TEST REPORT 04 02 23.Z1 + Z11e

This test report is a translation of test report 04 02 23.Z1 + Z11 dated 11 March 2004

ORDER	Determination of sound reduction index as per DIN EN 20 140 Type test as per DIN 52210-03
TEST SPECIMEN	Floor seal forming part of high-performance sound insulating doorset
SYSTEM	Acousticplus
APPLICANT	C.C.E. srl Via dell'Artigianato 16 I – 35010 Villa del Conte Tel.: +39 0499325073 Fax: +39 0499325384
SAMPLING	by applicant, delivered on 23 February 2004
DATE OF TEST	23 February 2004
ORDER NUMBER	K 051
TEST AS PER	DIN EN 20 140-03:1995-05
TEST LOCATION	Stephanskirchen / Rosenheim
CONTENTS	9 pages; incl. this cover sheet and 1 Annex

Contents

1 Preliminary remark

The objective of the test was verification of the sound insulation suitability of a drop-type floor seal type CCE Spezial (hinge side activation) for doorsets.
For this purpose the floor seal was mounted in an "ideally sound-insulating" doorset (see description in Section 2), the frame gasket was sealed with plastic putty. The floor seal was tested "ready for operation" in dropped position.
For comparison and correction the sound insulation of the "ideally sound-insulating" door leaf was also measured.

2 Description of test specimen

Test specimen	Floor seal forming part of high-performance sound insulating doorset
System	Acousticplus - hinge side activation
Structure	Optimised door leaf Main leaf approx. 47 mm thick, multilayer design (single rebate with overlap and frame gasket) with reinforcements made of lead, sheet steel and bitumen heavy sheeting and clad on both sides with sheet steel coated with heavy bitumen, resp. particle board, cavities filled with absorbing material, the claddings taper down to floor joint.
Size of door leaf	985 mm x 1,985 mm
Thickness of door leaf	at top approx. 200 mm, at bottom 57 mm
Seals / gaskets	Lip cavity gaskets made of TPE - in frame - in overlap of door leaf Gaskets (on sides and at top) sealed on both sides with plastic putty except 20 mm distance to bottom.
Floor seal	Type: CCE Spezial, hinge side activation Variant No. 3 production 2004, Drop type, mounted flush in groove, screw-fastened in groove from bottom Seal body with 2 pressure points Dimensions of floor seal (case): width at top / at bottom 15.0 mm height 30.0 mm; length 960 mm Length of gasket: in accordance with frame rebate dimensions (nominal opening width) at floor Material of case: Aluminium Material of sealing lip: TPE and PP Floor gap 4.5 - 5.0 mm
Adjustment	Remaining closing distance measured on lock side when contacting the activation on hinge side: approx. 320 mm

Frame	Wraparound wood frame composed of 25 mm Multiplex with lead and sheet steel reinforcements, Frame completely filled with in-situ foam and sealed on both sides with plastic putty.
Drawing of section	see Annex 1

3 Testing

3.1 Technical equipment

The following devices were used for measurement:

Measuring device type Norsonic 830 manufactured by Norsonic A/S

Loudspeaker amplifier type E120 manufactured by FG Elektronik

Microphone pre-amplifier type 1201, manufactured by Norsonic A/S

Microphone type 1220, manufactured by Norsonic A/S

Calibrator type 1251, manufactured by Norsonic A/S

Rotating microphone boom:	Source room:	Own design
	Receiving room:	Type 212 / N manufactured by Norsonic A/S

Loudspeakers: Dodecahedron; own design

The calibration of the entire measuring chain is checked before each measurement.

The measuring devices are calibrated by the "Eichamt Dortmund" (calibration agency) at regular intervals.

The testing laboratory participates in comparative measurements for testing bodies of Group I at the Physikalisch-Technische Bundesanstalt (PTB) in Braunschweig on a regular basis.

