

Installation Instructions

HR1 Wood Handrail - Stock Length

Please read all instructions before installing.

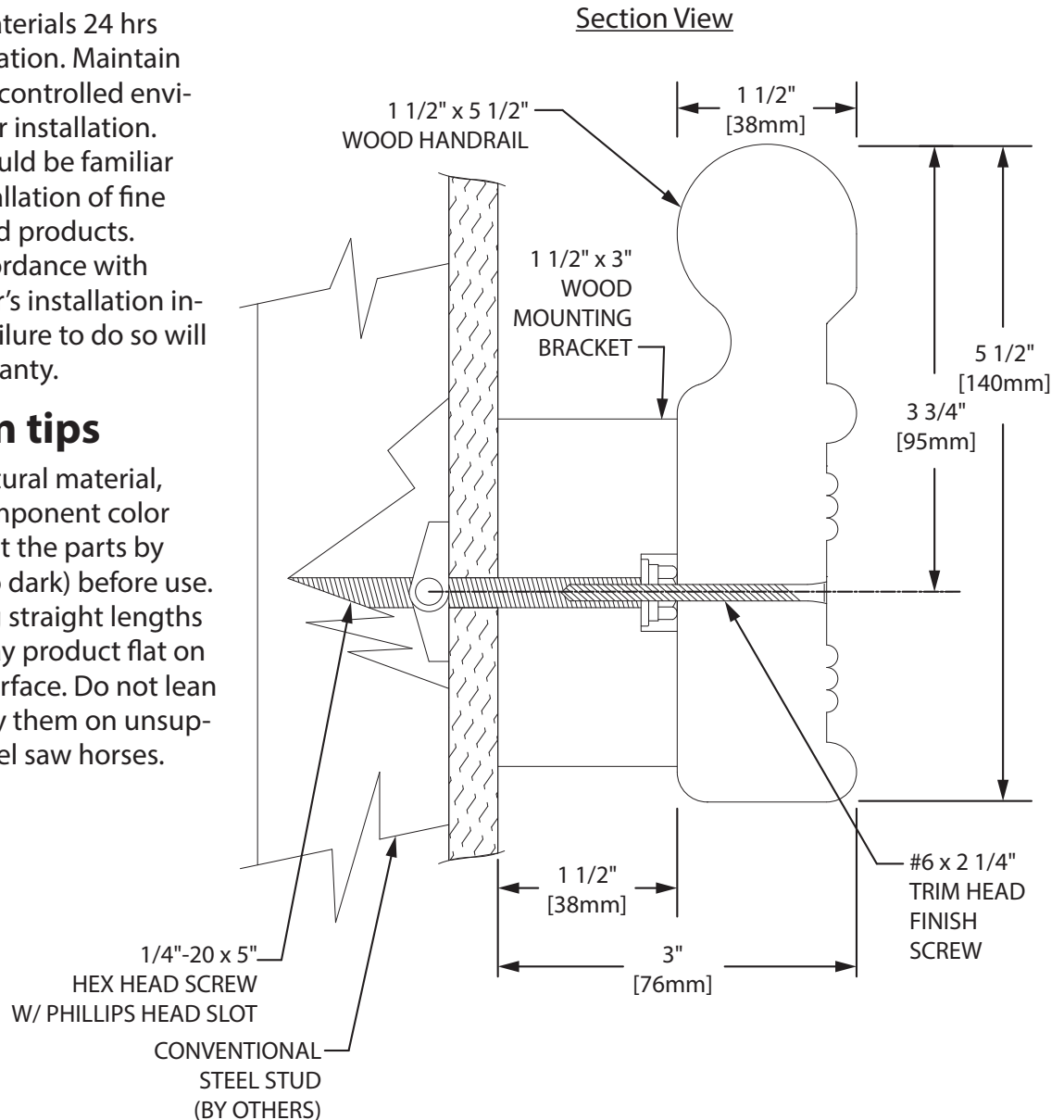
Material must be stored, installed and used in environmentally controlled conditions.

