

**Sound reduction test to ISO 140-3, EN 20 140-3  
and DIN 52 210-3**

P-BA 422/1995  
**Illustration 5**

Applicant: Franz Nüsing GmbH & Co KG  
48031 Münster  
Germany

Test of building  
element

**Test specimen:**

Twin shell, movable partition wall of wood panel construction, Type NW 100 CP (see illustrations 1 to 4 and Table 2). The movable wall consisted of 4 individual panels, each 1022 mm wide x 2860 mm high, one of which was a telescopic panel.

**Panel construction:**

- 18 mm outer cladding of wood particle board
- 6 mm acoustic mat (stapled to cladding), mass per unit area: 12 kg/m<sup>2</sup>
- 62 mm void filled with 4 layers of loose laid 15/10 mm mineral fibre  
(Manufacturer's description: G+H, 73T 15/10)
- 16 mm outer cladding of wood particle board

Movable wall thickness: 100 mm  
Mass per unit area: 43 kg / m<sup>2</sup>

For further description,  
see text on Page 2

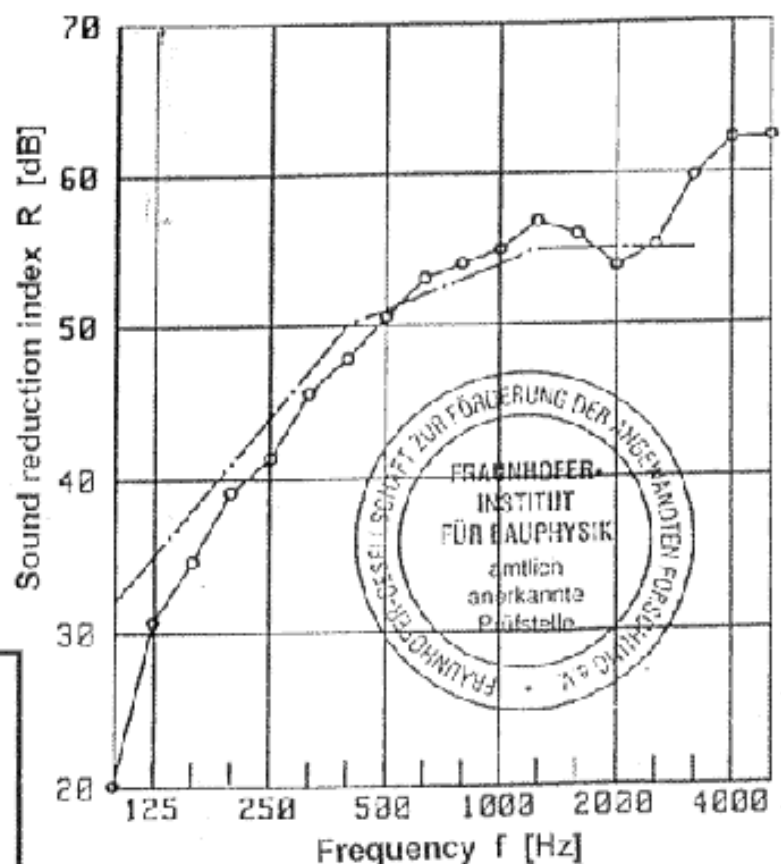
Surface area of wall: 12.5 m<sup>2</sup>  
Test rooms:  
Volumes: V<sub>E</sub> = 68.7 m<sup>3</sup>  
V<sub>R</sub> = 76.3 m<sup>3</sup>  
Type: Laboratory  
Condition: Empty

Test conditions:  
Ambient air temperature: 19° C  
Relative humidity of air: 48 %

Date of test: 4 May 1955

**Weighted Sound Reduction Index  
and Spectrum frequency ranges**

R<sub>w</sub> (C; C<sub>tr</sub>; C<sub>100-5000</sub>; C<sub>tr 100-5000</sub>) =  
51 (-4; -12; -3; -12) dB



Stuttgart,  
12 September 1995

**Fraunhofer-Institut für Bauphysik**



Test facility director:

Dr.-Engineering W Scholl

**Sound reduction test to ISO 140-3, EN 20 140-3  
and DIN 52 210-3**

P-BA 423/1995  
**Illustration 5**

Applicant: Franz Nusing GmbH & Co KG  
48031 Münster  
Germany

Test of building  
element

**Test specimen:**

Twin shell, movable partition wall of wood panel construction, Type NW 100 GP (see illustrations 1 to 4 and Table 2). The movable wall consisted of 4 individual panels, each 1022 mm wide x 2860 mm high, one of which was a telescopic panel.