3.2 Test set-up

Connecting wall	Reinforced concrete double wall as per DIN EN ISO 140-01:1998-03 190 mm - 40 mm mineral wool - 170 mm; plaster-finish on both sides
Test noise	Pink noise
Receiving filter	Third-octave band filter
Volumes of test rooms	Source room = 101 m^3, receiving room = 67.5 m^3
Wall opening	1.005 m x 2.010 m = 2.020 m^2 = test area as per DIN EN ISO 140-01:1998-03
Maximum sound reduction index of test opening	Rw = 62 dB, related to test area as per DIN EN ISO 140-01:1998-03
Mounting conditions	Wraparound wood frame (see description in Section 2) mounted in wall opening and aligned with door leaf. Connecting joint completely filled with foamed material and sealed with plastic putty on either side.

Notes

1. Width and height of hole milled for floor seal was fit to size.
   Groove width was 15.0 mm – 15.2 mm.
   Groove depth was 30.5 mm
2. Floor gap: 4.5 - 5.0 mm
3. Depth of floor joint at bottom: 57 mm

4 Detailed results

Measurement was based on DIN EN 20 140-03 "Measurement of sound insulation in buildings and of building elements - Part 3: Laboratory measurements of airborne sound insulation of building elements." The measured values were evaluated as per DIN EN ISO 717-01 "Measurement of sound insulation in buildings and of building elements - Part 1: airborne sound insulation" and the result is expressed as follows:

Measurement	**Test number**	**Test value**
Door leaf with frame gaskets sealed on both sides and floor seal ready for operation.	**040223.Z11**	**R_w = 51* dB**
Door leaf with frame gaskets sealed on both sides around the perimeter in one continuous length and floor seal (maximum sound insulation).	**040223.Z1**	**R_w = 57 dB**

Test area: The test area was represented by the clear dimensions of the test opening. Test area was 2.02 m^2.

5 Reference to DIN 52210

Measurement as type test as per DIN 52210-03.
Designation of method: DIN 52210 - 03 - M - L - P-T
Designation of test rig: DIN 52210 - P-T as per DIN 52210-02

Evaluation as per DIN 52210-04 gives the following results

Measurement	Test number	Test value
Door leaf with frame gasket sealed on both sides and floor seal ready for operation.	040223.Z11	R_w = 51* dB
Door leaf with frame gaskets sealed on both sides around the perimeter in one continuous length and floor seal (maximum sound insulation).	040223.Z1	R_w = 57 dB

* Corrected by maximum sound reduction index (sealed door leaf) as per DIN EN 20 140 –03.

6 Drawing of sections, elevation

Page 9 contains the drawing of the section which has been supplied by the applicant.

7 Notes

7.1 Test reports

Upon request it is possible to prepare the test report according to the requirements of NF S 31-051, E 413-87, and different standards.

7.2 Validity of test results

The test results refer exclusively to the tested specimens (see description on p. 3) and do not have any representative or informative quality as regards the characteristics of the lot, batch or production volume.

This test report refers exclusively to acoustic properties; evaluation does not cover any other criteria.

7.3 Reproduction / Publication

No part of this test report may be reproduced / published without the prior permission of the testing laboratory. Use of texts and drawings contained in the test report for advertising purposes is always subject to prior permission of the testing laboratory.

7.4 Single sheet version

Upon request an authorized single sheet version is been prepared as extract of this test report.

