Test Report
No. 12-003047-PR01
(PB Z10-G03-04-en-01)

This is a translation of the test report 12-003047-PR01 (PB Z10-G03-04-de-01)
dated 01. February 2013

Date 01.February 2013

Client

C.C.E. srl
Costruzioni Chiusure Ermetiche
Via dell´Artigianato 16
35010 Villa del Conte (PD)
Italy

Order Determination of the sound reduction index R according to
EN ISO 10140-1:2010 + A1:2012,
EN ISO 10140-2:2010;
Rating according to EN ISO 717-1 :
1996 + A1:2006

Object Floor seal type"13/28 ASTPL“ in a high- performance sound insulating doorset

Contents

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DAkkS Deutsche Akkreditierungsstelle
D-PL-11349-01-00
D-ZM-11349-01-00

1 Object

1.1 Description of test specimen

Building element	Floor seal in a high-performance sound insulating doorset
Product designation	13/28 ASTPL
Floor seal	floor drop seal, hinge-side activation, screw-fastened into sealing groove, mechanism with 2 contact pressure points
Dimensions of casing (Width / Height / Length)	13 mm x 28 mm x 959 mm
Material of casing*	Aluminium
Material of gasket of floor seal *	PVC
Length of gasket	Corresponds to frame rebate dimensions at floor (the frame rebate dimensions - nominal opening width are: 966 mm)
Groove width	13.0 mm
Groove depth	28.0 mm
Position of the groove	between frame seal and door leaf seal
Air gap / travel of seal	5.0 mm - 4.75 mm
Residual closing travel at start of activation	on lock side: 185 mm
Installation	floor seal screw fastened flush with groove platform
Floor	The floor seal operates against a flat steel bar
Joint depth	57 mm
Doorset	Base leaf 47 mm multilayer door leaf with single rebate, overlap and frame seal. Reinforcements made from lead, sheet steel and heavy-duty bituminous material. Steel sheet lining on both sides, coated with heavy-duty bituminous material, resp. chip board, cavities filled with absorption material. Linings taper towards the floor joint
Size of door leaf	985 mm x 1985 mm
Thickness of doorset	At top 200 mm, at bottom 57 mm
Seals	TPE cavity lip seal in frame and door leaf. Plastic sealant is applied to either side of seals at top and on sides. This side sealing starts at a height of 10 mm above floor.
Frame	Timber wrap-around frame
Design	25 mm Multiplex reinforced with lead and sheet steel, connecting joint of frame fully filled with foam and sealed on either side with plastic sealant.

The description is based on inspection of the test specimen at the **ift** Laboratory for Building Acoustics. Item designations/ numbers as well as material specifications were given by the client. (Further manufacturer data marked with *).)

1.2 Mounting in test rig

- The frame was mounted by the ift Laboratory for Building Acoustics flush with the source room side of partition's test opening of the door test rig „Z", with suppressed flanking transmission according to EN ISO 10140-5:2010; the test rig features an insert frame with 5 cm continuous separating joint which is sealed in the test opening with permanently flexible closed-pore sealant.
- The high-performance sound insulation unit is described in Clause 1 "Object". The acoustic separation of the test rig was not bridged.
- The test opening was arranged with the bottom door edge being close to the floor.
- The door leaf was attached to the frame, both sides of the functional joint were additionally sealed on the sides (except side with 10 mm distance from bottom) and the top using elastic sealant, to prevent leakage through the functional joints at the top and the side.

1.3 Representation of test specimen

The structural details were examined solely on the basis of the characteristics to be classified. The illustrations are based on unchanged documentation provided by the client.

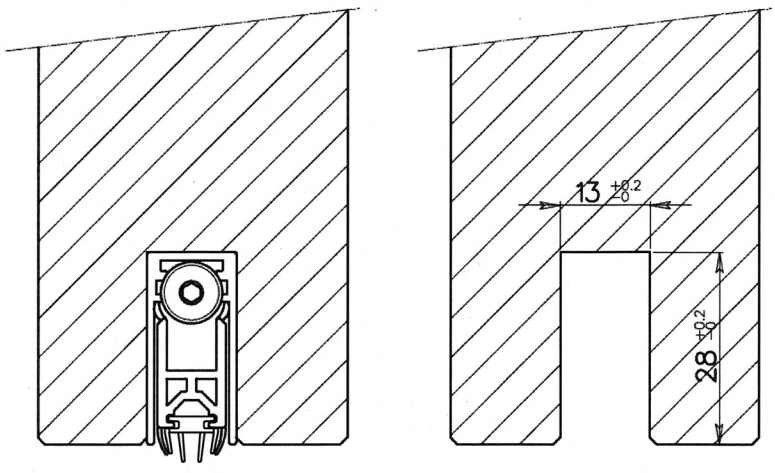

Figure 1 Sectional drawing 13/28 ASTPL

2 Procedure

2.1 Sampling

Sampling	The samples were selected by the client.
Quantity	1
Manufacturer	CCE s.r.l.
Manufacturing plant	Villa del Conte (PD)
Date of manufacture / Date of sampling	18th December 2012
Responsible for sampling	Mr. Luca Geron
Delivery to **ift**	16th January 2013 by the client
ift registration number	33903/5

