

TECHNICAL NOTE



THE SOUND SOLUTION

A Division of  Hoover Treated Wood Products, Inc.

PLYWALL® SOUND BARRIER SPECIFICATION GUIDE

1. **DESCRIPTION** – This work shall consist of the construction of sound barrier consisting of PLYWALL® panels as manufactured by Hoover Treated Wood Products, Inc., supported by Power Preserved Glulam® as manufactured by Anthony Forest Products Company.
2. **MATERIALS** – Materials shall conform to the following:
 - 2.1 **SOUND BARRIER PANELS** – Panels shall be fabricated as “PLYWALL®” panels as manufactured by Hoover Treated Wood Products, Inc. Panel design shall have been tested in accordance with ASTM E-90 and ASTM E-413 and shall result in a Sound Transmission Class (STC) of 31 or better. Panels shall consist of a structurally sound frame of 2” by 4” (51mm by 102mm) or 2” by 6” (51mm by 153mm) (nominal) or 4” by 4” (102mm by 102mm) Southern Yellow Pine lumber No. 1, surfaced four sides, covered on both panel faces by shiplap-jointed, APA-303 specialty siding, Exterior Grade, Premium (6-SW), Southern Pine, exposure durability classification Exterior, Texture 1-11, 5-ply, 19/32” (15mm) thick, grooves 8” (200mm) o.c. All wood used in panel construction shall be pressure preservative treated with MCA preservative to a minimum net retention of 0.15pcf (2.40kg/m³) or CCA preservative to a minimum net retention of 0.40pcf (6.41kg/m³) in accordance with American Wood Protection Association (AWPA) standards U1 and T1. All plywood siding and 2” (50mm) (nominal) lumber shall be kiln dried after treatment to a moisture content of 19% or less. All panel sections shall be fabricated prior to shipment. All panels shall have two nylon lifting webs, securely attached along the top.
 - 2.2 **SUPPORT POSTS** – Posts shall be Power Preserved Glulam® Fb 1.8E 2400-V5-M1 Balanced-No-Camber as manufactured by Anthony Forest Products Company. Minimum net retention of preservative shall be 0.31pcf (4.97kg/m³) of MCA or 0.60pcf (9.61kg/m³) of CCA in accordance with AWPA standards U1 and T1. Posts shall be bundled so that each layer is separated by wood spacers to allow air drying after treatment. The length of the post may vary from Hoover’s standard chart due to foundation and wind load requirements. Posts will be supplied with one extra foot in length to compensate for depth variances.
 - 2.3 **CLEATS** – Vertical cleats for attaching panels to posts shall be Southern Yellow Pine lumber No. 1, pre-drilled every 12” (304.8mm) for attaching. Minimum net retention of preservative shall be 0.15pcf (2.40kg/m³) of MCA or 0.40pcf (6.41kg/m³) of CCA in accordance with AWPA standards U1 and T1.
 - 2.4 **FASTENERS** – All nails, spikes (or lag bolts, if applicable) shall be hot dip galvanized zinc coated per ASTM A153 or stainless steel.

- 2.5 SEALANT** – A clear sealant or solid color stain to be factory applied to the wall to include posts, cleats, and panels.
- 2.6 SOURCING** – All Wood Sound Barrier System Materials, including posts, panels, and cleats, shall be treated and fabricated at Hoover-owned locations.

3. CONSTRUCTION

- 3.1 MATERIAL UNLOADING AND STORAGE** – Contractor shall provide suitable unloading equipment and storage space for Sound Barrier Materials. Sound Barrier Materials shall be kept off the ground and shall be protected from mud, splattering, staining, vandalism, or physical damage.
- 3.2 POST HOLES** – Post holes shall be augered to the required diameter and depth, which shall be determined by the owner's engineer (Hoover provides standard recommendations based on assumed soil properties). Spacing shall allow the post to be centered within the hole and allow the post to be installed to the center-to-center-required measurement which is dependent on the post size and panel width. Posts may shrink slightly after erection. The contractor shall take all measures and precautions necessary to prevent collapse of the hole sides prior to backfilling and compaction. Since post sizes may vary within a single project, actual post width shall be checked at delivery. Actual panel width shall also be verified at delivery.
- 3.3 POST SETTING** – Posts shall be plumb and in precise position to accept panels and shall be braced in such a manner as to remain plumb and in the required lateral position during backfilling. Post spacing shall allow clear spans between posts equal to the panel width plus a maximum 1.25" (32mm) tolerance overall. In no case shall the erection tolerance between posts exceed 1.25" (32mm).
- 3.4 BACKFILLING** – (Crushed stone) Backfill consisting of washed and well graded 1/2" (13mm) gravel shall be placed around the posts in 6" (153mm) maximum lifts and shall be compacted between lifts. Compaction shall be achieved by making a minimum of three passes per lift with a flat faced mechanical tamper. After backfilling is complete, the gravel must be covered with an earthen berm at least 3" (76.2mm) in height. This berm should extend slightly past the gravel and should slope away from the post. This berm is intended to help slow down rain intrusion of water to the soil surrounding the gravel.
- 3.5 BACKFILLING** – (Concrete) (per customer's engineer)
- 3.6 BACKFILLING** – (Reinforced concrete) (per customer's engineer)
- 3.7 ATTACHMENT OF REAR CLEATS** – Prior to setting panels, the rear cleats shall be fully attached to each post to support the Sound Barrier panels during placement. Cleats shall be placed at an elevation that will insure support of the panel over the entire height. The rear edge of the cleat shall be placed such that the panel end's center-line is aligned with the presented post face's center-line. The cleats shall be attached with properly sized hot dip galvanized zinc coated (or stainless steel) spikes or lag bolts as shown. Note: Contractor may attach rear cleats prior to setting posts, but post embedment depth tolerances become critical since the cleats cannot be adjusted.
- 3.8 SETTING PANELS** – Sound Barrier panels shall be lifted by the provided lift straps and seated firmly against the prefixed rear cleats in a manner which maintains panel plumb and level and equally divides the construction gap to each side (center panel between post – do not place panel all the way to one side against the post). The panel will then be secured by attaching the front cleats to the posts along the unsecured panel face. Cleat nails shall never be driven into the panel. Note: Front cleats shall be firmly and securely fixed to the post at both ends before releasing lifting straps.
- 3.9 PANEL BOTTOM EMBENDMENT** – Bottom of panels shall be (embedded in the earth per _____ to prevent the passage of sound) (backfilled with crushed stone per _____ to prevent the passage of sound and to provide drainage).

- 3.10 FIELD TRIMMING OF POST TOPS** – After panels have been set and caps attached, the post tops may be trimmed for aesthetics.
- 3.11 PANEL CAPS** – After removal of the nylon lifting straps, the panel caps shall be trimmed in the field and attached with provided stainless steel timber tamers placed every 12” (305mm).
- 3.12 DISPOSAL OF TREATED WOOD SCRAPS** – Do not burn scraps. Dispose of scraps as ordinary trash. Land-filling is acceptable for MCA-treated and CCA-treated wood.