Panel construction:

- 16 mm outer cladding of wood particle board
- 6 mm acoustic mat (stapled to cladding), mass per unit area: 12 kg/m<sup>2</sup>
- 59 mm void filled with 4 layers of loose laid 13/10 mm mineral fibre (Manufacturer's description: G+H, 73T 13/10)
- 3.2 mm hardboard (stapled to cladding), mass per unit area 3 kg/m<sup>2</sup>
- 16 mm outer cladding of wood particle board

Movable wall thickness: 100 mm

Mass per unit area: 46 kg / m<sup>2</sup>

For further description,  
see text on Page 2

Surface area of wall: 12.5 m<sup>2</sup>

**Test rooms:**

Volumes: V<sub>S</sub> = 68.7 m<sup>3</sup>  
V<sub>R</sub> = 76.3 m<sup>3</sup>

Type: Laboratory  
Condition: Empty

**Test conditions:**

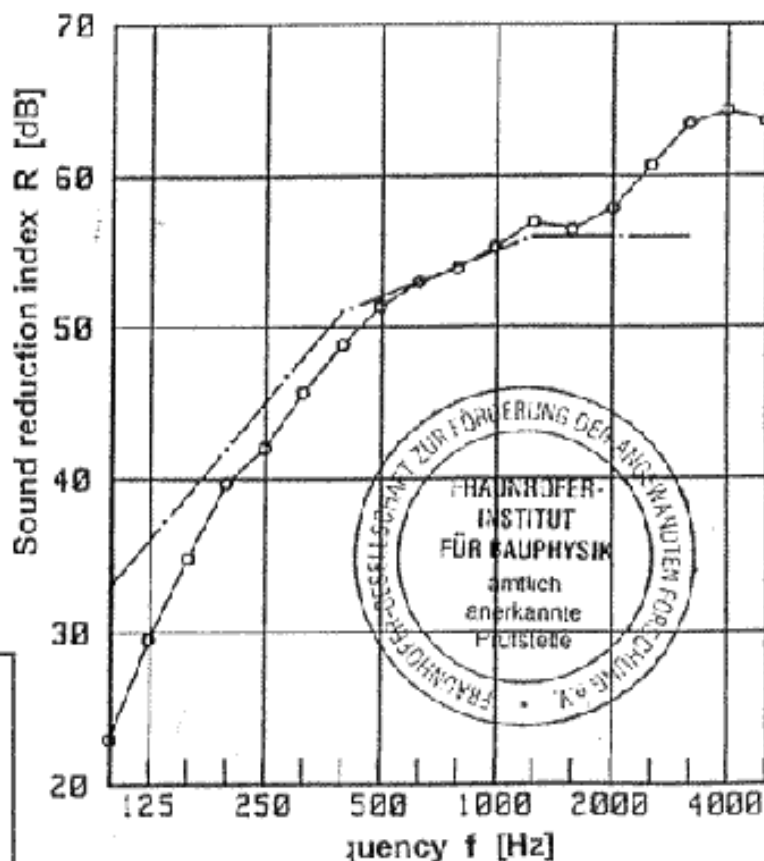
Ambient air temperature: 19° C  
Relative humidity of air: 47 %

Date of test: 4 May 1955

**Weighted Sound Reduction Index  
and Spectrum frequency ranges**

$$R_w (C; C_{tr}; C_{100-5000}; C_{tr 100-5000}) =$$

$$52 (-4; -12; -3; -12) \text{ dB}$$



Stuttgart,  
12 September 1995

**Fraunhofer-Institut für Bauphysik**



Test facility director:

Dr.-Engineering W Scholl

**Sound reduction test to ISO 140-3, EN 20 140-3  
and DIN 52 210-3**

P-BA 418/1995  
**Illustration 5**

Applicant: Franz Nüsing GmbH & Co KG  
48031 Münster  
Germany

Test of building  
element

**Test specimen:**

Twin shell, movable partition wall of wood panel construction, Type NW 100 CP (see illustrations 1 to 4 and Table 2). The movable wall consisted of 4 individual panels, each 1022 mm wide x 2860 mm high, one of which was a telescopic panel.

