Test report summary

Rapid Fix 1000 joules ST20

Report No. TR-15-002
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 Rapid 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: Rapid 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 Rapid 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 1446 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 Rapid 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.

Ola Eriksson
R&D Manager Troax AB

Josephine Granell
Product Manager A&R

Adress / Address
Troax AB
Box 89
SE-330 33 Hillerstorp
Sweden

Telefon / Telephone
+46 (0)370 828 00
Fax
+46 (0)370 824 86

Org.nr / Reg.No.
556093-5719

Hemsida / Website
www.troax.com
E-mail
info@troax.com