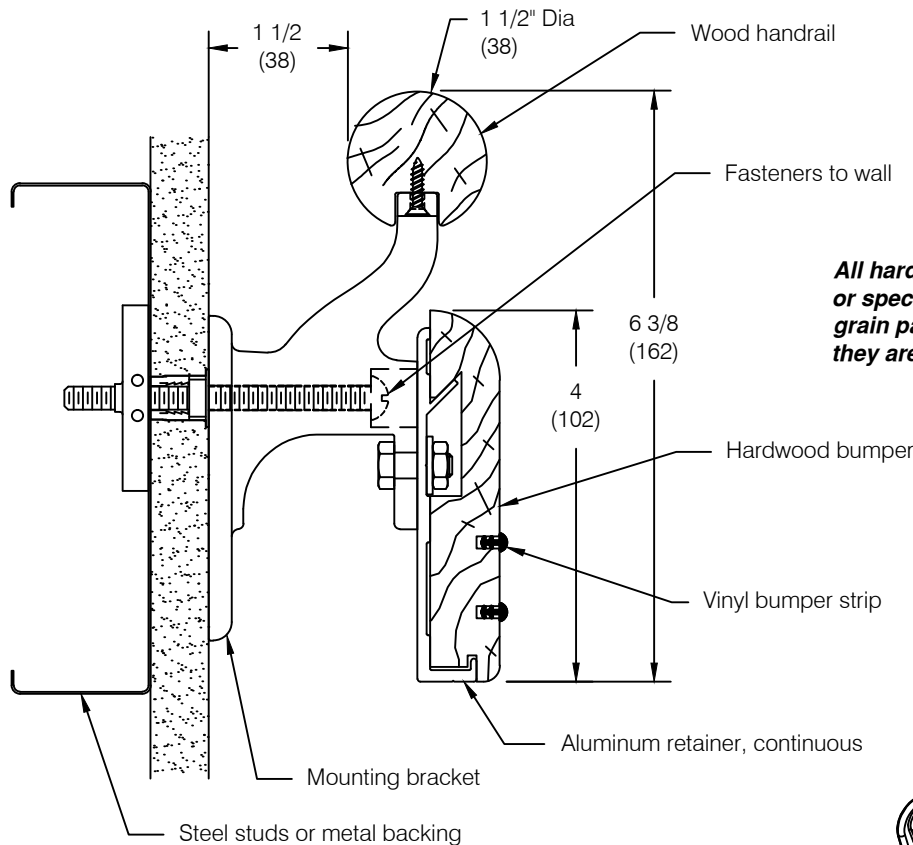
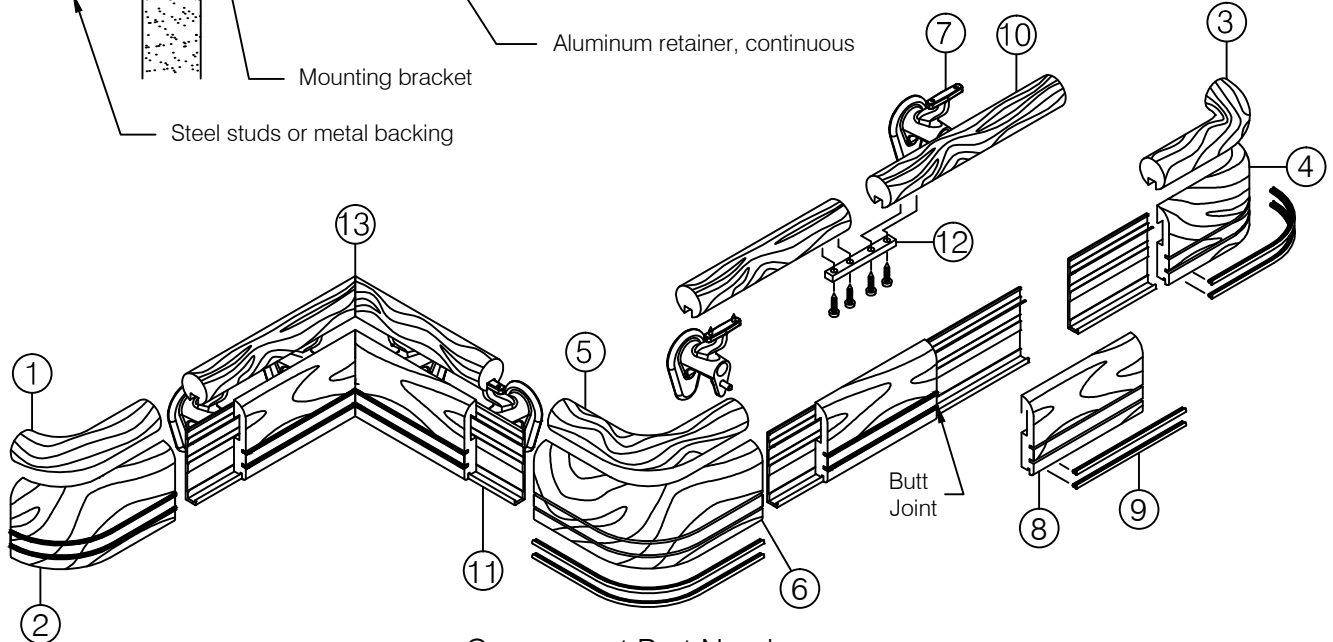