Important

1. Install product in environmentally controlled conditions.
2. Acclimate materials 24 hrs before installation. Maintain temperature controlled environment after installation.
3. Installers should be familiar with the installation of fine finished wood products.
4. Install in accordance with manufacturer's installation instructions. Failure to do so will void the warranty.

Installation tips

1. Wood is a natural material, therefore component color may vary. Sort the parts by color (light to dark) before use.
2. When storing straight lengths of material, lay product flat on supported surface. Do not lean the rails or lay them on unsupported parallel saw horses.



RECOMMENDED TOOLS

Safety Glasses, Tape Measure, Level, Chalk Line, Power Drill/Nailer, Drill Bits, Socket or Hex Drive Set, Phillips Head Screwdriver and a Radial Arm Saw or Power Miter Box with Carbide Tipped 60-80 Tooth Blade

IPC.301/REV.6

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World Headquarters S80 W18766 Apollo Drive, Muskego, WI 53150 USA

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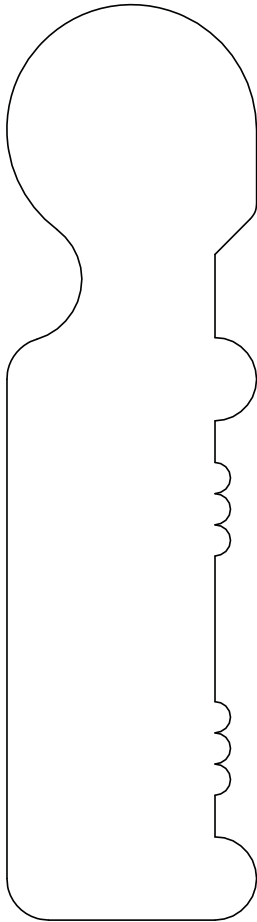
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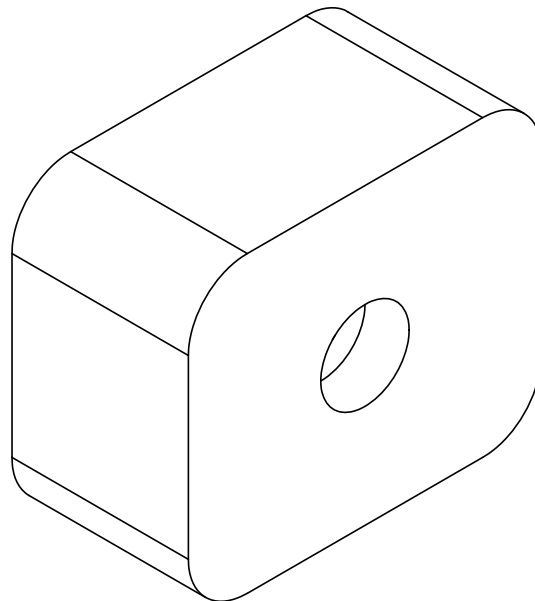
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Component



HR1
NORTHERN HARDWOOD
HANDRAIL



BRKFO
NORTHERN HARDWOOD
MOUNTING BRACKET

Fasteners

Wall Condition	Specified Fasteners	Inpro part #
Gypsum Wall	1/4"-20 x 5" Phillips Hex Head Toggle Bolt, Lockwasher and Toggle Wing Nut	HWK-801D