**Panel construction:**

- 16 mm outer cladding of wood particle board
- 6 mm acoustic mat (stapled to cladding), mass per unit area: 12 kg/m<sup>2</sup>
- 50 mm void filled with 3 layers of loose laid 13/10 mm mineral fibre (Manufacturer's description: G+H, 73T 13/10)
- 2 x 6 mm acoustic mat (stapled to cladding), mass per unit area: 24 kg/m<sup>2</sup>
- 16 mm outer cladding of wood particle board

Movable wall thickness: 100 mm  
Mass per unit area: 66 kg / m<sup>2</sup>

For further description,  
see text on Page 2

Surface area of wall: 12.5 m<sup>2</sup>

**Test rooms:**

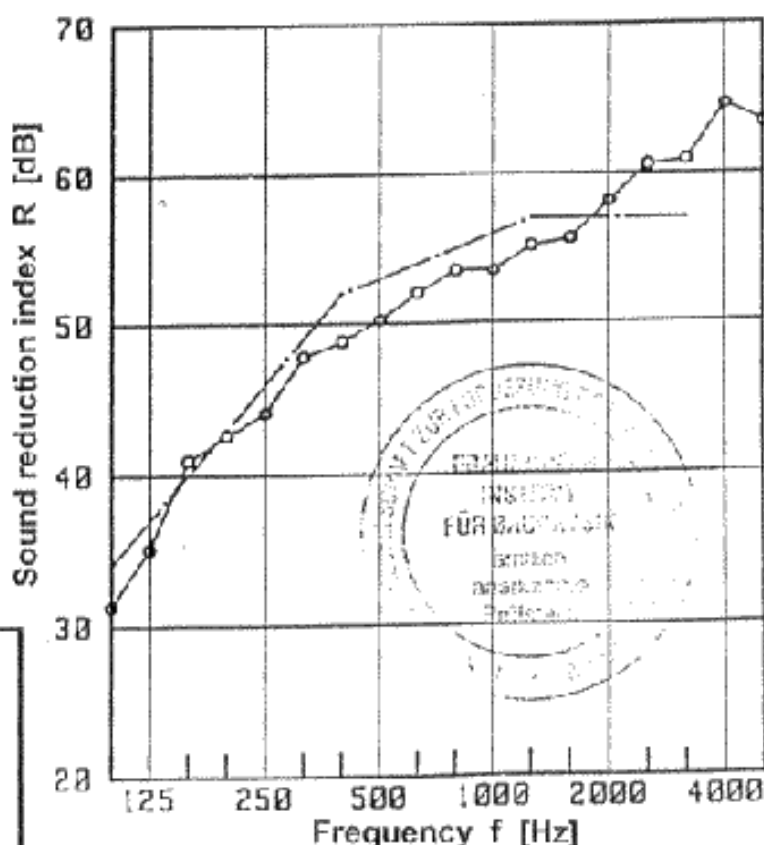
Volumes: V<sub>S</sub> = 68.7 m<sup>3</sup>  
V<sub>R</sub> = 76.3 m<sup>3</sup>

Type: Laboratory  
Condition: Empty

**Test conditions:**

Ambient air temperature: 19° C  
Relative humidity of air: 53 %

Date of test: 28 April 1995



**Weighted Sound Reduction Index  
and Spectrum frequency ranges**

$$R_w (C; C_{125}; C_{100-5000}; C_{10-100-5000}) = 53 (-1; -6; 0; -6) \text{ dB}$$

**Fraunhofer-Institut für Bauphysik**



Stuttgart,  
12 September 1995

Test facility director:

Dr.-Engineering W Scholl

**Sound reduction test to ISO 140-3, EN 20 140-3  
and DIN 52 210-3**

P-BA 419/1995  
**Illustration 5**

Applicant: Franz Nüsing GmbH & Co KG  
48031 Münster  
Germany

Test of building  
element

**Test specimen:**

Twin shell, movable partition wall of wood panel construction, Type NW 100 CP (see illustrations 1 to 4 and Table 2). The movable wall consisted of 4 individual panels, each 1022 mm wide x 2860 mm high, one of which was a telescopic panel.

