

Installation — Lead Lined Wood Doors

A&L Shielding's lead lined wood doors are to be installed as shown below to ensure satisfactory performance over their service life.

Lead Lined Wood Doors - procedures to follow (page 1)

RECEIPT, STORAGE AND HANDLING:

1. Check doors thoroughly on receipt for shipping damage. Do not store doors without checking them first. Quickly file any claims for freight damage with the carrier.
2. Store the doors flat on a level surface in a dry, well-ventilated building. Doors should be kept at least four inches off the floor and should have protective coverings under the bottom door and over the top door. Coverings should allow for air circulation under and around the stack. Avoid exposure to direct sunlight and excessive heat or humidity. The recommended humidity and temperature ranges are 30 to 50 percent relative humidity and 50 to 90 degrees Fahrenheit.
3. Do not install doors in buildings that have wet plaster or cement. HVAC systems should be operating and balanced. Allow the doors to become acclimated to finished building heat and humidity before fitting and hanging. Do not move from a storage warehouse to the final location and hang immediately without conditioning.
4. Doors should always be handled with clean hands or clean gloves (preferred).
5. Doors should be lifted and carried, NOT slid across one another. Do not allow foot traffic on doors.
6. The weight of these doors makes handling more difficult than handling of conventional doors. Do not "walk" the doors across the floor. Use a bottom channel or plate to protect the door bottom whenever using a lever to raise and lower the door.

INSTALLATION IN FRAME:

1. The frame should first be installed plumb, square and level. Check frame-opening dimensions to verify that no shipping or installation damage to the frame has occurred.
2. Because of the weight of lead lined doors, several precautions need to be taken:
 - ◆ Adequately secure the frame in the wall to properly support the door weight and size;
 - ◆ Use a hinge system fully rated for the door weight, including all hardware plus the lead lining

requirements. Pivot or continuous type hinges are recommended for all applications. Butt hinges, when used, must be manufacturer rated for the door weight and size.

- ◆ Use a minimum of three hinges for all doors up to 90" in height and an additional hinge for each additional 30" of door height or portion thereof. Follow the manufacturer's recommendations for locations and quantities, if different from above.
3. Clearances between the door hinges and latch stiles and the frame should be per the hardware template.
 4. All hardware locations, preparations for hardware and methods of hardware attachment must be appropriate for the specific door construction. Templates for specific hardware preparation are available from hardware manufacturers and their distributors.
 5. Unless noted on drawings, all hardware penetrations of the lead shield in the door must then be shielded on the door surface or in the hardware casing behind the penetration. Use lead of the thickness equal to or greater than that in the door itself.
 6. Pilot holes must be drilled for all screws that act as hardware attachments. "Threaded to the head" screws are preferable for fastening. Insert disposable steel screws first to tap the holes, remove them and then follow with the final hardware finish screws to minimize screw head damage.

FIELD FITTING - In fitting for height, do not trim top or bottom edge by more than 1/2" without contacting the factory for permission.



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Lead Lined Wood Doors - procedures to follow (page 2)

Machining of fire labeled doors must be done under label service. Only bottom trimming to size is permitted in the field for labeled doors. A maximum of 3/4" undercut is permitted.

WARNING: Fitting of lead lined doors can generate lead particles in wood chips and sawdust as waste. Collect all such material and dispose of it properly.

If there is ANY doubt about how to dispose of this material, contact A&L Shielding at the 800 number shown in this flyer.

Consult with the project physicist to ensure proper shielding is maintained at each opening.

