

Test report summary

Combi Fix 1000 joules ST20

Report No. TR-15-003

Date: 2015-01-23

Place: Troax Test Center

Purpose

To document the effect of a high energy impact test from inside the hazard zone with Combi Fix machine guard system, the 60x40 post and the ST20 x1500 mm wide mesh panel.

Test material

Panel: ST20 2050x1500 mm
Post: Standard post 60x40
Fixing: Combi 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 Combi Fix system and fastened to the test rig with M10 bolts. 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 1000 J the 100 kg pendulum was raised 1018 mm from the starting point.

Impact energy

Pendulum mass: 100 kg
Pendulum speed: 16 km/h

$$E = \frac{mv^2}{2} = \frac{100 * (\frac{16}{3,6})^2}{2} = 987,6 J$$

$$E = mgh = 100 * 9,82 * 1.018 = 1000 J$$

Results

The Combi Fix wall withstands the high energy impact. The centre panel and the posts absorb all energy and obtain a remaining deformation. The total deflection of the panel and the posts was approximately 220 mm. Despite the high energy impact there were no penetration and no parts departed.



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