BR-4RWW Handrail - Standard Options



(*) **Specify wood type**
A - Ash
M - Maple
O - Oak

All hardwoods have their own "personality" or special characteristics. Variations in color, grain pattern, and texture are to be expected, they are natural aspects of these materials.



Component Part Numbers:

- | | |
|------------------------------------|-------------------------------|
| 1) BRL(*)-4RW Left return top | 8) BR(*)-400W Wood bumper |
| 2) BRL(*)-450W Left return base | 9) BRV-400W Bumper strip |
| 3) BRR(*)-4RW Right return top | 10) BRTW(*)-4R Wood handrail |
| 4) BRR(*)-450W Right return base | 11) BRBA-4W Aluminum retainer |
| 5) IOC(*)-4RW Outside corner top | 12) SPL-4R Splice |
| 6) OBR(*)-450W Outside corner base | 13) Field miter inside corner |
| 7) BR-406 Bracket | |

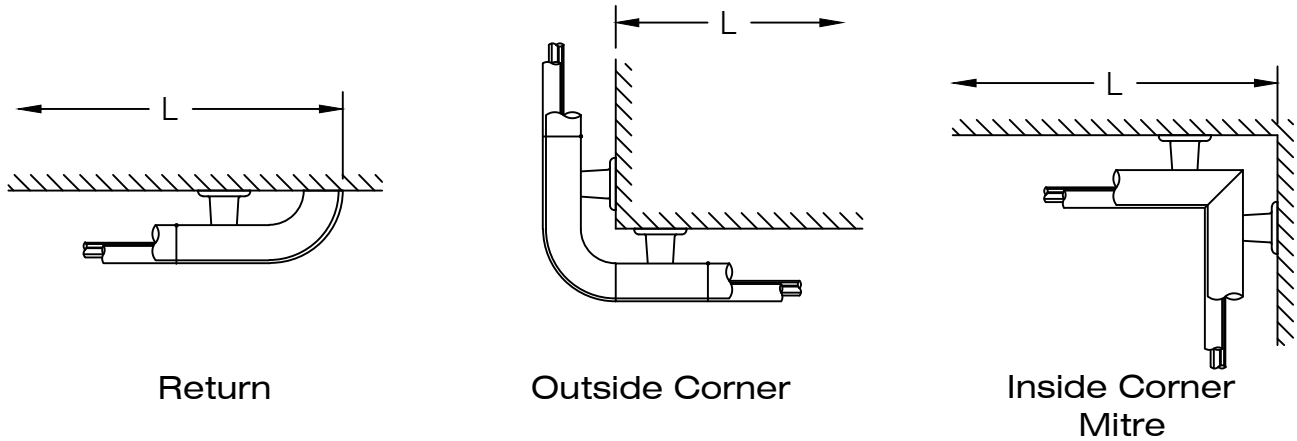


BR-4RWW Foundation Series Installation Instructions

Architectural Products Division

- Step 1:** Determine top of handrail height and snap a chalk line 3 5/16" below for centerline of mounting hardware, see fig 1.
- Important:** Store the material in a clean dry place where the temperature is maintained between 50°F (10°C) and 100°F (38°C). Walls and rooms should be maintained at a minimum of 65°F (18°C) for at least 48 hours prior to installation. Acclimate materials to normal building conditions for at least 24 hours before cutting and installing.
- Step 2:** Cut aluminum retainer. See **Cutting Adjustment Diagrams and Schedule** for adjustments to aluminum retainer length and bracket at wall returns, inside corners and outside corners. Refer to **Minimum Layout Configurations** for additional information.
- Important:** All cuts must be square and deburred.
- Step 3:** Layout aluminum retainer "face up", mark and drill bracket mounting holes. Use groove in retainer to locate centerline of drilling, see fig 2.
- Bracket mounting holes must be spaced:**
- Not to exceed 32" on center
 - 3" to 6" from end of aluminum retainer at returns and corner accessories
 - 3"- 6" from end of retainer at inside corners.
 - A minimum of 3" from end of retainer at splices and butt joints.
 - To align with metal studs or preferably with horizontal metal backer plate (by others)
- Step 4:** Locate and drill bracket mounting holes in wall construction using the aluminum retainer as a template or by careful measurement. Always have a bracket located on the handrail return and two brackets for the outside corners. Choice of hardware will dictate hole diameter.
- Important:** Be sure to locate aluminum to leave proper spacing for return and corner accessories as detailed in the **Cutting Adjustment Diagrams and Schedule**.
- Step 5:** Drill and countersink accessory base mounting holes along bottom edge of aluminum retainer for #8 flat head wood screws provided. Place an accessory alignment mark 4" in from end of aluminum, see fig 3a and fig 3b.
