

Test report summary

Strong Fix 2500 joules ST30

Report No. TR-16-008

Date: 2016-10-10

Place: Troax Test Center

Purpose

To document the effect of a very high energy impact test from inside the hazard zone with Strong Fix machine guard system, the 80x80 post and the ST30 x1200 mm wide mesh panel.

Test material

Panel: ST30 2050x1200 mm
Post: Standard post 80x80
Fixing: Strong Fix bracket
Floor fixing: Bolted 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 Strong Fix system and fastened to the test rig with M12 bolts. The pendulum of 160 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 2500 J the 160 kg pendulum was raised 1563 mm from the starting point.

Impact energy

Pendulum mass: 160 kg
Pendulum speed: 20 km/h

$$E = \frac{mv^2}{2} = \frac{160 \left(\frac{20}{3,6}\right)^2}{2} = 2469 \text{ J}$$

$$E = mgh = 160 * 9,82 * 1,57 = 2467 \text{ J}$$

Results

The Strong Fix wall withstands the very high energy impact. The centre panel absorb all energy and obtain a remaining deformation with a total deflection of approximately 280 mm. The posts remain intact without measurable deformation. Despite the very high energy impact there were no penetration and no parts departed.



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