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## The Expert >>

### Cracks in floors - A cause for concern? >>

**Cracks in floors probably cause more concern than any other feature of warehouse floors - so should tenants and owners be worried about them? Before attempting to answer that question, I will briefly discuss some of the causes of cracks.**

Those of you who have read earlier articles in this series will remember that concrete shrinks and for that reason, joints are provided at regular intervals across the floor. With good design and good quality of workmanship, it should be possible to keep cracks to a minimum in some environments.

Generally, large open areas of floor without racking are likely to be more free of cracks, indeed if a client requires a floor to be crack free in for example a retail area, then it should be possible for a contractor to give reasonable assurances that there will be no cracks - you are unlikely to get an absolute guarantee of no cracking.

Floors in high bay warehouses are more prone to cracks. This is because of the heavy weight of the racking which presses the floor into the ground causing it to become clamped and unable to move in response to the shrinkage forces. The shrinkage takes

place over one to two years whereas the racking will be fully loaded in perhaps less than three months. There is some evidence to suggest that this has become less of a problem in recent years as more attention has been paid to the quality and levelness of subbases beneath floors.

So do they matter? While it would be nice to be without them - and that should always be our objective, most cracks in warehouse do not create long term problems, although they are unsightly. Most cracks appear about a year after construction, they are often quite fine and many will not penetrate to the bottom of the slab. When they appear, the contractor should be notified and a monitoring system started so that crack openings are checked and the cracks are repaired at an appropriate time. Most contractors will repair cracks as part of the normal snagging process even if this extends beyond the normal one year liability period.

In a minority of cases, cracks are indicative of structural problems. It is not easy to be definitive, but where the floor moves across a crack, or where there are



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wide cracks associated with settlement, then there could be more serious problems.

Floors can crack near to joints because of overloading or structural inadequacy, but this is relatively unusual. It is therefore always wise to get an independent engineer to check the floor if there is any doubt.

In the next edition, I will look at the types of cracks and repair requirements in a little more detail.

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