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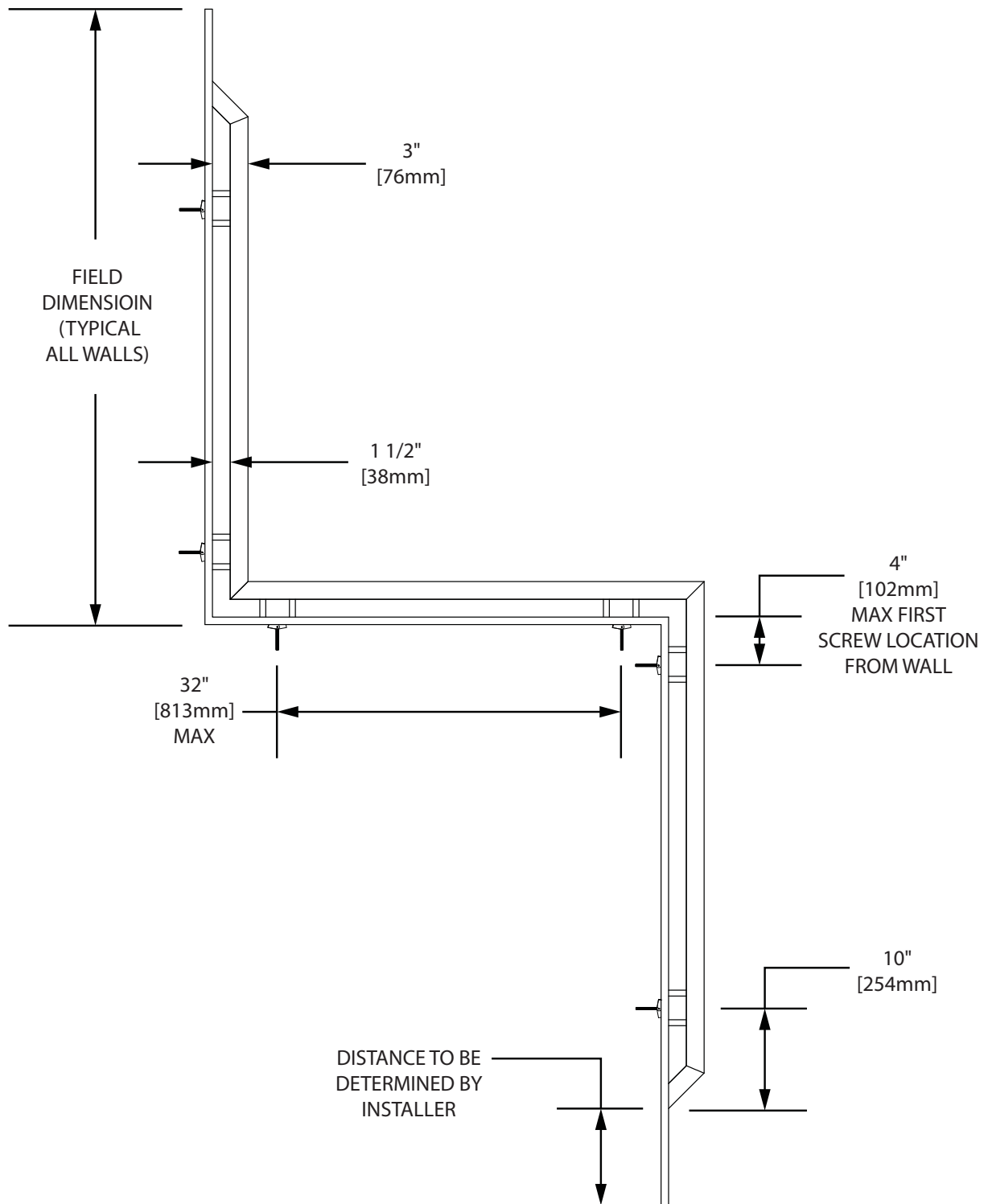
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Layout View



