

## Test report summary

Smart Fix 1600 joules ST20 1250x2

Report No. TR-15-016

Date: 2015-03-10

Place: Troax Test Center

### Purpose

To document the effect of a high energy impact test from inside the hazard zone of a high panel height machine guard, using Smart Fix machine guard system, the 60x40 posts and the ST20 double mesh panels connected with a junction profile.

### Test material

Panel: ST20 1250x1000 mm – 2 units adjoined with a junction profile

Post: Standard post 60x40, system height 2650 mm

Fixing: Smart Fix bracket, 2 for each post

Floor fixing: Fixed to the test rig

### Test procedure

The test was performed in accordance with the pendulum test method stated in ISO 14120:2015 Annex C. Panels and posts were assembled with the Smart Fix system and fastened to the test rig. The pendulum of 100 kg was adjusted so the impact hit the panel at 1466 mm above the floor, i.e. 1316 mm from the bottom of the panel (with a 150 mm floor gap). To reach the energy of 1600 J the 100 kg pendulum was raised 1629 mm from the starting point.

### Impact energy

Pendulum mass: 100 kg

Pendulum speed: 20 km/h

$$E = \frac{mv^2}{2} = \frac{100 * (\frac{20}{3,6})^2}{2} = 1543 J$$

$$E = mgh = 100 * 9,82 * 1.629 = 1600 J$$

### Results

The Smart Fix double panel wall performed well in the test and withstands the high energy impact. The junction profile keeps the two panels adjoined to each other and together with the posts absorb all energy obtaining a remaining deformation. Despite the high energy impact there was no penetration and no parts departed.



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