**Panel construction:**

- 16 mm outer cladding of wood particle board
- 6 mm acoustic mat (stapled to cladding), mass per unit area: 12 kg/m<sup>2</sup>
- 50 mm void filled with 3 layers of loose laid 13/10 mm mineral fibre (Manufacturer's description: G+H, 73T 13/10)
- 2 x 6 mm acoustic mat (stapled to cladding), mass per unit area: 24 kg/m<sup>2</sup>
- 16 mm outer cladding of wood particle board

Movable wall thickness: 100 mm

Mass per unit area: 66 kg / m<sup>2</sup>

For further description,  
see text on Page 2

Surface area of wall: 12.5 m<sup>2</sup>

**Test rooms:**

Volumes: V<sub>S</sub> = 68.7 m<sup>3</sup>

V<sub>R</sub> = 76.3 m<sup>3</sup>

Type: Laboratory

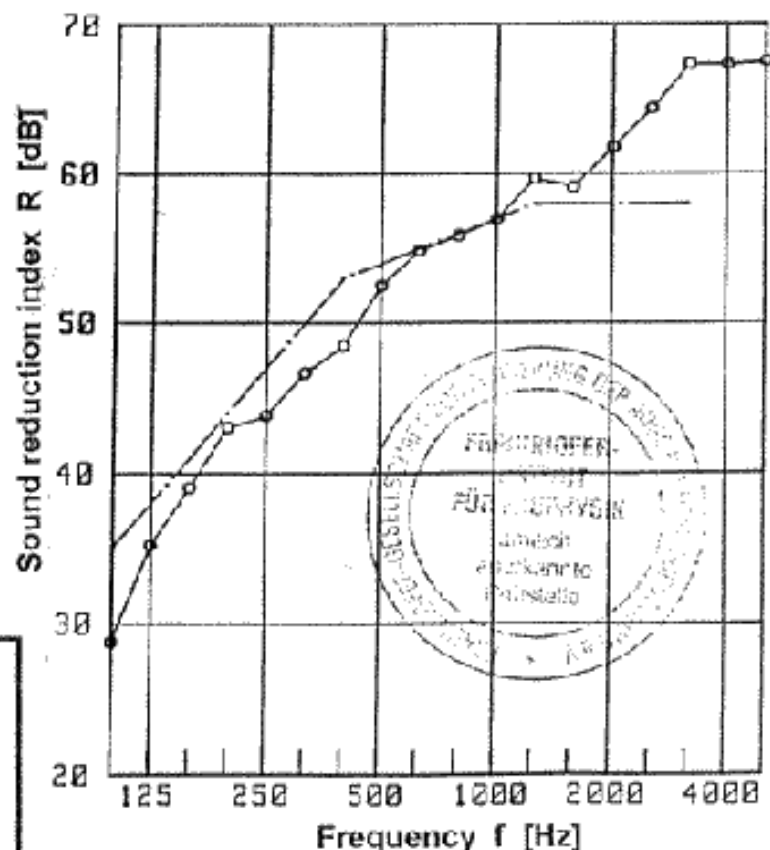
Condition: Empty

**Test conditions:**

Ambient air temperature: 19° C

Relative humidity of air: 54 %

Date of test: 3 May 1995



**Weighted Sound Reduction Index  
and Spectrum frequency ranges**

R<sub>w</sub> (C; C<sub>tr</sub>; C<sub>100-5000</sub>; C<sub>tr 100-5000</sub>) =  
54 (-2; -8; -1; -8) dB

**Fraunhofer-Institut für Bauphysik**



Stuttgart,  
12 September 1995

Test facility director:

Dr.-Engineering W Scholl

**Sound reduction test to ISO 140-3, EN 20 140-3  
and DIN 52 210-3**

P-BA 268/2001  
**Illustration 5**

Applicant: Franz Nüsing GmbH & Co KG  
48163 Münster  
Germany

**Test specimen:**

Twin shell, movable partition wall of wood panel construction (Test Sample S 9066-07), Type NW 100. The movable wall consisted of 4 individual panels, each 1022 mm wide x 2860 mm high, one of which was a telescopic panel. On the telescopic panel, the vertical and horizontal seals were equipped with rubber lip seal profiles. The movable wall was fully operable.

