" leaded glass outer pane.

For labeled 20-, 45- and 60-min lead door applications use the dual-glazed All Metal 115-L1 vision panel. The center pane of glass must be fire rated; safety-rated single-ply ceramic such as Firelite NT is recommended. The outer pane will be 9/16" thick for 1/16" lead doors or 3/4" thick for 1/8" lead doors. This application is limited to a lead shielding of 1/8" or less.

The thickness of glazing materials used with the All Metal vision panels referenced above are shown in the table below.

Frame	Lead Thick.	Center Pane Glazing	Outer Pane Glazing
115 L-1 (fire rated)	Up to 1/16"	3/16" to 5/16" Fire Rated	9/16" Leaded
115 L-1 (fire rated)	Up to 1/8"	3/16" to 1/4" Fire Rated	3/4" Leaded
105M L-2 (non-rated)	Up to 1/16"	9/16" Leaded	Not Applicable
115 L-1 (non-rated)	Up to 1/8"	3/16" to 1/4" Tempered	3/4" Leaded

10. Lite-to-Lock Dimension

The minimum lite-to-lock dimension is core related. This dimension will be the same on lead-lined doors as for non-lead-lined doors constructed with the same core.

## GLAZING OF LEAD-LINED DOORS

Eggers does not support the use of non-safety-rated glazing in door lites, and will not accept liability for the installation by others of non-safety-rated glazing in an Eggers door. The following options are available.

- Doors glazed by Eggers:  
These doors will require safety-rated glazing.
- Doors provided with cut-outs only:  
The glazing and glazing frame will be specified and ordered by the customer.  
Lead-lined wood beads not available through Eggers
- Doors provided with cutouts – glazing frame purchased through Eggers:  
Glazing and glazing frame will be specified by the customer. Commercially available frames can be ordered as an accessory through Eggers.



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