

The **isocheck** cradle system (for concrete floors)

FIXING INSTRUCTIONS FOR THE ISOCHECK CRADLE FLOORING SYSTEM

Introduction

Isocheck cradle systems are dry floating floors which provide an easily levelled under structure for supporting chipboard, plywood or hardboard flooring. Concrete ground level supported floors must have a damp proof membrane and screed complying with the appropriate Codes of Practice and Building Regulations.

Storage

All components should be kept inside, under cover and in dry conditions at all times. Materials should be located into the environment in which they are to be fixed at least 48 hours prior to fixing. Do not place large quantities of material such as chipboard or plasterboard on top of laid flooring as this extreme loading can damage the resilient layers.

Preparation

The building must be weatherproof and all wet trades completely dried out before commencing installation of the flooring system. All joints and air paths between concrete units and at perimeter walls must be carefully and thoroughly grouted for effective performance of acoustic floors. Components exposed to wet conditions such as ingress of rain or plumbing leaks should be discarded and replaced.

Dryness of Concrete

Excessive moisture from cast in situ slabs and screeds which have not dried out can have adverse effects on flooring materials and timber components. BS 8201 states that "it is reasonable to recommend that the concrete be considered dry when the relative humidity falls to 75% or less" (when tested by use of a hygrometer). Where the dryness of concrete can not be guaranteed it is recommended that a vapour barrier is installed (minimum 1000 gauge).

Services

The provision of access to services is most successful if the location of services is detailed at an early stage. Services should be kept at least 150mm away from walls to allow space for perimeter support Battens.

Design Recommendations

(a) Partitions

- i) Masonry internal non load bearing Partitions should be erected from the sub-floor and not on top of the floating floor.
- ii) Lightweight timber or metal stud partitions with plasterboard linings may be constructed from the floating floor by forming a ladder frame structure directly beneath the sole plate using noggins of approx. 100mm supported on Cradles. The position of the partitions should be marked on the structural floor before commencing the floor installation to ensure satisfactory support is provided and that services are correctly positioned.

(b) Access Panels

Isocheck cradle Flooring Systems are ideal for providing partial access to services. The Cradle Plate is designed to accept support Battens running in both directions where necessary to provide secure support for access panels. Access panels should be square edged and supported along all edges by Support Battens. The panels should be screwed to the battens without bridging the resilient layer.

(c) Areas of Heavy Loading

In areas where heavy loadings are anticipated, such as kitchens and bathrooms the Support Batten centres should be reduced to 300mm. In cases of extraordinary loading, advice should be sought from the specifier or manufacturer. Storage heaters are considered to be an extraordinary loading and will require support direct from the sub-floor, independent of the flooring system. Isomass's Sales Department are available to provide advice where required

(d) Intermediate Expansion Gaps

The need for intermediate expansion gaps between sheets of chipboard must be considered where there are uninterrupted runs of flooring more than 5 metres in length. Expansion provision should be calculated at a rate of 2mm per metre run.

(e) Communal Areas in Flats

BS6399-1: 1996 imposes more onerous load bearing requirements for communal areas in certain designs of flatted developments. Concentrated load requirements over the long term can be as high as 4.5 kN while the maximum capacity of 22mm chipboard at reduced centres is only 2.7 kN. If it is intended to lay the **Isocheck** cradle System in communal areas in flats such as common corridors, hallways, stairs and landings it is essential to contact **Isocheck** for specific advice regarding the floor boarding and component centres.

(f) Ceramic Tiles

As acoustic floors are designed to deflect vertically in order to reduce impact sound there are inherent risks in laying ceramic tiles on top of floating floors. However the risks can be significantly reduced by good detailing and the use of modern flexible adhesives. Ceramic tiles have been successfully laid on the Cradle System in numerous projects over many years. Contact the Sales Department for specialist advice.

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FIXING INSTRUCTIONS continued

(1) Support Batten and Cradle Centre's

Support Battens and Cradles must be laid in accordance with centre's specified.

(2) Cradles and Support Battens

To ensure consistent levels throughout the building, commence in corridor areas proceeding to rooms. In each area work to a datum using **Isocheck** Packers and elevating blocks to overcome low areas or cambers. Ensure that each Cradle is sitting on a level, flat spot. Cradles should not rock or lie at an angle. Set out the Cradles and Support Battens around the perimeter of the room so that the Support Battens are approximately 50mm from perimeter walls. Then lay the remainder of Support Battens levelling with the self-locating packers as required. Where Support Battens meet, the Cradle should be positioned so that it equally supports both ends. When laying alternate rows of Support Battens, commence with a half-length so that the joints are staggered.

(3) Services

The standard 11mm Resilient Cradle Support will not allow for services to run underneath the Support Batten. In this instance cut the Support Battens and place approximately 25mm either side of the pipe. Fully support the Battens with additional Cradles. Additional noggins may also be required to properly support the deck.

Do not notch Support Battens.

If it is intended that services run under the Support Battens a deeper Resilient Cradle Support should be specified and adequate clearance provided beneath the Support Batten. In acoustic systems ensure that gaps where services come through the flooring are sealed to prevent airborne sound leakage.

(4) Packing

In order to achieve a level floor, place the correct combination of packers within the shoulders of the Cradle plate to a maximum of 5mm from the top. Gluing of packing is not normally necessary, as the packing pieces are self-locating. If packing exceeds 75% of the depth of the Cradle Plate shoulders then it is recommended that packing pieces be glued with PVA adhesive to the Cradle Plate, to each other and to the Supporting Batten.

(5) Perimeters

Ensure that there is an expansion gap of at least 6mm between the edges of the flooring and at the perimeter walls. This gap must also be maintained at doorframes and filled with an angled flanking isolation strip.

(6) Thresholds

A Support Batten on Cradles should be placed across the threshold for additional support. The chipboard should be configured so as to ensure no but joints are present.

(7) Additional Components – (Acoustic Systems Only)

7.1 Isocheck Acoustic Quilt

If specified, lay Isocheck Acoustic Quilt paper face down between the Cradles over the entire floor area. The edges of quilt should be turned up at the perimeter walls. The same method will apply if thermal insulation quilt is being used on a ground floor application.

7.2 Isocheck Flanking Strip

Insert the 5mm thick "L" shaped Acoustic Flanking Strip around the perimeter of the room in the 10mm gap between the flooring and the perimeter wall. When the skirting board is being fixed to the wall lightly trap the Flanking Strip between the bottom of the skirting and the flooring panel and neatly trim off the excess. It is essential to isolate the skirting from the floor surface to prevent impact sound flanking transmission.

(8) Laying Flooring Panels

Lay the floor panels with long edges across the Support Battens. The sheets in adjacent rows must be staggered in a brick-bonded fashion with all T&G joints fully glued. If short edges overhang a Support Batten at any point an additional Support Batten must be placed under the overhanging edge. Short edges must always be fully supported.

(9) Fixing Flooring Panels

Annular ring nails and P.V.A (or other suitable) adhesive must be used for fastening the flooring panel to the Support Batten. The nails must be long enough to securely fix the flooring panel but not so long as to pierce through the bottom of the Support Batten. Adhesive should always be applied continuously to the top of the Batten prior to laying each sheet of flooring. All tongued and grooved joints must be continuously glued on the top of the tongue and the bottom of the groove to prevent on each side of the joint. Wipe off excess glue with a damp cloth. Finally fix the boards with four fixings across the face of each Batten, two about 25mm from each edge and two equidistant between.

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