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FIG. 1

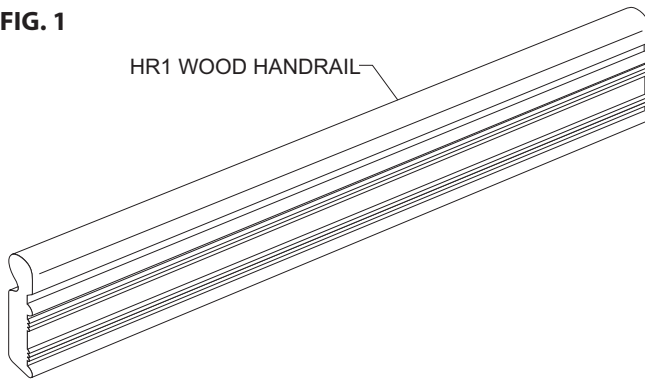


FIG. 2a

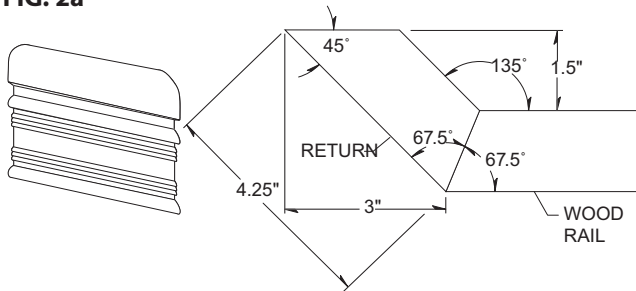


FIG. 2b

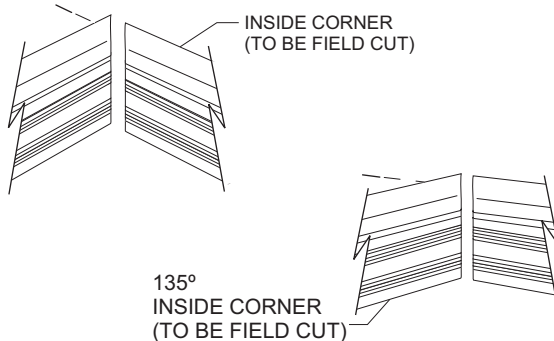
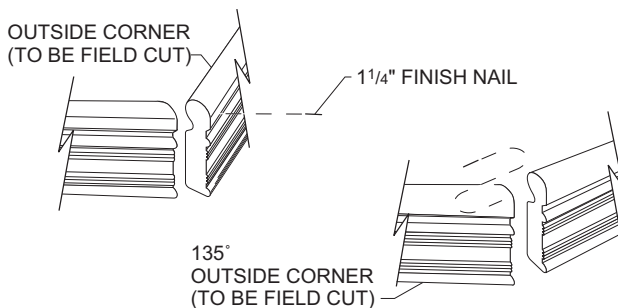


FIG. 2c



NOTE: For pre-assembled handrail, all handrails ships in pre-cut lengths with returns pre-assembled. If outside and inside corners are required, an extra 4" of rail is included to miter cut, glue and pin nail these corners. All boxes and components are marked to coincide with the floor plan drawings. Layout and identify the components needed for each section to be installed.

1. Determine height of handrail on wall. Measure down $3\frac{3}{4}$ " (95mm) and snap chalk line. Cut handrail to required length, leaving 3" (76mm) allowance for returns (stock length handrails only), $1\frac{1}{2}$ " (38mm) for inside corners and 3" (76mm) for outside corners. SEE FIG. 1

2. Inside corners, outside corner and returns

a. Returns (stock length chair rail only): return piece needs to be cut so front of piece is $4\frac{1}{4}$ " (108mm) long with a 45° cut on the side that meets the wall and a $67\frac{1}{2}^\circ$ angle on the side that mates with the rail length. Glue returns and pin nail to the rail length. SEE FIG. 2a

b. Inside and outside corners: miter cut the rail in the proper direction.