**Panel construction**

- 16 mm outer cladding of wood particle board
- 5 mm acoustic mat (fixed with staples), mass per unit area: 12 kg/m<sup>2</sup>
- 52 mm void containing 4 layers of loose laid 13/10 mineral fibre sheets (Product description: G+H Isover, Type 73T, 13/10. Manufacturer's stated density approx. 70 kg/m<sup>3</sup>)
- 5 mm acoustic mat (fixed with staples), mass per unit area: 12 kg/m<sup>2</sup>
- 16 mm outer cladding of wood particle board

Movable wall thickness: 100 mm

Mass per unit area: 54 kg / m<sup>2</sup>

For further description, see Page 2 of test report together with Illustrations 1 to 4 and Table 2

**Surface area of wall:** 12.5 m<sup>2</sup>

**Test rooms:**

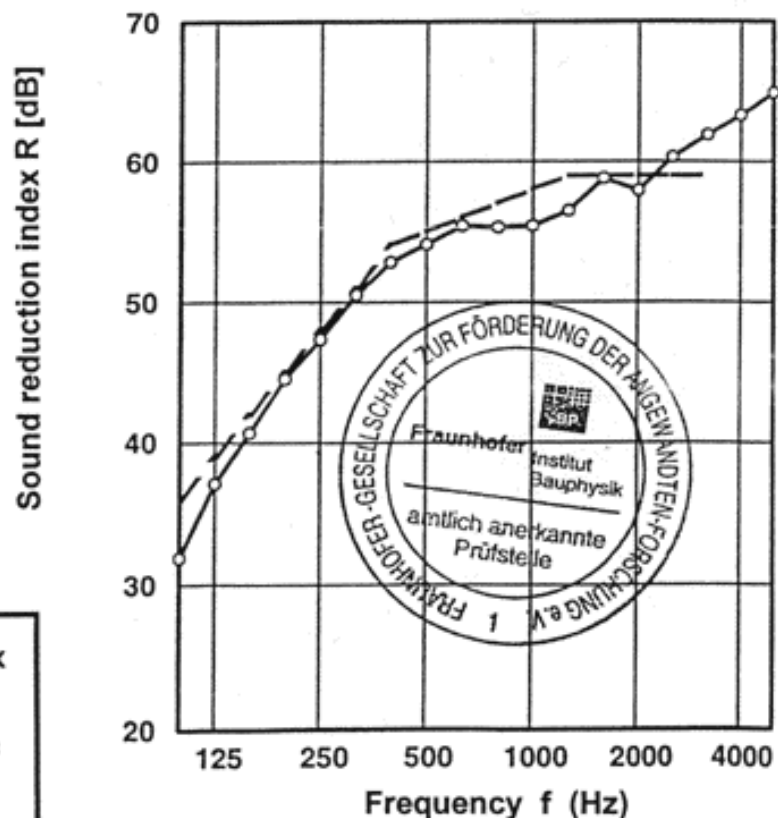
Volumes: V<sub>S</sub> = 68.6 m<sup>3</sup>  
V<sub>R</sub> = 76.4 m<sup>3</sup>

Type: Laboratory  
Condition: Empty

**Test conditions:**

Ambient air temperature: 20° C  
Relative humidity of air: 43 %

**Date of test:** 5 Dec 2001



**Weighted Sound Reduction Index and Spectrum frequency ranges**

R<sub>w</sub> (C; C<sub>tr</sub>; C<sub>100-5000</sub>; C<sub>tr 100-5000</sub>) =  
55 (-1; -6; 0; -6) dB

<p><b>Fraunhofer</b> Institut Bauphysik</p>	<p>The test was carried out in an IBP test laboratory, which is accredited in accordance with DIN 45001 by the DAP under Certificate number DAP-PL-2135.17. Stuttgart 11 December 2001</p> <p>Test facility director: (see signature on German original)</p>
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# Sound reduction test to ISO 140-3, EN 20 140-3 and DIN 52 210-3

P-BA 267/2001  
**Illustration 5**

Applicant: Franz Nüsing GmbH & Co KG  
48163 Münster  
Germany

## Test specimen:

Twin shell, movable partition wall of wood panel construction (Test Sample S 9066-06), Type NW 100. The movable wall consisted of 4 individual panels, each 1022 mm wide x 2860 mm high, one of which was a telescopic panel. On the telescopic panel, the vertical and horizontal seals were equipped with rubber lip seal profiles. The movable wall was fully operable.

