TEST REPORT – EC Lock
Smart Fix Door, 1600 Joules

Report No. TR-19-024A
Date: 2019-10-01
Place: Troax Test Center

TEST MATERIAL

Door: ST30 2050x1000 mm
Door lock: EC lock (Euro Cylinder Lock)
Panel: ST30 2050x1000 mm (side panels)
Post: 60x40x2200 mm
Fixing: Smart Fix hinge
Floor fixing: Bolted to test rig

PURPOSE

To document the effect of a high energy impact test from inside the hazard zone with Smart Fix machine guard door equipped whit a Euro Cylinder Lock.

TEST PROCEDURE

Pendulum mass: 100 kg
Pendulum speed: 20 km/h
Impact energy: 1600J

The test was performed in accordance with the pendulum test method stated in ISO14120:2015 Annex C. Door blade, EC Lock, panels and posts were assembled with the Smart Fix system according to the assembly instruction and then fixed to the test rig with M10 bolts. The pendulum was adjusted so the impact hits the panel 1466mm above the floor, 2/3 of the total wall height of 2200 mm. To reach the energy of 1600 J the pendulum was raised 1629 mm from the starting point.

RESULTS

The Smart Fix door with the Euro Cylinder Lock withstand the high energy impact. The door panel and the posts absorb all energy and obtain a remaining deformation. The upper corner of the door experienced the most deformation. Due to the impact the lock and catch were slightly unaligned, but remained functional, however it did not locate into position as easily.
Despite the high energy impact there was no penetration and no parts departed.

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