

ACOUSTIC CRADLE INSTALLATION DETAILS

The following instructions are issued as an aid to the correct installation procedures. Individual site conditions may necessitate variances to the standing instructions below. Such cases should be referred back to Custom Audio Designs Ltd technical department for approval. All installation and working practices should be in accordance with relevant Codes of Practice, current British Standards and HSE Regulations applicable to the construction industry.

SITE PREPARATION

The concrete floor to receive the cradle and batten system must have a hard dry cured surface. The cradle is designed to take up varying levels with 2mm or 5mm cradle packers. However, the floor must be reasonably smooth to accept the cradle. Tamped finishes are acceptable. The cradle and batten system, if subjected to abnormal loading may require the use of hard and/or additional cradles. In such cases please refer to our Technical Department for advise. A damp proof membrane is recommended on ground floors slabs.

PROTECTION AGAINST DAMAGE

The cradle and batten systems should not be laid until the building is weather tight and all materials must be stored in a safe dry location prior to use. The adhesive should not be subjected to temperatures of less than 5°C.

MEMBRANE (IF REQUIRED)

A membrane such as minimum 1200 gauge polythene sheeting should be installed over all ground floor slabs and new concrete bases above ground level. Joints should be overlapped a minimum of 150mm and should be taped and sealed with waterproof adhesive tape with edges upturned to the same height as the T&G overlay boards at all perimeters.

PERIMETER DETAIL

Overlay boards, in common with other wood based products, attract moisture resulting in expansion or contraction when installed in a new building or a building under going renovation. We would therefore recommend that a minimum gap of 10mm is left at all perimeters and abutments. The expansion gap is then filled with our perimeter seal in excess of the total floor depth and then trimmed as described under 'Fixing the Skirting Board with Perimeter Seal'.

CRADLE POSITIONING

Establish the highest datum point of the floor. The first cradle should be positioned at the highest point of the floor and levels worked from this point. Place the cradles to the perimeter of the room 10mm away from the wall at the specified centers and thereafter in a square grid. The cradle centers may be more closely spaced than specified to avoid high spots or irregular surfaces but not exceeded.

BATTEN POSITIONING

Place the battens into the cradles in a staggered formation. A batten should be installed to the perimeter first and leveled. Intermediate battens are then laid and leveled. All battens must join within a cradle.

LEVELLING THE FLOOR

Insert the packers at 90° to the direction of the battens into the cradle below the battens, as appropriate, to level the floor working from the datum point. Packers must be fully pushed home. No adhesive is required to hold the packers in place. The cradle will hold the packers in position once inserted. When packing under the junction of two or three battens ensure that the packer is supporting all battens. When packing under two battens joining longitudinally packers must be inserted in line with the batten. Never use damaged cradles as this may allow the packers to work free. Packers can be used to increase levels to within 5mm of the top of the cradle leg, e.g. 35mm in a 40mm leg cradle. Packers are supplied in both 2mm and 5mm thicknesses. Additional height adjustment can be obtained by the use of 30mm cradle base packers or wooden bearers measuring 100mm x 43mm x depth required. Bearers are normally cut on site, the most economical option, or can be supplied pre-cut to order. The batten is screwed and glued to the wooden bearer at the required cradle position. Final adjustment can be achieved by inserting the packers beneath the bearer in the normal manner.

Leveling requirements for each cradle, working from the highest point on the floor, can be accurately achieved by laser leveling equipment. This method will allow the 'packer requirements' for each cradle to be laid out prior to positioning the batten into the cradle.

THERMAL OR ACOUSTIC INSULATION

Thermal or acoustic insulation, when required, should be laid between the battens. Acoustic insulation is recommended with concrete planks and beams and block floors and will give an improved airborne noise performance from the system and will take account of any inadequacies in the sealing and grouting of the sub floor.

FITTING THE PERIMETER SEAL

Prior to laying the boards, position the perimeter seal behind the perimeter cradles. Once this is in position the boards are then laid at 90° to the battens. The perimeter seal should not be squashed by the T&G overlay boards.

LAYING THE T&G OVERLAY BOARDS

Apply the adhesive to the top of the battens and lay the board maintaining a minimum expansion gap of 10mm to the perimeter. All boards should also be glued on all the T&G edges as laying proceeds. All boards must be laid in a staggered pattern ensuring all joints are a minimum of 150mm apart. The edges on the short side of the boards must join on a batten. All boards must be screwed and glued to each batten as per the screw fixing pattern.

INTERMEDIATE BOARD SUPPORT

When the short ends of the boards do not join on a batten they should be supported with intermediate cradles and battens. Where boards join without being tongued and grooved such as in doorways, support the join with intermediate cradles and battens. Screw and glue the boards to the batten with a 2mm gap between the edges of the boards to avoid squeaking. Batten spacing may be adjusted to suit room sizes and to minimize waste provided the maximum batten spacing is not exceeded.

FIXING THE SKIRTING BOARD WITH PERIMETER SEAL

The perimeter seal is preferred and recommended for enhanced acoustic performance. The skirting board should be fitted with a clearance of 3mm from the finished floor and the perimeter seal should be trapped between the underside of the skirting board and the top of the floor. Any surplus perimeter seal should then be trimmed off with a sharp knife as the skirting boards are fitted.

SERVICES

If there is insufficient room to run services beneath the battens, services may be accommodated by cutting the battens and passing the service through the batten. Support the cut batten leaving 10-15mm clearance from the service with additional cradles supporting the cut battens. **Never notch the battens.** Services running at the perimeter of the room must be a minimum of 150mm from the perimeter and should not be grouped any wider than the available space between the battens.

CERAMIC TILES

The CK30 system is suitable for receiving ceramic tiles and consists of 18mm WBP Plywood, Hard Cradles at 300mm centers and battens at 300mm centers in conjunction with Norcros adhesive and grout.

BATTEN AND CRADLE SPACING

SYSTEM	BATTEN SIZE Width x depth	CRADLE CENTRES	BATTEN CENTRES	CHIPBOARD	PLYWOOD
C30	All Battens & Cradles @ 300mm centers			19 or 22mm	18 or 22mm
CK30	All Battens & Cradles @ 300mm centers with Hard Cradles				18 or 22mm
C40	43mm x 43mm	600mm	400mm	19mm	18mm
	43mm x 25mm	300mm	400mm	19mm	18mm
C60	43mm x 43mm	600mm	600mm	19 or 22mm	22mm
	43mm x 25mm	300mm	600mm	19 or 22mm	22mm

Expansion joints may be required in long corridors please contact our technical department for assistance.

All wet trades must be completed and dry prior to the installation of all cradle and batten systems.