ift Rosenheim
10. March 2009

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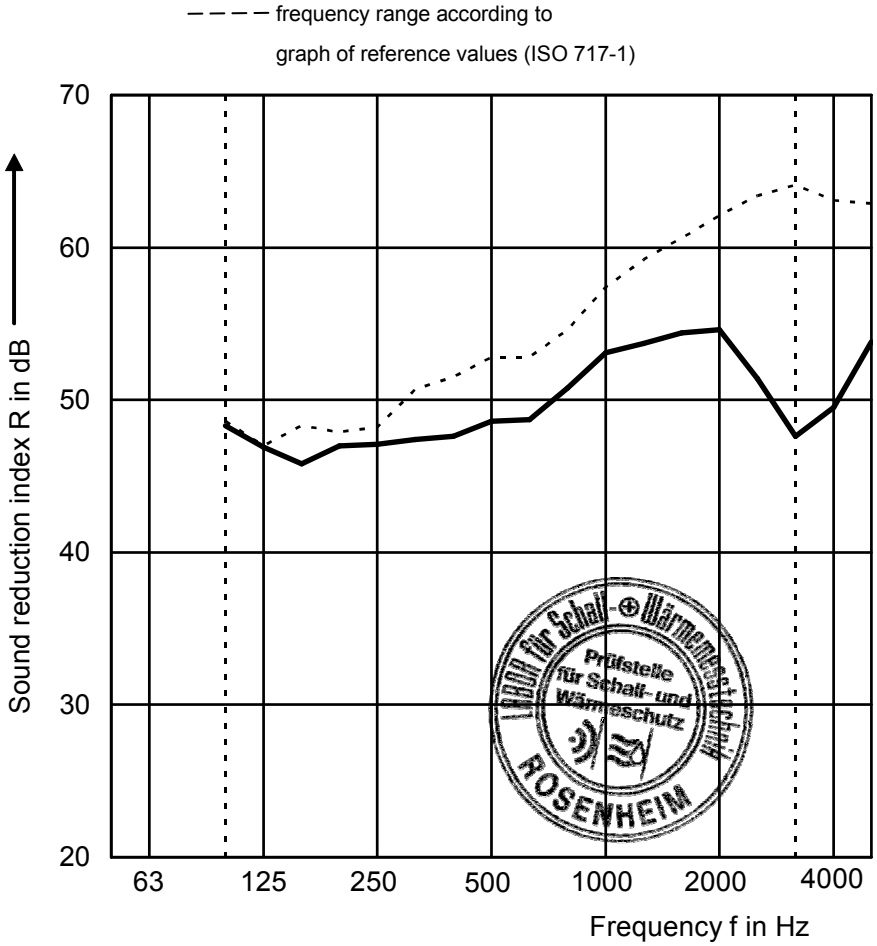
Manufacturer: C.C.E. srl

System Acousticplus
Test room: Door test rig as per DIN EN ISO 140-01
Test date: 23-02-2004

Test specimen mounted by laboratory personnel
Description of test rig, test specimen and test set-up:
Floor seal mounted in ideally sound-insulating door leaf , with 4.5 - 5.0 mm floor gap
Floor seal flush-mounted in groove.
For details refer to Section 2

Area S of doorset	2.02 m^2
Air temp. in test rooms	20 °C
Air humidity in test rooms	35 %
Volume of source room	101 m^3
Volume of receiving room	67.5 m^3

Frequency Hz	R Third-octave dB	R Third-octave leaf value dB
50		
63		
80		
100	48,3	48,6
125	46,9	47,0
160	45,8	48,3
200	47,0	47,9
250	47,1	48,2
315	47,4	50,7
400	47,6	51,5
500	48,6	52,8
630	48,7	52,8
800	50,8	54,6
1000	53,1	57,4
1250	53,7	59,2
1600	54,4	60,6
2000	54,6	62,1
2500	51,4	63,4
3150	47,6	64,1
4000	49,5	63,1
5000	53,8	62,9



Evaluation as per DIN EN ISO 717-1**

Floor seal: $R_w(C;C_{tr})$ = 51 (0; -1) dB***,a) $C_{100-5000}$ = 0 dB; $C_{tr\ 100-5000}$ = -1 dB;

Door leaf: $R_w(C;C_{tr})$ = 57 (-1;-3) dB $C_{100-5000}$ = 0 dB; $C_{tr\ 100-5000}$ = -3 dB;

* corresponds to measurement as per DIN 52210-03 and is considered as type test as per DIN 4109
** evaluation as per DIN 52210 see Section 4
*** corrected by maximum sound reduction index (sealed door leaf) as per DIN EN 20 140 – 03
a) Minimum value as per DIN EN 20140-03 Annex B (correction value 1.3 dB).

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10. March 2009

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Annex 1: Drawing of section of floor seal type CCE Spezial - Acousticplus activation on hinge side; as specified by manufacturer