

# Soundproofing Wall Panels



CAD20-WP wall panel insulation is specifically designed to reduce airborne noise through walls. Particularly effective when applied to single skin walls such as breeze, brick or studwork partitioning.

Traditional methods of applying insulation to reduce airborne noise transmitted through existing walls took up approximately 150mm of room space using timber studwork and mineral wool infill.

Much better results can now be achieved with the minimum loss of room space. Significant improvements in sound insulation can be achieved with the loss of less than 50mm of room space using 20mm thick CAD20-WP insulation and 2 layers of additional plasterboard.

Even greater noise reduction can be obtained if the treatment is applied to BOTH sides of the wall.

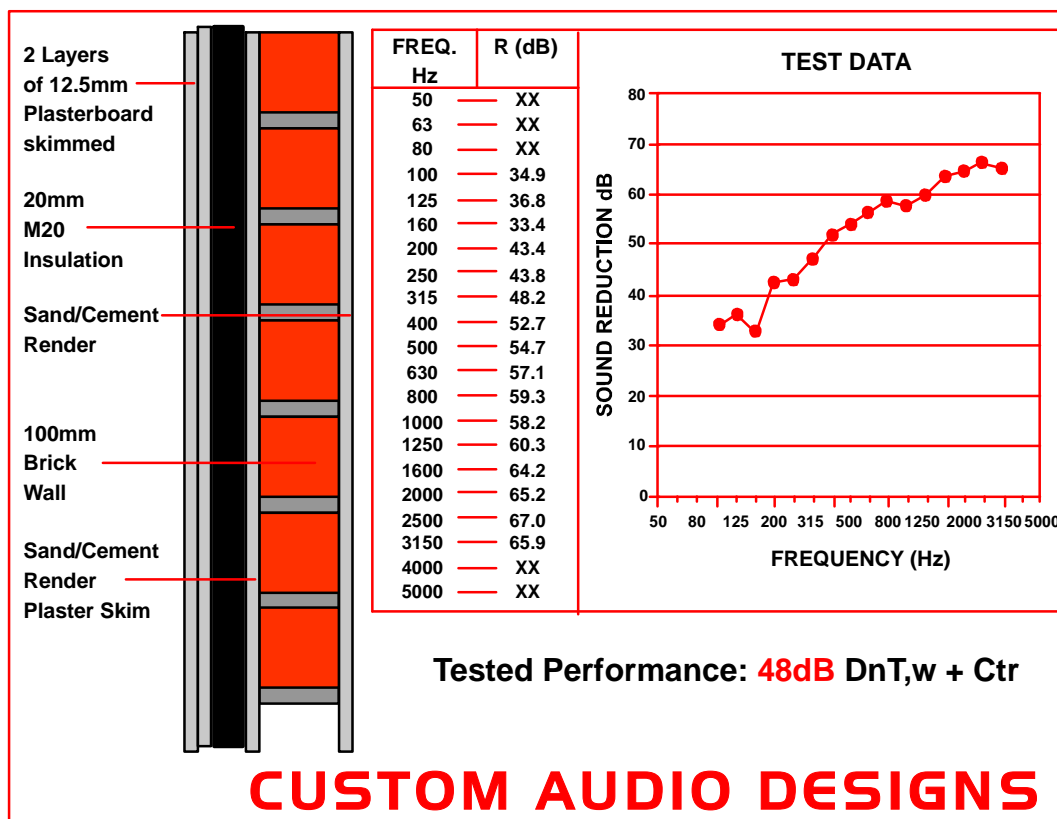
The insulated wall shown in the detail at the bottom of this page had a sound insulation value of

**48dB**  $D_{nT,W} + C_{tr}$

which is generally an 8dB - 10dB improvement (around a halving of the noise) and complies with the requirements of the Approved Document E 2003

## GENERAL PHYSICAL DATA

**Colour:** Black  
**Size:** 1m x 1m  
**Form:** Panels  
**Density:** 700 Kg/m<sup>3</sup>  
**Weight:** 15 Kg/m<sup>2</sup>  
**Thickness:** 20mm



## **CAD20-WP detailed installation notes.**

BE SURE TO READ THESE INSTRUCTIONS THOROUGHLY BEFORE COMMENCING ANY WORK

### **Preparation**

First ensure the wall to be treated does not have any holes that may allow sound through. The most likely places these occur is where the flooring and ceiling joists join the wall. It is easy to identify the directions the joists run by checking the floorboards. If they are parallel to the party wall, the floorboards nearest the wall should be removed to check the joists. If the joists are mounted into the wall, the masonry around the joists should be sealed with mastic or cement to ensure the wall is airtight if there are any gaps evident.