- Step 6:** Mount aluminum to wall with the appropriate hardware according to wall construction. The butt joints of the aluminum retainer and the butt joints of the wood bumper should be offset a minimum of 4".
- Suggested hardware:**
- Drywall: Toggler® brand toggle bolts
 - Masonry: Plastic Alligator® insert
- Step 7:** Install 4" wide accessory bases on retainer, align roughly with mark provided in step 5. Press downward firmly to ensure part is seated squarely. Drill pilot holes (#29 bit) in the hardwood base using the accessory mounting holes drilled in step 5 as a location guide. Secure parts with #8 wood screws provided, see fig 4.
- Note:** Corners and return bases are installed before the upper wood handrail is attached.
- Step 8:** Drill and countersink wood bumper mounting holes along bottom edge of aluminum retainer for #8 flat head wood screws provided, see fig 3a and fig 6.
- Space holes:**
- No less than 3/4" from butt joints in wood bumper guard
 - No more than 24" on center
 - In additional locations as required to hold wood true
- Step 9:** Measure between wood tops and bases. Cut handrail and wood bumper to fit accordingly. Offset butt joint in wood rails from splice in aluminum retainer. Care should be taken to select the straightest lengths of wood for the longest handrail spans. Select wood of similar grain and coloration to best match accessories and when joining sections end to end.
- Note:** All cuts must be square and deburred. Deburr using 120 grit sand paper being careful not to damage the finish. Due to the possible variation in wood grain and color, prior to cutting the wood handrail and base, match as close as possible to the installed returns and outside corners.
- Step 10:** Install the wood handrail before the wood bumper. The handrail return requires one bracket for support and the splice to connect to the handrail, see fig 7. The outside corner handrail will require two brackets and the splices to connect to the handrail, similar to the return, see fig 7. All inside corners are mitered including the aluminum retainer, wood handrail and bumper. Cut the handrail to the lengths required and complete the installation.
- Note:** For ease of installation of the handrail, the aluminum retainer may be removed after installation of returns and outside corners.
- Step 11:** Place wood bumper guard over the aluminum retainer starting at one end of the span. Drill pilot holes in bumper guard (#29 bit) using countersunk holes as a location guide. Secure in place with #8 wood screws provided, see fig 6.
- Step 12:** Color the perimeter of all cut ends of wooden rails using a stain pen or touch-up stain, see fig 8.
- Step 13:** Install flexible bumper cushions. Starting at one end, trim bumper flush at wall end of return, insert bumper into groove in wood base. Install so bumper cushions will span butt joints in wood profiles and accessories, see fig 9. To prevent shrinking, be sure not to stretch bumper during the installation process, compress lightly to provide backpressure as bumper is pressed into place.

