MÜLLER-BBM
Accredited Test Laboratory
according to ISO/IEC 17025
Deutscher Akkreditierungs Rat
DAP-PL-2465.10

Address of the testing facility:
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Test certificate

for the determination of the structure-borne sound insulation of elastic mounting elements according to the dual resonator method by means of the methods stated in DIN EN ISO 10846-4

Type of test:	Measurement of vibration transmission factors in the form of velocity level differences of elastic mounting elements
Client:	Hilti Aktiengesellschaft Feldkircherstrasse 100 9494 Schaan Liechtenstein
Date of the test:	2007-08-28 **Test report No.** M68 276/7 of 2007-11-30

Test object:

Name:	Ventilation channel	Manufacturer:	Hilti
Type:	MV-30 with MV-RI	Year of construction:	2007
Product No.:	39630	State:	new
Technical data:			
Height:	30 mm	Material of ventilation channel:	Sheet steel DX51D
Width:	25 mm	Elastic element:	Insulating profile
Coupling of test object:	Threaded rod M8x100mm	Elastic material :	EPDM 55± 5 Shore A

Test method: **Dual resonator method by means of the methods stated in DIN EN ISO 10846-4**
"Laboratory measurement of the vibro-acoustic transfer properties of resilient elements", February 2004
Fixing and coupling of accelerometers according to DIN ISO 5348 "Mechanical mounting of accelerometers".

Vibration excitation signal:	sine sweep signal
Frequency range:	20 Hz up to 2000 Hz

Calibration: According to DIN EN ISO 16063-21 within the scope of Müller-BBM's quality management system
Environmental conditions: Temperature: 20°C, relative humidity: 60 %

Test set-up:

Test object: Installation according to practical use, fixing at exciting mass and isolating mass so that a good contact is guaranteed. Coupling of the vibration exciter via a tappet.

Vibration-exciting equipment:	Brüel & Kjaer 4801	Exciting mass:	30 kg + adapter mass
Vibration initiation:	axial	Isolating mass:	30 kg

Static preload: 0 N, 300 N, 400 N, 500 N.

Test result: Ventilation channel MV-30 with Insulating profile MV-RI

- The effectiveness of structure-borne sound insulation of ventilation channel MV-30 with MV-RI starts at different frequencies: ventilation channel MV-30 „without" elastic element MV-RI: 160 Hz, ventilation channel MV-30 „with" elastic element MV-RI: 80 Hz up to 125 Hz, depending on the static preload.
- Above 125 Hz, a clear increase of the structure-borne sound insulation is achieved with the ventilation channel MV-30 „with" elastic element MV-RI.
- Compared with the ventilation channel MV-30 „without" elastic element MV-RI, the ventilation channel MV-30 „with" elastic element MV-RI achieves an improvement of up to 15 dB.
- For an increase of the static preload up to 500 N, the structure-borne sound insulating effect of the ventilation channel MV-30 „with" elastic element MV-RI decreases by up to 6 dB.
- If the ventilation channel MV-30 „with" elastic element MV-RI is used in a professional way, an improvement of structure-borne sound insulation as defined in DIN 4109, „Sound insulation in buildings" of November 1989 can be achieved.

Place and date: Planegg near Munich, 2007-11-30
Test carried out by: Dr. M. Schmidt

Signature:

Anhang

Ergebnisse der Schwingungsmessungen
Terzspektren der Schnellepegeldifferenzen

Ermittlung der Körperschalldämmung nach dem Tonpilzverfahren und der DIN EN ISO 10846-4

Montageschiene

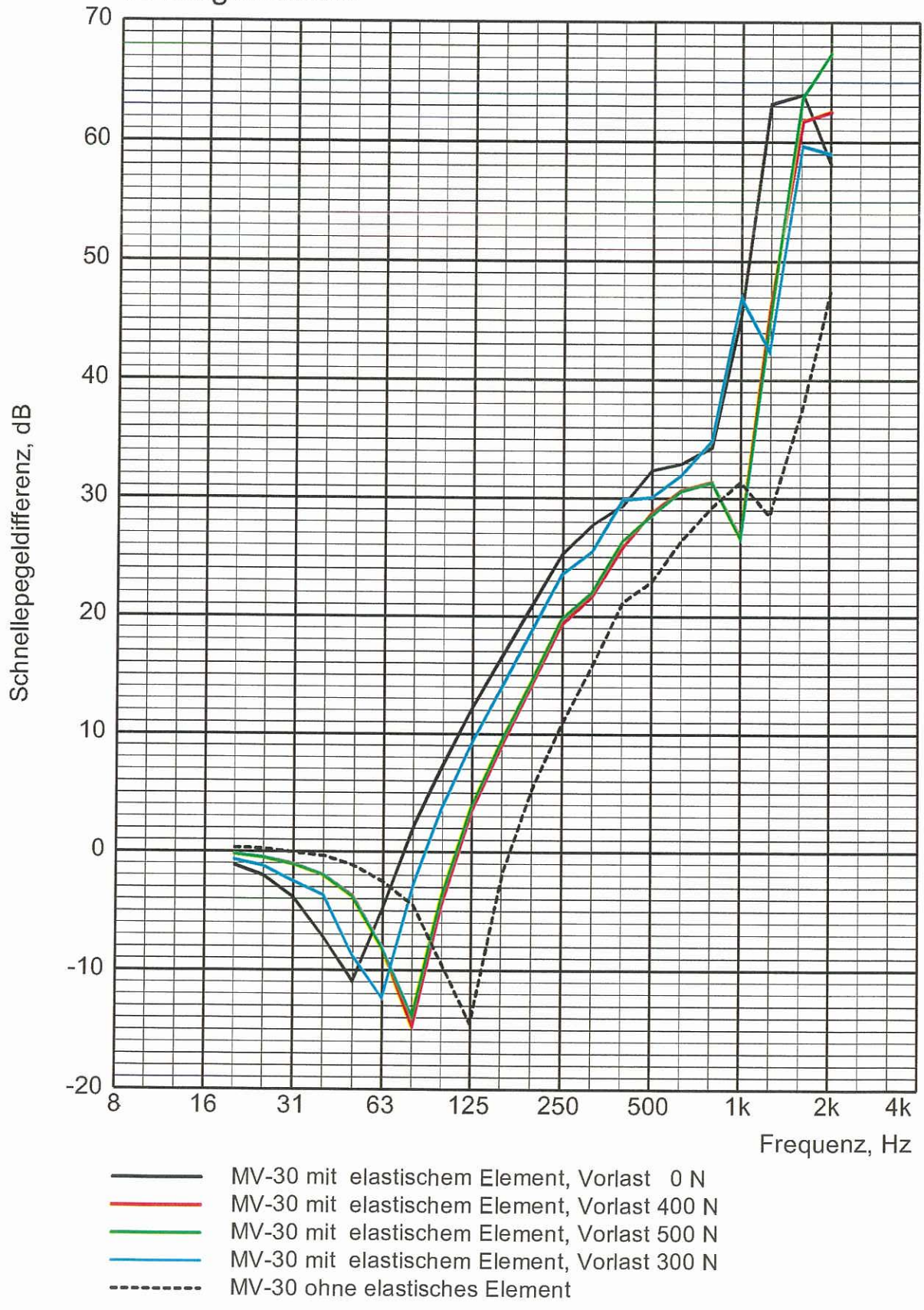

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Abbildung 1