Information Sheet

Sports Flooring Loadings

Flexi-Beam Elite & Flexi-Beam Plus Floor Systems

Introduction

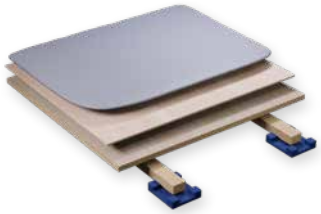
Sports floors are now often required to take loadings in excess of those imposed by athletes or portable sports equipment. Typically these include trampolines, portable basketball goals, bleacher seating and mobile access equipment.

Construction of Our Flexi-Beam Elite Sports Floor

Our Flexi-Beam Elite system is built using flexi-beams over which is laid a 22mm engineered board comprising of a hardwood wear layer.

Construction of Our Flexi-Beam Plus Sports Floor

Our Flexi-Beam Plus area elastic sports floor system is constructed using elastic beams over which is laid a 18mm plywood deck which in turn is overlaid with a 6mm plywood board ready to receive a synthetic finish.



Bleacher Seating

Bleacher seating units impose high loadings on a sports floor, both distributed and rolling loads, and accordingly the systems need to be strengthened in the area where the units are parked and under the wheel runs – this is known as bleacher blocking. If the seating is totally mobile it is likely that the whole floor will need to incorporate additional beams to take the additional loading. The seating can then be moved over the whole floor if required with suitable hover trucks. It should be appreciated that the performance of the floor will be altered where bleacher blocking is incorporated.

Careful choice of seating units is essential to ensure that a good number of high quality wheels are used to distribute the point loading in order to avoid damage to the surface of the floor system.

We would recommend our Komfort Elite Pro system where bleacher seating is to be incorporated into a sports hall since the playing area of the sports floor is then not compromised.

Heavy Sports Equipment

Heavy sports equipment such as portable basketball goals give rise to high loadings. They are not common but when they are required you need to ensure you have the right sports floor system. We are likely to recommend our Komfort Elite systems for this use.

We recommend that any equipment using wheels on the floor should incorporate high quality rubber wheels as opposed to nylon wheels since the latter often incorporate a sharp ridge that can cause surface damage to the floor, including unsightly indentations.

Mobile Access Equipment

Mobile access equipment is often used in order to carry out high level repairs such as painting, roof repairs or the replacement of light bulbs. These are very heavy and in order to accommodate the load it is essential that two layers of 9mm plywood is laid with a stagger so no joints overlap.

For the avoidance of doubt the two layers of 9mm plywood must be laid down over a clean floor and the mobile access equipment moved into its operating position by being manoeuvred over the plywood – it should never be manoeuvred straight over an unprotected surface.

Often damage is caused to the surface by the floor not being clean and dirt being pressed into the floor surface by the forces imposed by turning wheels. As noted above nylon wheels should be avoided.

Maximum Distributed Loadings

The table opposite illustrates the maximum distributed loadings we would recommend for the respective systems. A minimum of two layers of 9mm plywood must be laid over a clean floor when mobile access equipment is being used to accommodate the rolling load and to avoid damage to the surface finish.

	Without plywood protection*	With two layers of 9mm plywood protection
Flexi-Beam Plus with a solid finish	500 kg /m^2	750 kg /m^2
Flexi-Beam Elite	500 kg /m^2	750 kg /m^2

***Although a floor without plywood protection can take a distributed load of 500kg/m^2 it can only take a rolling load of 200kg/m^2. Accordingly plywood protection should be incorporated when rolling any heavy sports equipment or mobile access equipment over the floor.**

Maximum Point Loadings

For small areas (typically up to 1,500mm^2 - approximately 40x40mm) the point load must be considered. The point load should never exceed **150g /mm^2.** This is relevant for example when tables and chairs are used on a sports floor.

Maximum Point Loadings Calculation

Below is a point loadings example calculation using a person seated on a chair. The example uses two feet of the chair to allow for any rocking or leaning and presumes that each foot has a protective cap.

1	Weight of chair (including person)	100kg
2	Surface area of chair's foot - 20mm x 20mm (x2 feet)	800mm^2
Point Load (1 ÷ 2)		**125g/mm^2**

Conclusion

The above highlights a number of points to be considered with regard to loadings on a sports floor. Please do observe these to ensure your sports floor maintains its performance.