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## TEST REPORT

No. 2206

Test Subject:

**MEASURING THE SOUND ABSORPTION FACTOR  
ACCORDING TO CSN EN ISO 354 and CSN EN ISO 11654  
Sprayed Foam-Lok™ FL 500 – thickness 160 to 180 mm**

Sponsor:

HONTER Company s.r.o.  
Kubánské nám. 1391/11  
100 00 Praha 10



Test Laboratory Chief: Ing. Miroslav Meller, CSC  
Date of issue: 20<sup>th</sup> February 2012

Stamp and signature:

## 1. Specification of test

The sound absorption factor of insulating sprayed Foam-Lok™ FL 500. Measurements taken in the laboratory conditions using the reverberation method at omnidirectional sound incidence as per CSN EN ISO 354 and CSN EN ISO 11654.

*Order no.:* from day 7<sup>th</sup> February 2012

*Sponsor:* HONTER Company s.r.o.  
Kubánské nám. 1391/11  
100 00 Praha 10

*Manufacturer:* HONTER Company s.r.o.

## 2. Place and date of test

Centrum stavebního inženýrství a.s. (Centre of Building Engineering) – Acoustic Test Laboratory  
Test Laboratory accredited by CAI (Czech Accreditation Institute) No. 1007.5  
Pražská 16, 102 21 Prague 10 Hostivar

*Test rooms* : K4

*Specimen acceptance date* : February 14, 2012

*Specimen installation date* : February 15, 2012

*Test completion date* : February 15, 2012

## 3. Tested constructions

The specimen composition data were taken over from the manufacturer's background papers. The given weights of specimen (or of its parts) are not constituents of the accredited test. They are intended for the inspection and documentation purposes and they are of informative character only.

**Reg. no. A-588 Sprayed Foam-Lok™ FL 500 – thickness 160 to 180 mm**

*Description:* Sample 3 m × 3 m thick 160 to 180 mm consist of 9 panels 1 m × 1 m on a floor in a room K4. Absorbing material is made of polyurethan sprayed foam with scabrous and rigid surface. The specimen was confined to specimen height by white bricks..

*Composition:* The sprayed polyurethan open structure foam is the soft foam with low volume density. It is used for thermal and sound insulation floor and ceiling constructions and attics.

*Thickness in total:* 160 to 180 mm

*Specimen size* : 2.96 m × 2.96 m

*Test surface:* 8.76 m<sup>2</sup>

## 4. Taking and preparing specimens, fabrication method

The measured material is delivered by the Sponsor of test. When taking over the specimens, visual inspection was made for the product type according to the submitted specification. The composition of specimens corresponds to the given description in Part 3. Specimens were freely laid on the floor of K4 reverberation chamber. Installation conforms to the conditions of CSN EN ISO 354.

## 5. Applied test method

Measurement was carried out under laboratory conditions in reverberation rooms of the Acoustic Test Laboratory of CSI a.s. in Prague. Sound absorption was measured in a form of sound absorption coefficient as per CSN EN ISO 354.

The evaluation of measurement results was carried out as per CSN EN ISO 11654 standard. The test's main result that objectively refers to the measured construction are the values of **sound absorption coefficient**  $\alpha_s$  in 1/3 octave frequency bands and **weighed sound absorption coefficient**  $\alpha_w$ .

## 8. Test results

The results of accredited test are detailed both in numerical and graphical form in the annex in Measurement Records no. A-588. The results are clearly stated in Table 2.

Table 2. The sound absorption evaluation results as per CSN EN ISO 11654.

Record reg. no.	Measured construction	Weighed sound absorption coefficient $\alpha_w$ [-]	Sound absorption class
A-588	Sprayed Foam-Lok™ FL 500 thickness 160 to 180 mm	0.70	C

## 9. Measurement uncertainty

The terms repeatability and reproducibility are preferentially used in conformity with CSN ISO 354 to express the measurement accuracy in laboratory conditions. The repeatability and reproducibility indicators are such values below which the absolute values of a difference of two repeated results of tests executed under specified conditions of repeatability and reproducibility are 95% likely to occur. Repeatability usually does not exceed a value of 0.05 and reproducibility a value of 0.10 for the resultant single-digit variables  $\alpha_w$ . Both repeatability and reproducibility of sound absorption coefficient's results were verified by inter-laboratory comparison test, having satisfactory results and certificate no. 01-CSI/06.

## 10. Declaration of Test Laboratory

The test results apply to the given test subject only. The Test Report cannot be considered to be either product's approval or certification (e.g. as amended by Act no. 22/1997 Coll. on technical requirements for products).

