A-Safe Rack Guard Leg protectA

Pallet racking damage is now recognised as a very serious issue by Occupational Health and Safety officers. Low speed collisions can result in damage placing workers at serious risk.

Pallet racking Standards require that any column vulnerable to forklift impact must be fitted with a protection device, and the Standards specify performance tests for these devices.

A-Safe Rack Leg or Upright Protectors meet the testing requirements and standards set down for racking protection devices in FEM (Federation Europeenne de la Manutention) 10.2.02, The Design of Static Steel Pallet Racking, Racking Design Code. This requires that "Protection devices shall resist, without exceeding the permissible stresses and without permanent deformation, a static force of 400Nm (a minor impact), acting at any height between 100mm and 400mm above the floor"

European Racking code FEM 10.2.02 Extract - 2.6 Impact loads

Impact damage caused by fork-lift trucks or other moving equipment against rack uprights shall be avoided by appropriate safety measures. The minimum requirements for the protection of uprights shall be as follows:

(a) An upright protector with a height of not less than 400 mm should be positioned at the end upright of each run of racking between cross-aisles.

(b) An upright protector should be positioned at those uprights positioned at all aisle and gangway intersections.

(c) The upright protector must be designed for an energy absorption of at least 400 Nm (3540 pound-force-inches) in any direction at any height between 0.10 m and 0.40 m. Alternatively, reference may be made to FEM users guide 10.2.03.

(d) The upright protector should be positioned in such a way that, after its deformation by absorbing an impact, the upright will not be damaged.

(e) Other uprights may be protected in a direction normal to the aisle at the option of the user.

Damage Measurement Method

To evaluate and classify damage in respect of safety level; following methods have to be implemented (FEM 10.2.04)

Straightness of the upright in depth direction (plane of the frame) : gap max 5mm over a straight edge of 1000mm. Localised bends over a length of less than 1 metre may be judged pro –rata to the 1 metre limits.

Maximum allowable side deflection is 5mm

A-Safe (UK) Ltd, Shay Lane, Halifax, W. Yorkshire, England HX3 6RL
t: +44 (0)1422 344402 f: +44 (0)1422 323533 e: sales@asafe.com
www.asafe.com

Straightness of the upright in length direction (direction of the beams) : gap max 3mm over a straight edge of 1000mm. Localised bends over a length of less than 1 metre may be judged pro –rata to the 1 metre limits.

Maximum allowable front deflection is 3mm

A-Safe Rack Guard Leg protectA (RGLP)

The A-safe Rack Guard Leg protecta is designed to meet the impact loadings as specified in European Racking Code FEM 10.2.02. For frontal impact protection of the pallet racking column,

- The A-Safe RGLP is designed to withstand a minimum impact of at least 400 Nm at any height between 100mm and 400mm
- Reduce the risks of impact damage caused by fork lift trucks or other handling equipment.
- Improves safety and protection of the pallet racks
- Simple design
- Fits multiple rack size from 80mm up to 125mm
- Minimal installation cost, no drilling, fixings or bolting required
- Manufactured from high impact grade polymer
- Fully recyclable
- Designed with energy absorption in mind, under impact or loading the RGLP deforms in shape (absorbing energy from the impact) then returns, once the load is removed, without causing damage to the rack upright column.

Equipment & Test

- Drop test rig with free falling 41.85kg mass having a 100mm x 10mm protrusion,
- Racking type: Speedrack medium duty 80mm x 80mm x 2.0mm
- A-Safe rack Guard Leg Protecta
- Measuring device and straight edge level.

The weight is released from a 1.0m height, resulting in a 410Nm force (13.6kN). Following five consecutive impact test the rack frame had deformed by 1mm.

This is within the maximum allowance limit of 3mm deflection.

A-Safe (UK) Ltd, Shay Lane, Halifax, W. Yorkshire, England HX3 6RL
t: +44 (0)1422 344402 f: +44 (0)1422 323533 e: sales@asafe.com
www.asafe.com