Secondly, if the wall to be treated is directly beneath a loft, such as a bedroom or a wall in a bungalow, the loft will have to be checked to ensure the party wall continues through to the roof. If this is not the case, the wall will have to be built up to the underside of the roof with bricks laid frogs up to ensure maximum density or alternatively, high density concrete blocks. Care should be taken to ensure an airtight seal exists where the wall meets the roof. This can be achieved by sealing with our flexible mastic. Further improvements can be gained by infilling between the joists with acoustic mineral wool and boarding out the loft with tongued and grooved flooring grade chipboard.

Ensure the wall to be treated has a dry, clean and sound surface. Wallpaper must be removed along with any loose and flaking paint and the surface of the wall must be perfectly flat. If the wall is uneven, it is not recommended the insulation is applied until the wall has been suitably prepared. This may involve plaster skimming until the surface is flat enough to begin treatment. New plaster must be completely dry and any protrusions leveled off before bonding the insulation. It is often advisable to prepare the wall with EvoBond or a PVA solution before applying the panels. This is especially important if the substrate is new plasterboard which is often porous.

Skirting boards, light fittings and power points have to be removed prior to applying the insulation. Before starting any work on any electrical fittings, ensure the power is first turned off. When removing light switches and sockets, check there are no holes penetrating the wall behind each fitting. Where any are found, they must be sealed with either cement or flexible mastic depending on the size of the hole. To facilitate refitting electrical services to the new surface after treatment, battens of a suitable thickness (to be determined according to the thickness of plasterboard used plus the insulation thickness) can be fixed to the wall at the site of the original fitting. However, this may reduce the effectiveness of the insulated wall and it would be better if the fittings were fixed to the finished wall with suitable screws and plugs designed for use with plasterboard. We recommend a qualified electrician undertake all work involving electrical installations.

### **Adhesive**

Before using the adhesive, read the directions on the back of each can then proceed as follows; Shake can well before using. For best results, the ambient temperature should be 70°F/21°C and properly conditioned. Ensure all surfaces to be bonded are free from dirt, oil, grease, dust, and any other material that may affect the bond. Adjust the nozzle by turning to obtain the best spray pattern and hold spraycan 6 to 8 inches away from surface and apply in even coats making sure the adhesive 'webs' across the surface. Do not hold closer than 6 inches or 'wet' the surface. It is important a web pattern is obtained and at least 80% of the surface is covered. One surface should be sprayed vertically and the other horizontally. A double application should be applied to the CAD20-WP after the first layer has dried. Do not concentrate in one spot or allow to puddle. Allow adhesive to tack for 2-4 minutes before bonding together with a firm, even pressure. Tack time can vary depending on climate conditions. It is important that good pressure is applied to ensure a firm bond is obtained. A roller may help. Use this adhesive in a well ventilated area. The adhesive should be stored at 15° - 21°C.

Occasionally, for various reasons, problems may be encountered bonding the product to the wall. When this occurs, mechanical fixings can be used in addition to the adhesive as follows: If fixing to plasterboard faced timber studwork, normal wire nails hammered well into the insulation so the heads are below the panel surface work well. In these cases use only sufficient nails to secure the insulation effectively. When fixing to masonry walls nail guns can be used to shot fire nails through the insulation or alternatively, masonry nails combined with battens can be used but these must be removed when the adhesive has cured.

### **Application**

Before applying the insulation, first remove any loose bituminous paper (M10 only) that may be on the panels and ensure any dust and debris is brushed off. Do not attempt to remove firmly affixed paper. Now proceed as follows: The insulation is applied as soon as the wall is suitably prepared. Ensure the wall is dry and free of dust or grease and the surface to be treated is flat and sound. Also, ensure the CAD20-WP panels are clean and dry.

