

## Agricultural Produce Storage Box Terminology (primarily potato boxes)

**Aspect ratio:** - a measure of anti-toppling stability of boxes in a *block stack*, aspect ratio is the height of the vertical stack divided by the width (shortest side) of the stack,  
eg. 6 metres high / 2 metres wide = aspect ratio of **3**

**Block stacking:** vertical stacking of equal size empty boxes without recourse to intermediate shelves or rack beams, but with the stack of boxes restrained on at least one side and one end by adjacent stacks.

**Brace:** a wooden diagonal placed to resist racking (lozenging) forces, can be double VV or X-brace

**Nailplate:** perforated punched sheet metal plate, which when used for box bracing is at least 400mm long, with each tiny hole pressing, forming a short nail. Often used in place of diagonal bracing to strengthen box sides, applied with an hydraulic press. See Palletlink website illustration on page - *Nails and nailplates*.

**Racking:** the forcing out-of-square (commonly called lozenging) of box sides, box ends or bases by external forces. Forcing out-of-square is deliberately created during some BS 7611 test loading.

**Side:** one of the two longer panels in a potato storage box. Side length and height are given as overall size including the base height. When assembled the *side length* is known as the *box length*. For square plan boxes, the side is the panel with the intermediate post, if fitted, if no intermediate post is fitted, then the 'side' is defined as the panel below which fork lift entry is made.

**Slatted box:** a style of construction in which vertical or horizontal side boarding and has distinct gaps usually for crop ventilation purposes, note this also weakens boxes in modes 'outward bowing' and 'racking'

**Stack width:** distance from left to right of a block of stacked boxes - facing from the access isle.

**Stack depth:** distance from front to back of a block of stacked boxes - facing from the access isle.

**Tier:** a single freestanding column of vertically stacked boxes.

**Tightboarded:** boards wedged together during box assembly to increase racking resistance through friction between board edges. Routinely upon wood drying to lower equilibrium moisture content this friction disappears, so wet boxes should be allowed to dry undercover for a week or more before any test to avoid misleading (high) results.

**Vertical stacking:** boxes of equal size superimposed upon each other.

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