2.2 Procedure

Goal of the investigation: Test of the acoustic suitability of a lowerable floor seal type "13/28 ASTPL" for doors

Basis

EN ISO 10140-1:2010 + A1:2012 Acoustics; Laboratory measurement of sound insulation of building elements - Part 1: Application rules for specific products (ISO 10140-1:2010 + Amd.1:2012)

EN ISO 10140-2:2010 Acoustics; Laboratory measurement of sound insulation of building elements - Part 2: Measurement of airborne sound insulation (ISO 10140-2:2010)

EN ISO 717-1:1996 + A1:2006 Acoustics; Rating of sound insulation in buildings and of building elements - Part 1: Airborne sound insulation

Correspond/s to the national German standard/s:

DIN EN ISO 10140-1:2012-05, DIN EN ISO 10140-2:2010-12 and DIN EN ISO 717-1 : 2006-11

Boundary conditions	As specified by the standard requirements with the exception of the below stated deviations.
Deviations	The test setup was installed to determine the sound transmission through the floor joint. There fore a high-performance acoustic door leaf was mounted into a special frame and the top and side functional joints were sealed. The door element was in a non-functional condition.
Test noise	Pink noise
Measuring filter	One-third-octave band filter

Background noise	The background noise level was not measured in the receiving room. No correction of sound insulation with background noise level was done.
Maximum sound insulation	Maximum sound insulation of the test setup for the floor seal was determined on the basis of the high-performance sound insulation door leaf described in Section 1. The difference between sound insulation and maximum sound insulation of the test setup is partly below 15 dB. It was corrected by calculation according to DIN EN ISO 10140-2 Annex A. The diagram annexed plots the maximum sound insulation.
Measurement of reverberation time	arithmetical mean: two measurements each of 2 loudspeaker and 3 microphone positions (total of 12 independent measurements).
Measurement equation A	$A = 0{,}16 \cdot \frac{V}{T}$ in m²
Measurement of sound level difference	Minimum of 2 loudspeaker positions and rotating microphones
Measurement equation R	$R = L_1 - L_2 + 10 \cdot \lg\frac{S}{A}$ in dB

LEGEND / KEY

A	equivalent absorption area in m²
L_1	Sound pressure level source room in dB
L_2	Sound pressure level receiving room in dB
R	Sound reduction index in dB
T	Reverberation time in s
V	Volume of receiving room in m³
S	Testing area of the specimen in m²

2.3 Test equipment

Device	Type	Manufacturer
Integrating sound meter	Type Nortronic 840	Norsonic-Tippkemper
Microphone preamplifiers	Type 1201	Norsonic-Tippkemper
Microphone units	Type 1220	Norsonic-Tippkemper
Calibrator	Type 1251	Norsonic-Tippkemper
Dodecahedron loudspeakers	Own design	-
Amplifier	Type E120	FG Elektronik
Rotating microphone boom	Own design / Type 231-N-360	Norsonic-Tippkemper

The **ift** Laboratory for Building Acoustics participates in comparative measurements at the Physikalisch-Technische Bundesanstalt (PTB) in Braunschweig every three years, the last one was in April 2010. The sound level meter used, Series No. 24842, was calibrated by the Dortmund Eichamt (calibration agency) on 20th January 2011. The calibration is valid until 31 December 2013.

2.4 Testing

Date	16th January 2013
Test engineer	Andreas Preuss

3 Detailed results

The values of the measured sound reduction index of the high-performance sound insulating doorset with the tested floor seal are plotted as a function of frequency in the annexed data sheet and tabled.

As per EN ISO 717-1 the weighted sound reduction index R_w and the spectrum adaptation terms C and C_{tr} for the frequency range 100 Hz to 3,150 Hz obtained by calculation are as follows:

$$\mathbf{R_w\,(C;C_{tr}) = 44\,(-1;1)\ dB}$$

According to EN ISO 717-1 the following additional spectrum adaptation terms are obtained:

$C_{50\text{-}3150}$	= -1 dB	$C_{100\text{-}5000}$	= 0 dB	$C_{50\text{-}5000}$	= 0 dB
$C_{tr,50\text{-}3150}$	= 0 dB	$C_{tr,100\text{-}5000}$	= 1 dB	$C_{tr,50\text{-}5000}$	= 0 dB

4 Instructions for use

The **ift guidance** sheet "Conditions and notes for the use of **ift** test documents" applies.

4.1 Validity

The data and results given relate solely to the tested and described specimen.
Testing for sound insulation does not allow any statement to be made on any further characteristics of the present construction regarding performance and quality.

4.2 Test report is not an evidence of suitability/verification of applicability

This test report is not an evidence of suitability/verification of applicability as per DIN 4109: 1989-11. It does not contain a calculated value.

