

## Test report summary

### Speed Bolt 2500 joules UR350

**Report No.** TR-17-005  
**Date:** 2017-02-07  
**Place:** Troax Test Center

#### Purpose

To evaluate the function of the Speed Bolt installed in a Musca Anti-collapse system with 150 mm stand-off from the pallet racking using Musca brackets and the UR350 panels.

#### Test material

Panel: UR350 2200x1500, 2200x1000, 1100x1500, 1100x1000 mm  
Fixing: Speed Bolt to fix the Musca bracket and kit secure to lock the panels

The new Speed Bolt is possible to mount on a closed upright pallet rack. The test was done in an installation with UR350 panels with Musca bracket, new Speed Bolt and with Kit Musca secure which holds the panels in place. The total measurements of the mesh wall was L=7700mm and H=4000mm (1500+1500+1000) with approx. 350mm floor distance.

The pallet rack was a standard EAB.

#### Test procedure

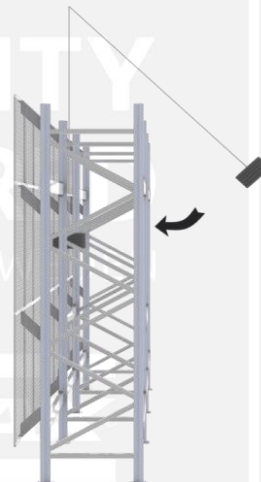
A pendulum of 140 kg was adjusted so that the impact hits one of the panels approx. 2100 mm above the floor (in the middle of the mesh). To reach the energy of 2500 J the 140 kg pendulum was raised 1820 mm from the starting point.

#### Impact energy

Pendulum mass: 140 kg  
Pendulum speed: 21,5 km/h

$$W = m \cdot g \cdot h = 140 \cdot 9,82 \cdot 1820 = 2500 \text{ J}$$

$$W = m \cdot v^2 / 2 = 140 \cdot (21,5 / 3,6)^2 / 2 = 2500 \text{ J}$$



#### Results

The Musca anti-collapse system with Musca bracket and the new Speed Bolt performed well in the test. Despite the very high energy impact there were no penetration and no parts departed. All panels, brackets and retainers remained attached.



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