

# D A N S K I N

## REFLEX BEARERS

### **DETAILED FIXING INSTRUCTIONS FOR THE DANSKIN REFLEX BATTEN ON JOISTED FLOORS**

#### ***Introduction***

Danskin Reflex battens are designed for installation on decked subfloors in a timber or steel frame construction. The purpose of the flooring system is the reduction of sound and is not intended to provide further structural support or thermal insulation. The capacity of existing joists to carry the weight of the Danskin Reflex battens and associated panels must be checked prior to installation.

#### ***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 24 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 completely dried out before commencing installation of the flooring system. Any decking on which Reflex Bearers are to be laid should be flat and dry. It is most important for the reduction of airborne sound to block any air passage in the structural floor, at the perimeter of the floor and wherever the floor is penetrated. Any flooring components exposed to wet conditions such as ingress of rain or plumbing leaks should be discarded and replaced.

#### ***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 bearers. It is recommended to allow at least 10mm above the height of the services to allow for clearance and deflection of the resilient layer.

#### ***Design Recommendations***

##### ***(a) Bearer Centres***

Danskin Reflex battens must be laid either in line with or perpendicular to the structural joists to maintain the strength of the floor. However, bearer centres must also not exceed 400mm for 18mm chipboard or 600mm for 22mm chipboard. If these conditions cannot be achieved contact Danskin's Technical Department for advice.

##### ***(b) Partitions***

In a timber frame construction load bearing partitions are constructed prior to the installation of the acoustic flooring. Lightweight non-load bearing partitions can be constructed from the timber deck providing all necessary noggins and supports are located before fixing of the timber subfloor. Where lightweight non-load bearing partitions are built from the top of the floating floor a double row of Reflex battens should be placed beneath the partitions. Alternatively, if the line of a partition is not supported by a structural joist a supporting ladder frame of Reflex Bearers should be created. The structural performance and location of partitions should be in accordance with the recommendations of the timber kit supplier.

##### ***(c) Access Panels***

Providing they are preplanned, the provision of access panels is simple. Panels should be square edged and supported along all edges by Reflex Bearers. Access panels should be screwed down.

##### ***(d) Areas of Heavy Loading***

In areas where heavy loadings are anticipated, such as kitchens and bathrooms, Reflex Bearers should be reduced to 300mm centres to provide additional support. On areas of concentrated loads such as beneath baths, shower trays, W.C's and kitchen appliances Danskin high load battens can be supplied if necessary to provide additional support. These have a rigid foam layer 13mm thick on the underside. High load battens should only be used for isolated support and not laid in general areas as they do not provide acoustic insulation.

##### ***(e) Storage Heaters***

Storage heaters are considered to be an extraordinary loading and may require support direct from the subfloor, independent of the flooring system. Danskin's Sales Department are available to provide advice where required.

##### ***(f) Intermediate Expansion Gaps in Flooring***

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.

##### ***(g) 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 Danskin Reflex Bearers in communal areas in flats such as common corridors, hallways, stairs and landings it is essential to contact Danskin for specific advice regarding the floor boarding and component centres.

##### ***(h) Ceramic Tiles***

In accordance with BS5268 base floors require to be stiff to carry ceramic tiles. However, acoustic floors are designed to deflect vertically in order to absorb impact sound. Contact Danskin's sales department for advice on measures to minimise the risk of cracking.

# INSTALLATION PROCEDURES – TIMBER FLOORS

## 1) *Perimeter Bearers*

Lay Danskin Reflex bearers around the perimeter of the room fibre side down - approximately 50mm from the wall.

## 2) *Laying Bearers*

Mark the desired location of any non loadbearing partitions and High Load bearers before starting to lay Reflex bearers. All bearers must either be laid directly above the main floor joists running in the same direction or be laid perpendicular to the direction of the structural joists and be supported by them.

Lay Reflex bearers fibre side down leaving a small gap between bearer ends. Start each alternate row of Danskin Reflex bearers with a cut length so that joints are staggered. Where services run across bearers – do not notch. Cut bearers and place approximately 25mm either side of the pipe.

Place High Load bearers directly below isolated heavy loads such as bathroom and kitchen furniture and appliances . Do not overuse as they have lower acoustic performance than Reflex Bearers.

## 3) *Thresholds and Partitions*

Place a Danskin Reflex Bearer across each doorway to provide extra support. Ensure that a gap is left between the bottom of doorframes and the top of chipboard flooring.

Where non loadbearing partitions run perpendicular to the structural joist line or run directly above the line of structural joists - place double rows of Danskin Reflex Bearers to provide additional support. Alternatively , if the line of a non loadbearing partition is not supported by a structural joist a supporting ladder frame of Reflex Bearers should be created.

## 4) *Acoustic Quilt*

Where specified cut Acoustic Quilt into strips and place between ( not below ) bearers.

## 5) *Plasterboard Plank*

Lay the plank across the Danskin Reflex Bearers in a brick-bonded method ensuring that all short edges of plank rest centrally on a bearer. Leave a clear 10mm gap at the perimeter. Fix the plank to the bearer using gypsum nails long enough to securely fix the plank but not so long as to pierce the fibre on the underside of the bearer. The plank should be surface nailed with a minimum of three nails across the face, two about 25mm from each edge and one or more equidistant between.

## 6) *Chipboard Flooring*

18mm thick chipboard should be used where bearers are at 400mm centres and normal domestic loading is anticipated (UDL 1.5kN/m<sup>2</sup> , Concentrated Load 1.4kN ). Where bearers are at 600mm centres 22mm thick chipboard should be used. Again leaving a clear 10mm gap at the perimeter lay the chipboard in the same direction as the plank in a brick bonded method. Ensure that the edge joints of the chipboard do not coincide with the edge joints of the plank. Short edges of chipboard should always rest above a Danskin Reflex Bearer.

Next fix the chipboard using annular ring shank nails or screws with four fixings across the face , two about 25mm from each edge and two equidistant in between. The fixings should be a minimum of 2.5 times the thickness of the board and longer if plank is in use. Care should be taken to ensure that the fibre on the bottom of the bearer is not pierced. All tongue and grooved joints must be glued continuously with adhesive otherwise any movement will lead to squeaking. Spot gluing is not sufficient to prevent squeaking. All joints must be tightly butted and excess glue removed with a damp cloth. Ensure that gaps where services come through the flooring are sealed with acoustic sealant to prevent airborne sound leakage.

## 7) *Danskin Flanking Strip*

Position the Danskin Flanking Strip in the perimeter gap adjacent to the perimeter wall. The preformed `L` shape will prevent it from falling down the gap.

## 8) *Trim Flanking Strip*

Fix the skirting board , lightly trapping the strip between the bottom of the skirting board and the flooring. Remove any excess flanking strip with a sharp knife. It is essential to isolate the skirting from the floor to prevent impact sound flanking transmission.

*Every care has been taken to ensure that all descriptions and specifications are correct at the date of publication. The policy of J Danskin & Co Ltd. Is one of continuous improvement and product development and the right is reserved to alter product specifications and installation procedures without notice.*