4.3 Test standards

The standard series EN ISO 10140:2010 supersedes those, until the respective date, applicable parts of the standard series EN ISO 140 which describe laboratory tests. According to the two standard series, the test methods are identical.

ift Rosenheim
01. February 2013

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Laboratory manager
Building Acoustics

Sound reduction index according to ISO 10140 - 2

Laboratory measurements of airborne sound insulation of building elements

Client: C.C.E. srl
Costruzioni Chiusure Ermetiche, 35010 Villa del Conte (PD) (Italy)

Product designation 13/28 ASTPL

Design of test specimen

Floor seal in a high-performance sound insulating doorset

Dimensions of casing (w x h x l)	13 mm x 28 mm x 959 mm
Activation	hinge-side
Air gap / travel of seal	5.0 mm - 4.75 mm
Length of gasket	Corresponds to frame rebate dimensions at floor
Dimensions of groove	13.0 mm x 28.0 mm
Mounting	floor seal screw fastened flush into sealing groove

Test date	16th January 2013
Test opening	1.01 m x 2.01 m = 2.03 m^2
Partition wall	Concrete double wall, insert frame
Test noise	pink noise
Volumes of test rooms	V_S = 101 m^3 V_r = 67.5 m^3

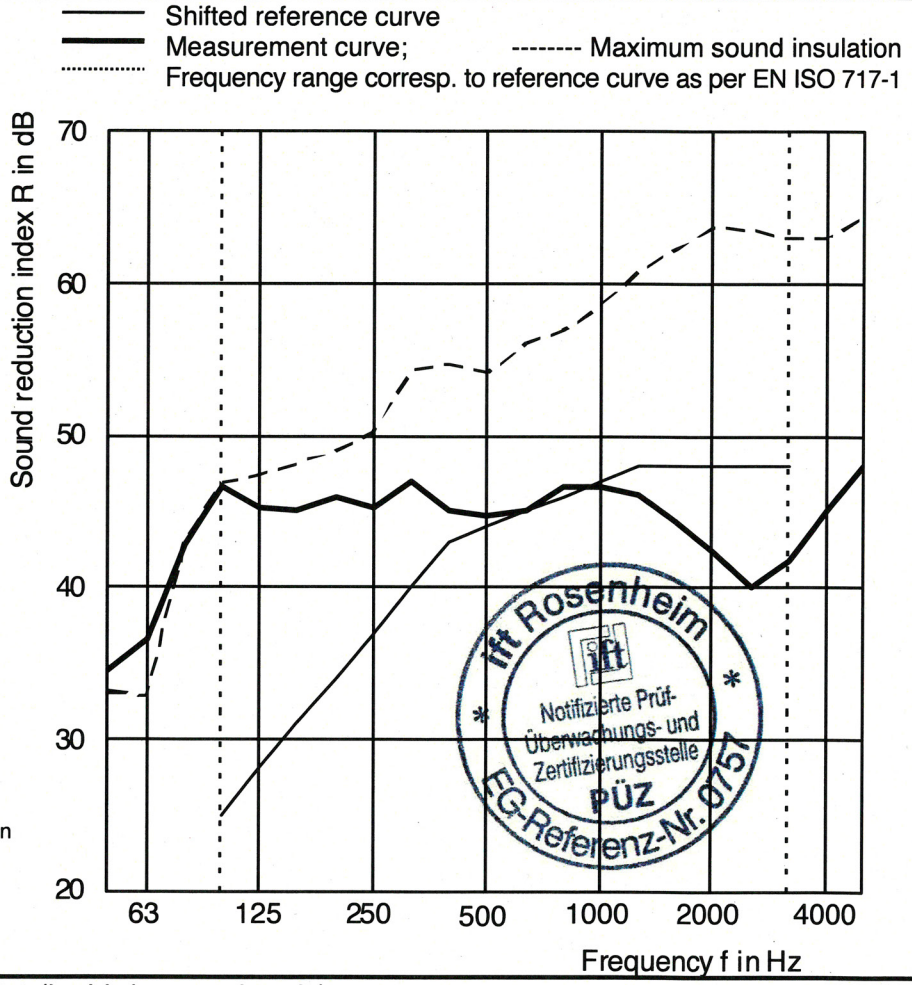
Maximum sound reduction index
$R_{w,max}$ = 59 dB (related to test surface)

Mounting conditions
Floor seal mounted into an ideal sound insulating door leaf

Climate in test rooms 18 °C / 36 % RF / 949 hPa

f in Hz	R in dB
50	34.5*
63	36.5*
80	42.8*
100	46.6*
125	45.3*
160	45.1*
200	46.0*
250	45.3
315	46.9
400	45.0
500	44.8
630	45.1
800	46.7
1000	46.7
1250	46.1
1600	44.4
2000	42.4
2500	40.1
3150	41.7
4000	45.1
5000	48.0

*= Correction with maximum sound reduction
Difference ≤ 6dB



Rating according to EN ISO 717-1 (in third octave bands):

R_w ($C;C_{tr}$) = 44 (-1;1) dB $C_{50\text{-}3150}$ = -1 dB; $C_{100\text{-}5000}$ = 0 dB; $C_{50\text{-}5000}$ = 0 dB

$C_{tr,50\text{-}3150}$ = 0 dB; $C_{tr,100\text{-}5000}$ = 1 dB; $C_{tr,50\text{-}5000}$ = 0 dB

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01. February 2013

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