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## Testing of spring break device in accordance with 13241-1

This report is an extract from the main report PX06943A.

### Summary

Table 1 Summary of test results according to EN 12445 and EN 12453

Spring break device	Door weight kg	Fulfils <sup>i)</sup> req.
Doco 29950,29951,29952 and 29953	91 kg	Yes

i) Requirements in *EN 12604: 2000, 4.3.3*, is less than 300 mm dropping distance.

### 1 Introduction

SP has been commissioned by Doco International to perform a test of a spring break device.

Place of testing: Doco test site in Sittard, the Netherlands

Test period: 2010-10-26

### 2 Test performance safe opening test

The spring break device was mounted in a test rig with a rigid frame by the client. The spring break device was tested in accordance with *EN 12605:2000, 5.3.2*. Rupture in the balancing system was simulated by releasing the spring. The door was balanced and measurements were performed, on both sides of the door, in order to determine the distance the door came down after rupture on the spring was simulated.

### 3 Test object

Door Type	Doco test rig for spring break device.
Weight of moving mass	100 kg
Balancing system	1 torsion spring
Drum	Ø 104,6
Spring break device	Doco 29950,29951,29952 and 29953. The four types are identical the only difference is in the fastening plate which not influence the performance of the safety device.

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## 4 Test results

**Table 2** Testing of spring break device Doco 29950,29951,29952 and 29953.

Test No.	Test door leaf weight [kg]	Door dropped <sup>1)</sup> Left side [mm]	Door dropped <sup>1)</sup> Right side [mm]	Remark	Maximum torque [Nm]	Requirement fulfilled
1	100	100	100	Small deformation on wheel tooth	51	Yes
2	100	160	110	Small deformation on wheel tooth	51	Yes

Note 1. Requirement less than 300 mm

## 5 Measurement uncertainty

The total calculated measurement uncertainty for the vertical movements < 2 mm. Reported uncertainty corresponds to an approximate 95 % confidence interval around the measured value. The interval has been calculated in accordance with GUM (The ISO guide to the expression of uncertainty in measurements), which is normally accomplished by quadratic addition of the actual standard uncertainties and multiplication of the resulting combined standard uncertainty by the coverage factor  $k=2$ .

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