For inside corners, before mounting them to the wall, join the two miter cut pieces of rail, apply glue to the mating surfaces and pin nail the two pieces together with four $1\frac{1}{4}$ " finish nails. Wipe off excess glue with damp cloth. SEE FIG. 2b

For outside corners, attach one section to wall (See steps 3 and 4 for installation). Apply glue to the mating surface and pin nail the two pieces together with four $1\frac{1}{4}$ " finish nails. Wipe off excess glue with damp cloth. SEE FIG. 2c

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FIG. 3

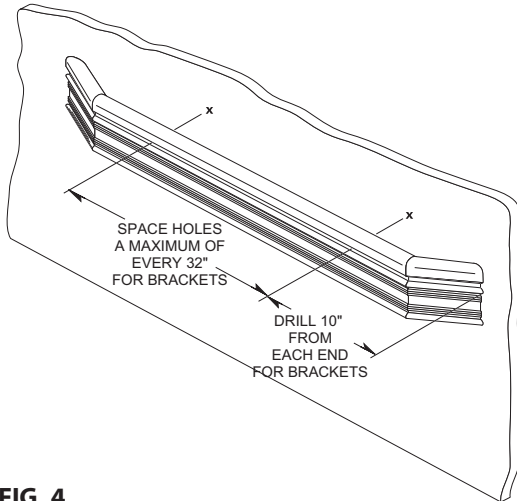


FIG. 4

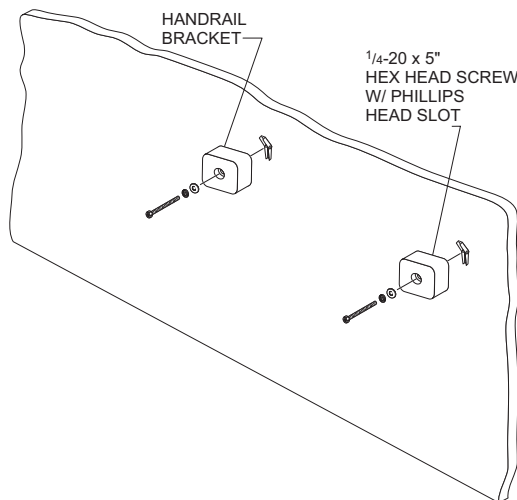
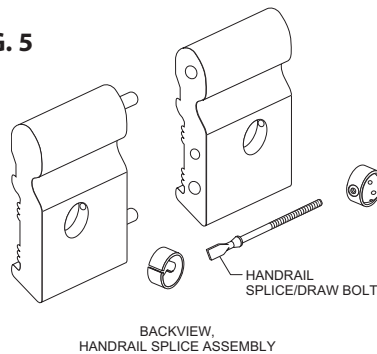


FIG. 5



3. Locate and mark bracket holes on wall. Drill marked holes with $\frac{3}{4}$ " (19mm) drill bit for toggle bolts (metal studs), $\frac{5}{32}$ " (4mm) drill bit for wood screws (wood studs) or $\frac{1}{4}$ " (6mm) drill bit for Alligator anchors (masonry construction). SEE FIG. 3
4. Mount brackets to wall, tighten fasteners to secure. SEE FIG. 4
5. Before mounting rail to mounting brackets, longer sections of the handrail will require draw bolt splices and dowels. Holes for the draw bolt assembly are factory drilled into rail sections. Apply glue to both surface pieces to be joined and into the dowel holes. Insert dowels into holes and the unassembled parts of the draw bolt into the holes. Tighten the draw bolts with tightening tool. SEE FIG. 5
6. Apply small amount of construction adhesive (installed supplied) between the bracket and back side of handrail. Attach handrail to brackets by pre-drilling two $\frac{1}{8}$ " (3mm) holes through the handrail and into the mounting bracket. Holes should be $\frac{1}{2}$ " (13mm) on each side of the center of the bracket. Fasten the handrail to the brackets and drive the head of the screw until it is just below the surface of the wood. As an option, attach the handrail with a power nailer and two $2\frac{1}{4}$ " finish nails per bracket. SEE FIG. 6
7. Fill any holes in the wood with the putty from the touch up kit. Clean up any wood glue with a damp cloth. Remove any surplus materials and debris upon completion of the installation.

FIG. 6

