



The Expert >>

The right floor for the job - Part 2 >>

This is the second of two articles on floor flatness requirements. In this edition, I will concentrate on floor flatness requirements in warehouse areas used for low level storage and racking with wide aisles. For specification purposes, floors are divided into two groups, Free Movement Floors and Defined Movement Floors. Defined Movement Floors were considered in the last edition.

Free Movement, means just that, in respect of the trucks and equipment that will run on it. Trucks are free to roam in any direction or in wide aisles. These floors will be found in distribution centres (often alongside Defined Movement areas), factories and retail outlets.

Floor requirements in these areas are generally less onerous than in very narrow aisles (VNA). This is because loads are usually carried at low level. However, it is still necessary to provide a smooth ride for trucks and safe conditions for those on foot. This



requirement is governed by a flatness requirement that is measured over a short distance of 300 mm. We also need to keep a check on levelness which is measured over 3 metres, so that racking or machinery can be installed easily.

Traditionally, floor surfaces were measured using a straight edge of 2 or 3 metres. This was fine for small areas and is still OK for checking that a kitchen floor is level! However, it is a useless method for tackling warehouse floors. It is nearly 30 years since Face developed instruments that could rapidly measure the flatness of large areas of floor and a modern instrument is shown here. [Pic] These instruments are in common use and are specified in the standards. Despite this, we still come across straight edge specifications.

Floor flatness specifications are found in Concrete Society Report No 34 - Concrete Industrial Ground Floors. There are three main grades of floor; FM 1, FM 2, and FM 3. FM 1 is a high standard floor and should only be specified for special requirements. FM 2 is the most commonly used and is found in many warehouses, factories and retail outlets. FM 3 is really quite rough and should only be used where floor surface quality is unimportant. The advice in TR34 needs to be rethought.

There is one other grade of floor – FM 2 Special. This is intended for new floors where VNA is likely to be installed but its detailed positioning is not known. Some grinding is still likely to get to the tolerances required for VNA trucks.

There are a few limitations in the specifications that are important to note. It must be remembered that they are intended for large areas of floor and may not meet the requirements of offices or



**FACE
CONSULTANTS**

showrooms that may be part of a larger warehouse building. This can first become noticeable when skirtings are fitted to partition walls.

The TR34 specifications are not intended for composite floor decking systems. The flatness measurement in TR34 is a good way of testing a suspended floor for the short distance smoothness, but the longer distance levelness is much to do with the deflections of the spans between supporting beams and should be controlled as prescribed in BS 8110.

If you would have any questions on floor flatness or any views on the subject, it would be good to hear from you.

Next edition – Joints in floors

Face Consultants

Contact: Tony Hulett Tel: 07989 708514
W: www.face-consultants.com