FINISHING:

1. As an option, a thinned coat of sanding sealer may be applied to the rails and stiles of each door at the factory. If this option is selected, sand lightly with the grain to remove the sealer prior to the next steps.
2. Wood, in its unfinished state, can absorb water and may change in size of shape as its moisture content changes. To assure uniform moisture exposure and dimensional control, all surfaces must be finished equally and the door must be conditioned to the area before finishing begins.
3. Doors may not be ready for finishing when initially received. Before finishing, remove all handling marks, body oils, raised grain, scuffs, burnishes and other undesired blemishes by block sanding all surfaces. Do this with the door in a horizontal position, using a 120-, 150-, or 180-grit sandpaper. Always sand with the grain.
4. Do not use steel wool at any time.
5. A thinned coat of sanding sealer should be applied prior to staining to promote a uniform appearance and avoid sharp contrasts in color or a blotchy appearance.
6. The door surface being finished must be satisfactory in both smoothness and color after each coat. Allow adequate drying time between coats. Desired results are best achieved by following the finish manufacturer's recommendations. The high

door weights involved make full drying an essential requirement to ensure a good final finish appearance.

CLEANING AND TOUCH-UP:

1. Inspect doors prior to hanging them on the job. Repair noticeable marks or defects that may have occurred from improper storage and handling.
2. Field touch-up shall include filling exposed nail or screw holes, repairing job-inflicted scratches and mars and final cleaning of finished surfaces. These minor field repairs and touch-ups are the responsibility of the installing contractor.
3. When cleaning door surfaces, use a nonabrasive commercial cleaner designed for cleaning wood door or paneling surfaces. Select a cleaner that does not leave a film residue that would affect the surface gloss of the door.

ADJUSTMENT AND MAINTENANCE:

1. Ensure all doors swing freely and do not bind in their frames. Adjust finish hardware for proper alignment, smooth operation and proper latching without excessive force or excessive clearance.
2. For doors that can swing open into a door stop, install two or more stops so at least two points on the door near the top and bottom of the leaf contact a stop at the same time. This will avoid the door taking a "set" because of the lead in the door bending from the shock of repeatedly hitting a single point. A "set" is not considered a door defect.
3. Review with the owner how to periodically inspect the door and frame system to detect frame movement or hardware deterioration.



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Installation Instructions for 20-Minute Positive Pressure and Smoke Control Doors **UBC 7-2 (97) Part 1 & 2**

- Install doors in accordance with the latest published edition of NFPA 80, “Standard for Fire Doors and Fire Windows”. Fire rated doors are required to be machined by A&L Shielding Inc. or other licensed manufacturers or machining centers (licensed by Inter-tek Testing Service (ITS) specifically for machining A&L Shielding Inc. doors).
- Labels will be located on the hinge stile of the door unless continuous hinges are used. In that case only, the label will be located on the top of the door. **DO NOT REMOVE THE LABEL.** It identifies the door as fire rated.
- Field trimming for height may be done only on the bottom rail of the door and only up to a maximum of 3/4” less than nominal per NFPA 80 requirements. Maximum clearances allowed by NFPA 80 are 1/8” at the top and each edge and 3/4” at the bottom.
- Surface mounted hardware must be attached with thru-bolts unless interior blocking is provided. Take proper shielding precautions when thru-bolts are used.
- Minimum 18 gauge steel frames with or without lead lining are required. No intumescent hardware kits are required.

Category A: No Additional Edge Sealing System Required

This category includes doors that have intumescent material installed in the stiles and top rail.

- **Installation Requirements: Single Door - To meet part 1 of UBC 7-2 (97)**
No additional intumescent is required for Part 1 compliance.
- **Installation Requirements: Pair Doors - To meet part 1 of UBC 7-2 (97)**
The meeting edge intumescent is factory installed when a wood astragal is being used. No intumescent is required when a listed metal edge and astragal set is supplied.
- **Installation Requirements: Single Door - To meet part 2 of UBC 7-2 (97)**
Install “listed” smoke seal gasketing (Category H) on both door jambs and the header.
- **Installation Requirements: Pair Doors - To meet part 2 of UBC 7-2 (97)**
Install “listed” smoke seal gasketing (Category H) on door hinge jambs and the door heads. When an astragal is used, install a strip of “listed” smoke seal gasketing on the meeting stile edge of one leaf of the pair.

Category B: Additional Edge Sealing System Required

This category includes doors that do not have intumescent material installed in the stiles and top rail.