## Panel construction

- 16 mm outer cladding of wood particle board
- 5 mm acoustic mat (fixed with staples), mass per unit area: 12 kg/m<sup>2</sup>
- 52 mm void containing 4 layers of loose laid 13/10 mineral fibre sheets (Product description: G+H Isover, Type 73T, 13/10. Manufacturer's stated density approx. 70 kg/m<sup>3</sup>)
- 5 mm acoustic mat (fixed with staples), mass per unit area: 12 kg/m<sup>2</sup>
- 16 mm outer cladding of wood particle board

Movable wall thickness: 100 mm

Mass per unit area: 54 kg / m<sup>2</sup>

For further description, see Page 2 of test report together with Illustrations 1 to 4 and Table 2

Surface area of wall: 12.5 m<sup>2</sup>

## Test rooms:

Volumes: V<sub>S</sub> = 68.6 m<sup>3</sup>  
V<sub>R</sub> = 76.4 m<sup>3</sup>

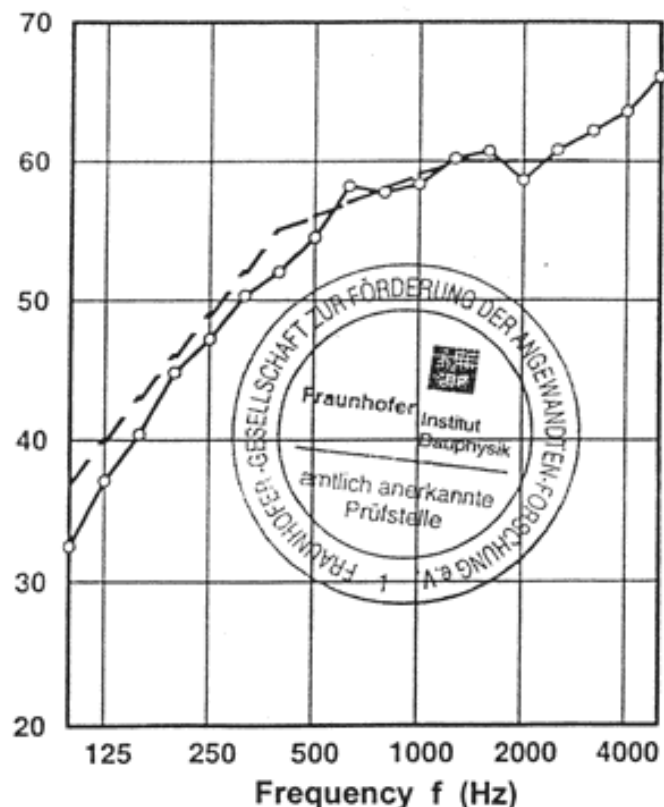
Type: Laboratory  
Condition: Empty

## Test conditions:

Ambient air temperature: 20° C  
Relative humidity of air: 43 %

Date of test: 5 Dec 2001

Sound reduction index R [dB]



## Weighted Sound Reduction Index and Spectrum frequency ranges

R<sub>w</sub> (C; C<sub>tr</sub>; C<sub>100-5000</sub>; C<sub>tr 100-5000</sub>) =  
56 (-2; -7; -1; -7) dB

**Fraunhofer**  
Institut Bauphysik

The test was carried out in an IBP test laboratory, which is accredited in accordance with DIN 45001 by the DAP under Certificate number DAP-PL-2135.17. Stuttgart 11 December 2001

Test facility director: (see signature on German original)

# Sound reduction test to ISO 140-3, EN 20 140-3 and DIN 52 210-3

P-BA 264/2001  
**Illustration 5**

Applicant: Franz Nüsing GmbH & Co KG  
48163 Münster  
Germany

## Test specimen:

Twin shell, movable partition wall of wood panel construction (Test Sample S 9066-03), Type NW 100. The movable wall consisted of 4 individual panels, each 1022 mm wide x 2860 mm high, one of which was a telescopic panel. The movable wall was fully operable.