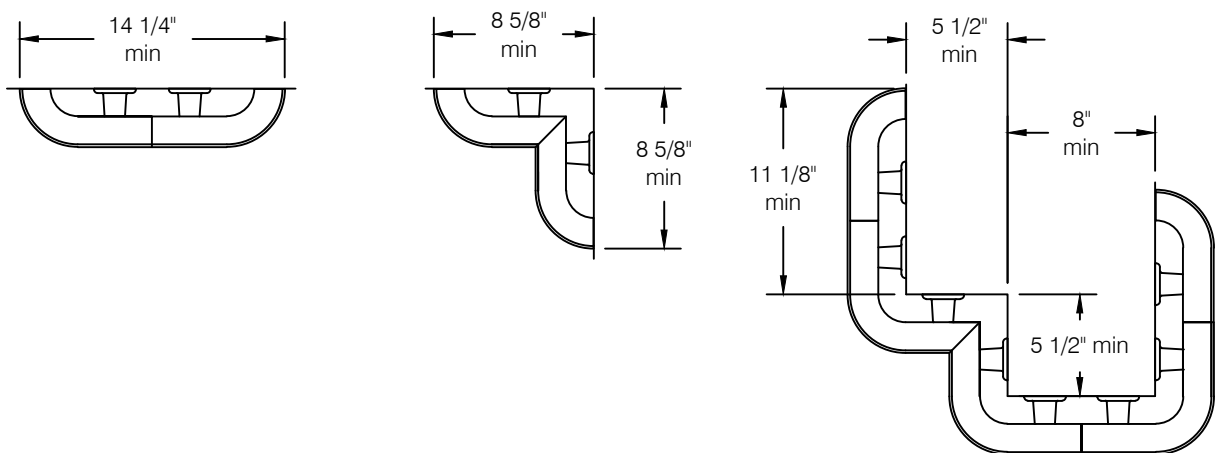
Cutting Adjustment Diagrams and Schedule



	Aluminum Retainer	Wood Base	Wood Handrail
Return	L - 3 1/8"	L - 7"	L - 7 1/8"
Outside Corner	L - 1/4"	L - 4"	L - 4"
Inside Corner	Miter	Miter	Miter

Important: Wood handrail, wood bumper, and bumper strip, to be cut to fit after aluminum and accessories have been installed.