The Test Report must not be reproduced in any other form except as a whole without the written consent of the Testing Laboratory. When referring to the test results, the Sponsor is obliged to state the following: "Tested by Accredited Test Laboratory no. 1007.5 - Acoustic Test Laboratory - Centre of Building Engineering Prague".

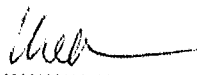
Complaint can be filed with the Report's content by six months from the Report's reception date by customer. Objections and complaints are filed in writing.

Test Laboratory is entitled to use the reference to the agreement on mutual international recognition of test reports and MRA ILAC logotype (Mutual Recognition Arrangement – International Laboratory Accreditation Cooperation).

### Test Laboratory:

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phone 271750450, 281017111  
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Measured by: Ing. Miroslav Meller CSc

Test Leader:   
Ing. Miroslav Meller CSc

**Next appendices are integral component part of test report**

**MEASUREMENT OF SOUND ABSORPTION  
IN A REVERBERATION ROOM  
ACCORDING TO CSN EN ISO 354**

Registration no.:

**A-588**

**Product:** Sprayed Foam-Lok™ FL 500 – thickness 160 to 180 mm

**Specimen description:** Sample 3 m × 3 m thick 160 to 180 mm consist of 9 panels 1 m × 1 m on a floor in a room K4. Absorbing material is made of polyurethan sprayed foam with scabrous and rigid surface. The specimen was confined to specimen height by white bricks.

**Specimen size:** 2,96m × 2,96 m

**Manufacturer:** HONTER Company s.r.o.  
Kubánské nám. 1391/11 – Praha 10

**Test room:** K4

**Date of test:** February 15, 2012

**Room volume:** 80,25 m<sup>3</sup>

**Fabrication date:** February 15, 2012

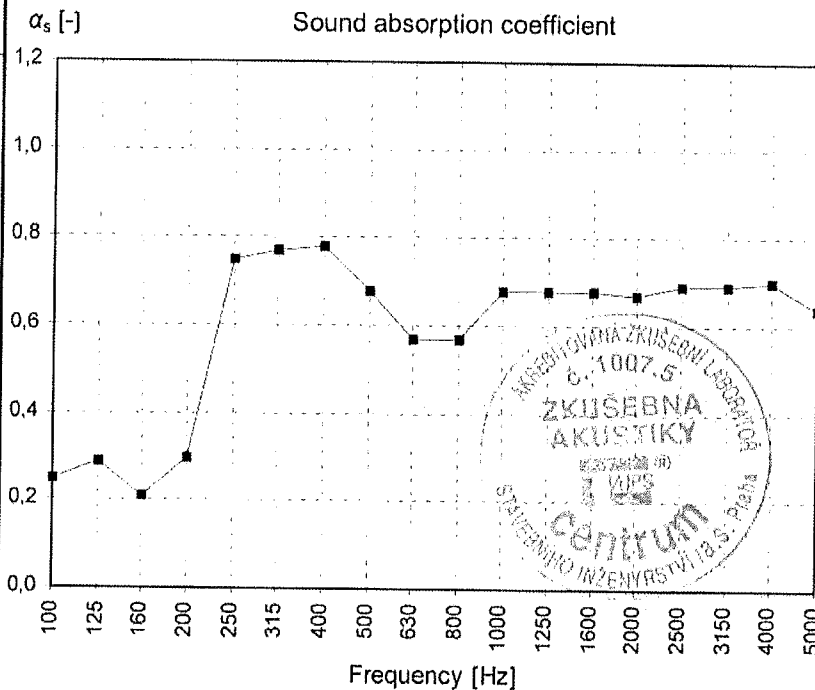
**Air temperature:** 11,8 °C

**Relative humidity:** 40 %

**Reverberation method measurement results according to CSN EN ISO 354  
and CSN EN ISO 11654**

Sound absorption coefficient  $\alpha_s$  in 1/3 octave bands and weighed sound absorption coefficient  $\alpha_w$ :

Frequency [Hz]	$\alpha_s$ [-]
100	0,25
125	0,29
160	0,21
200	0,30
250	0,75
315	0,77
400	0,78
500	0,68
630	0,57
800	0,57
1000	0,68
1250	0,68
1600	0,68
2000	0,67
2500	0,69
3150	0,69
4000	0,70
5000	0,64



Evaluation according to  
CSN EN ISO 11654:

