

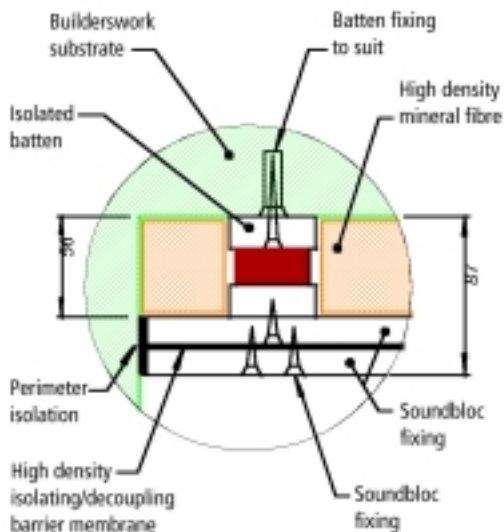
SECONDARY WALL STRUCTURES

Acoustic Improvement of Existing Rooms

An isolated wall system designed to improve transmission loss between spaces, where the construction of a separate wall or inner room is impractical. Often used in conjunction with floor and ceiling treatments to provide a fully integrated acoustic design.

Construction

Walls to be treated must be cleared of any fixtures or fittings prior to installation. Certain items, such as pipes or electrical cables/conduit can, however, be covered provided later access is not likely to be required. To support the new wall structure, isolated battens are fixed to the existing wall in the vertical plane at 600mm centres.



High density mineral fibre is then used to pack the void between the battens. A single layer of Soundbloc, or similar plasterboard, is then fixed to the battens and seats on an isolating strip, installed around the periphery to ensure that the wall is decoupled from the existing structure. A layer of dense acoustic barrier material is then attached to this, before covering with another layer of Soundbloc, fixed to stagger joints with the primary layer. This arrangement is illustrated in the detail shown.

Finishing

The plasterboard surfaces require finish decorating to suit. This can be covered with a sound absorbent fabric finish treatment or conventionally decorated. The latter would normally require a plaster skim prior to painting and the fitting of timber skirtings.

Acoustic Performance

The additional mass provided by the secondary wall structure is capable of affording a nominal additional sound reduction of 10-15dBA. In many cases this can be sufficient to upgrade an existing room with poor acoustics to meet the requirements of Building Bulletin 93 Acoustic Design of Schools.

Ancillary Features

A range of complimentary products are available to minimise the incidence of 'flanking' transmission and thus provide an integrated acoustic package. These can include ceilings and floor treatments, the provision of acoustic doors and windows.

Ceilings

Treatments can be either effected by introducing dense barriers over existing ceilings or, where access to improve a ceiling is not available, through the addition of a suspended ceiling. The suspended structure affords the opportunity to fit dense acoustic barrier material over the ceiling tiles.

Floors

In many instances, particularly where existing floors are concrete, it is not necessary to supplement the existing structure. Where rooms, however, are located on timber floors or, where, structural transmission is a problem, it may prove prudent to install an isolated floor to improve structural sound transmission loss. This can take several forms, dependent on the performance required, but for many applications this could be a simple specially laminated acoustic floorboard installed, as panels, in a staggered format, with perimeter isolation around the periphery.



Doors and Windows

If the desired acoustic performance demands, acoustic doors and windows may be fitted. Details for these may be found on other Black Cat Acoustics data sheets.