Minimum Layout Configurations



BR-4RWW Handrail Installation Instructions

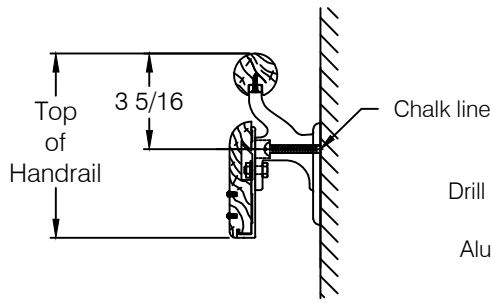


fig 1

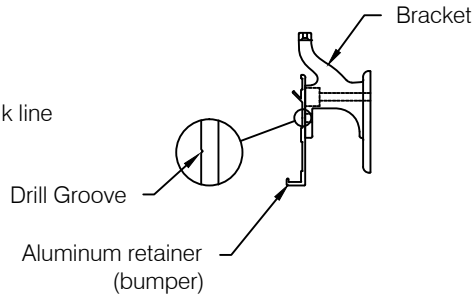


fig 2

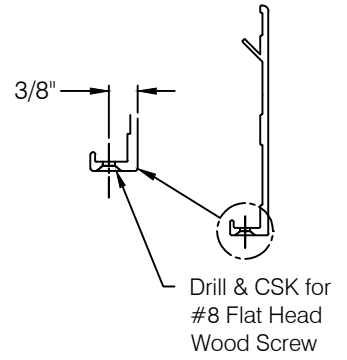


fig 3a

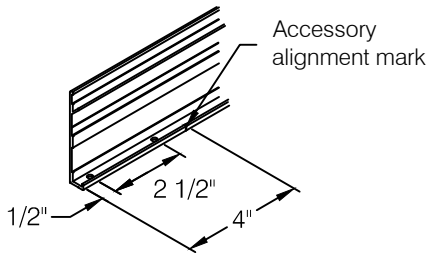
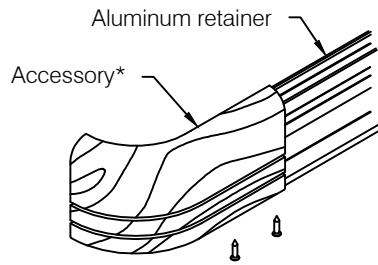


fig 3b



* Wall return shown, outside corner similar

fig 4

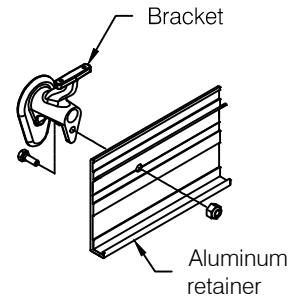


fig 5

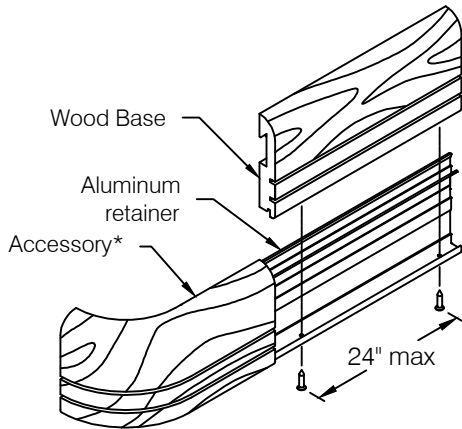


fig 6

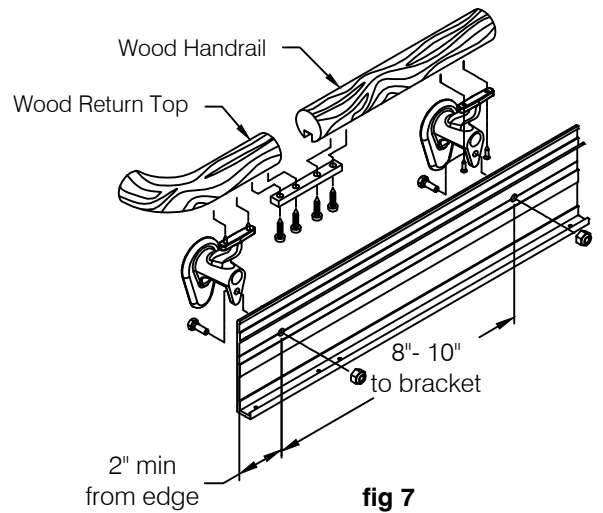


fig 7

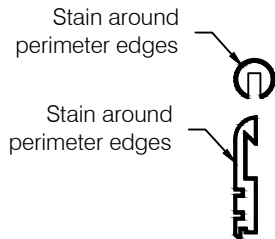


fig 8

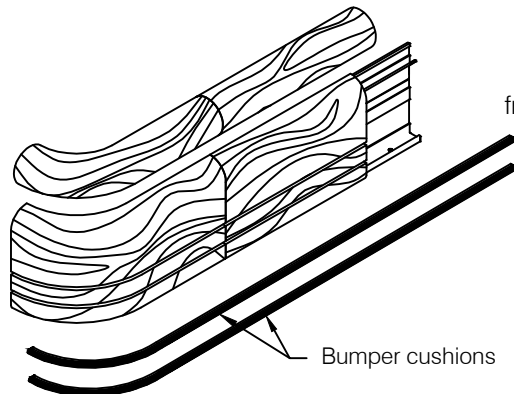


fig 9