**$\alpha_w = 0,70$**

*Specimen area:* 8,76 m<sup>2</sup>  
*Basic weight:* 7 kg/m<sup>3</sup>

*Spec. thickness:* 160-180 mm  
*Air gap thickness:* -



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Date: February 20, 2012  
Test Laboratory Chief:  
Ing. M. Meller, CSc

CINITEĽ ZVUKOVE POHLTIVOSTI PODĽE CSN EN ISO 354

Vyrobek: Strikana izolacni pena Foam-Lok tl. 16-18 cm

Vyrobce: HONTER Company s.r.o. - Praha 10

Plocha vzorku 8.76 m<sup>2</sup>  
Objem mericniho prostoru K4 80.25 m<sup>3</sup>  
Objem, hmotnost vzorku 7 kg/m<sup>3</sup>  
Teplota vzduchu 11.8 °C  
Relativni vlhkost 40 %  
Datum montaze vzorku 15.2.2012

Popis: Vzorek sestaven z 9 casti 1m x 1m na podlaze K4.  
Strikana PU pena s nerovnomernym povrchem.

NAMERENE HOODNOTY A VYHODNOCENI PODĽE CSN EN ISO 11654:

Pasma [Hz]	A0 [m <sup>2</sup> ]	A1 [m <sup>2</sup> ]	A [m <sup>2</sup> ]	alfa [-]	alfa,p [-]
100	2.24	4.45	2.21	0.25	
125	1.50	4.05	2.56	0.29	0.25
160	1.66	3.50	1.84	0.21	
200	1.75	4.36	2.61	0.30	
250	2.03	8.58	6.55	0.75	0.60
315	2.60	9.31	6.71	0.77	
400	2.57	9.44	6.87	0.78	
500	2.57	8.52	5.95	0.68	0.70
630	2.71	7.72	5.01	0.57	
800	3.12	8.15	5.04	0.57	
1000	3.53	9.44	5.91	0.68	0.65
1250	3.83	9.80	5.97	0.68	
1600	4.32	10.26	5.94	0.68	
2000	5.01	10.85	5.84	0.67	0.70
2500	5.97	12.04	6.08	0.69	
3150	7.25	13.26	6.01	0.69	
4000	8.64	14.75	6.11	0.70	0.65
5000	11.03	16.62	5.59	0.64	
6300	13.82	19.59	5.77	0.66	
8000	18.75	23.03	4.28	0.49	

Stredni cinitel pohltivosti alfa(250-4000 Hz) = 0.68

Stredni cinitel pohltivosti NRC(200-2500 Hz) = 0.65

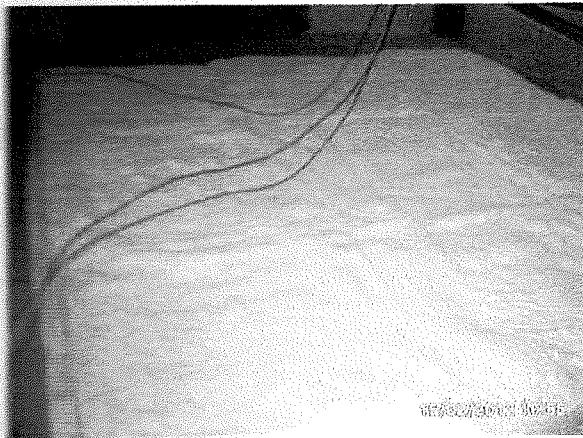
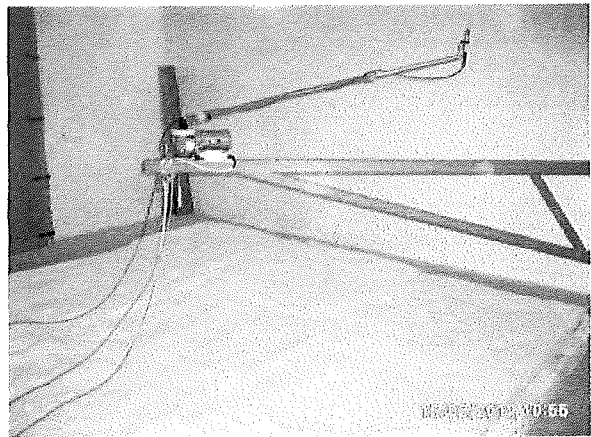
Vazeny cinitel zvukove pohltivosti alfa(w) = 0.70

Meril: Ing. M. Meller CS



Kontroloval: Ing. J. Schwarz (with signature)

Protokol o zkoušce č. 2206  
Strana 7/8



*Specimen location in the test room.*

