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# The Expert >>

## The right floor for the job - Part 1 >>

**This is the first of two articles on floor flatness requirements. In this edition, I will concentrate on floor requirements in warehouse areas with pallet racking in very narrow aisles (VNA). [See pic.] The next article will look at floors used for open low level storage, manufacturing and pallet racking in wide aisles.**

Floor requirements in VNA require careful attention, because safety and productivity depend upon it. The higher the racking, the flatter the floor needs to be. Floor flatness specifications are found in Concrete Society Report No 34 - Concrete Industrial Ground Floors. There are two ways to specify floors for VNA - the old way, as contained in the main part of the report, and an improved method, as given in Appendix C of the report.

VNA aisles need to be flat, both across the aisle to limit side to side rocking, and also flat along the aisle. The Appendix C method measures both of these requirements at the same time, whereas the old method ignored the front to rear effects - effects that cause instability of the trucks. The instability in turn causes trucks to go "off wire" and slows trucks

down as drivers negotiate bumps in the floor. Appendix C gives three floor grades - DM1, DM2 and DM3, for truck heights over 13 metres, between 8 and 13 metres and under 8 metres. Floors for VNA are also known as Defined Movement floors - for obvious reasons. They cannot be constructed or finished to the required grade unless the precise positions of the racking are known. The measuring equipment - a Face Profilegraph [See Pic] then simulates the movements of the trucks in the truck wheel tracks.

If you are planning a new floor, you may be dissuaded by some advisors from using Appendix C. This could be because a contractor may have difficulty in achieving the required tolerances without having to rely on grinding. Grinding to achieve cross-aisle tolerances is reasonably straight forward, although it is best avoided or kept to a minimum. Grinding to achieve both sets of tolerances as required for comprehensive truck stability (Appendix C) is much more complex. However, there are contractors who get it right first time and can give you what you need - and at



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competitive prices.

When planning to upgrade an existing floor, or if you have problems with truck efficiency, make sure that you get an independent survey. If your floor was built in the last 10 or so years, and is not giving smooth running, you should look at the original survey report and take independent professional advice. Any upgrading works should be to Appendix C tolerances.

If you would have any problems with VNA floors or any views on the subject, it would be good to hear from you.

*Next edition - Floors for open use and for wide aisles.*

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