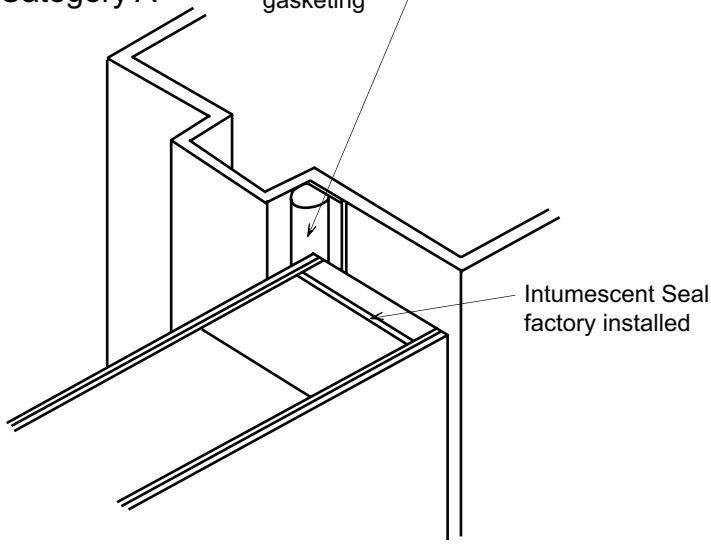
- **Installation Requirements: Single Door - To meet part 1 of UBC 7-2 (97)**
To meet part 1 of UBC 7-2 (97) the installer must apply a “listed” intumescent on both frame jambs and frame head, following the intumescent manufacturer’s instructions for installation.
- **Installation Requirements: Pair Doors - To meet part 1 of UBC 7-2 (97)**
The installer must apply a “listed” intumescent on both frame jambs and the frame head per manufacturer’s instructions. The meeting edge intumescent is factory installed when a wood astragal is being used. No intumescent is required when a listed metal edge and astragal set is supplied.
- **Installation Requirements: Single Door - To meet part 2 of UBC 7-2 (97)**
Install “listed” smoke seal gasketing (Category H) on both door jambs and the header.

Installation Requirements: Pair Doors - To meet part 2 of UBC 7-2 (97)

Install “listed” smoke seal gasketing (Category H) on door hinge jambs and the door heads. When an astragal is used, install a strip of “listed” smoke seal gasketing on the meeting stile edge of one leaf of the pair.

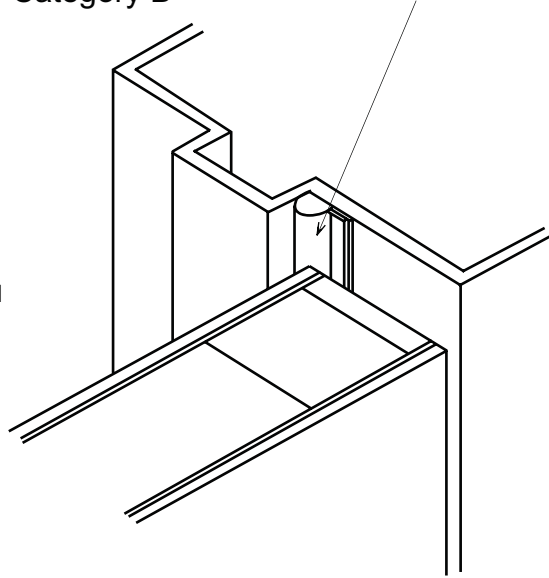
Category A

Listed smoke seal gasket. Shown with Pemko S88 gasketing



Category B

Frame applied listed intumescent strip and smoke seal gasketing. Shown with Pemko HSS2000 under S88 gasketing



Drawings show example placements of listed gasketing and sealing systems for CoreClad® doors.

Category A or B Pair meeting stiles do not require field applied intumescent. UBC 7-2(97)Part 2 compliance requires a listed Category H smoke seal at meeting stiles.

Listed smoke seal gasket. Shown with Pemko S77 gasketing

Listed smoke seal gasket. Shown with Pemko S77 gasketing