Adjust the spray of the adhesive by turning the nozzle until a satisfactory pattern is achieved then evenly spray the surface of the wall and each panel and allow to dry until 'tacky'. The time this takes will vary according to the

climatic conditions of the day. When tacky, bond the CAD20-WP panel to the pre-glued area of the wall and apply with a firm pressure over the entire panel to ensure it is properly bonded over its entire surface. As each panel is treated with adhesive, it should be stuck to the wall commencing at a bottom corner and working across at floor level and then progressively upwards.

The application of the spray adhesive also applies to the plasterboard. If a panel has to be cut into a corner or to allow for an electrical fitting, this should be done before any adhesive is applied and is easily achieved with the aid of a sharp craft knife or jigsaw. Care must be taken to ensure there are no unnecessary gaps between the joints of the insulation. Any holes or spaces can be filled with flexible mastic.

When each wall has been covered with the insulation, no further treatment should continue until the adhesive has sufficiently cured. This would normally be overnight but in warm conditions the plasterboard can be applied immediately after the insulation has been applied. It is imperative the plasterboard has been stored and is used completely flat. Bowed or twisted boards must be avoided as these will affect the adhesion to the insulation. The plasterboard must be glued in the same manner as the insulation and not fixed with nails or screws as this will affect the efficiency of the insulated wall. Two layers of plasterboard of a minimum thickness of 12.5mm must be used for the following operation, although 19mm plasterboard plank combined with a layer of 12.5mm ordinary plasterboard would give better results.

Cut the plasterboard to the correct height between the ceiling and floor allowing a small gap at both bottom and top before applying the adhesive. When each board has been treated with adhesive, place it into position onto the insulation but leave a small gap in the corner where the last board is starts. Proceed with more boards across the entire wall and again, leave a small gap in the corner where the last board is cut in. There should now be a small gap all around the edges of the plasterboard where the boards meet the floor, ceiling and juxtaposed walls. It is easier to use thin packing pieces to achieve this, which can be removed when the adhesive has cured. Repeat the process for the second layer of plasterboard but this time overlapping the joints of the first layer. It may be necessary to support the plasterboard until the adhesive has sufficiently set.

**SOME ADHESIVES ARE HIGHLY FLAMMABLE UNTIL CURED. THEY MAY CONTAIN A PETROLEUM MIXTURE WHICH GIVE OFF FLAMMABLE HEAVY VAPOURS AND IF USED, SHOULD BE KEPT AWAY FROM NAKED LIGHTS AND ENSURE THE AREA IS WELL VENTILATED.**

When the adhesive has cured, the plasterboard can be finished by plaster skimming or as desired. However, if plastering, be sure to maintain the small gap around the edges. This can be achieved with the edge of the trowel. Alternatively apply plenty of sealant around the perimeter then plaster up to the edge of the sealant which will be proud of the plasterboard. When finished, the skirting board can be reapplied with adhesive or plasterboard screws. All screws used must be designed for plasterboard and must NOT bridge the insulation. Nails must never be used. Skirting boards should be fixed with a small gap beneath and in each corner to ensure the wall remains "floating". All gaps can be filled with flexible sealant before decorating.

Fitting of shelves, cupboards and radiators etc should not commence until the adhesive has fully cured and at least a week after the plasterboard has been bonded. Be sure to use only the correct screws and plugs designed for use with plasterboard and be careful not to penetrate the insulation.

All electrical fittings and sockets can now be refitted.

The described treatment will give best results on single skin and lightweight walls such as clinker or thermalite blocks. The results can be greatly improved if the above described treatment is applied to both sides of the party wall and continued through the ceiling to the underside of the floorboards above. This would entail cutting away the plasterboard on the ceiling. To achieve this, draw a line on the ceiling the exact distance from the wall plus 6mm to allow for the insulation and plasterboard. A craft knife can be used to cut through the existing ceiling and the section can then be removed. The small space remaining after treatment can be filled with flexible mastic before decorating.

The contractor shall be responsible for the examination and acceptance of all conditions and project suitability prior to the acoustic tile installation.