## Panel construction

16 mm outer cladding of wood particle board  
5 mm acoustic mat (fixed with staples), mass per unit area: 12 kg/m<sup>2</sup>  
52 mm void containing 4 layers of loose laid 13/10 mineral fibre sheets (Product description: G+H Isover, Type 73T, 13/10. Manufacturer's stated density approx. 70 kg/m<sup>3</sup>)  
5 mm acoustic mat (fixed with staples), mass per unit area: 12 kg/m<sup>2</sup>  
16 mm outer cladding of wood particle board

Movable wall thickness: 100 mm

Mass per unit area: 54 kg / m<sup>2</sup>

For further description, see Page 2 of test report together with Illustrations 1 to 4 and Table 2

Surface area of wall: 12.5 m<sup>2</sup>

## Test rooms:

Volumes: V<sub>S</sub> = 68.6 m<sup>3</sup>  
V<sub>R</sub> = 76.4 m<sup>3</sup>

Type: Laboratory  
Condition: Empty

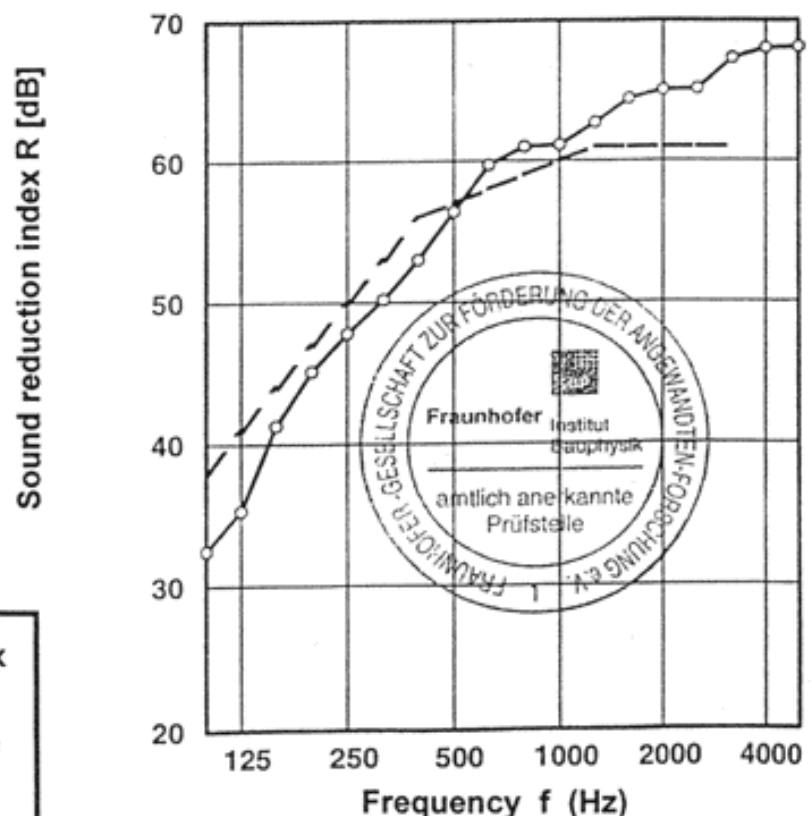
## Test conditions:

Ambient air temperature: 20° C  
Relative humidity of air: 43 %

Date of test: 4 Dec 2001

## Weighted Sound Reduction Index and Spectrum frequency ranges

R<sub>w</sub> (C; C<sub>tr</sub>; C<sub>100-5000</sub>; C<sub>tr 100-5000</sub>) =  
57 (-2; -8; -1; -8) dB



## Fraunhofer

Institut Bauphysik

The test was carried out in an IBP test laboratory, which is accredited in accordance with DIN 45001 by the DAP under Certificate number DAP-PL-2135.17. Stuttgart 11 December 2001

Test facility director: (see signature on German original)

# Sound reduction test to ISO 140-3, EN 20 140-3 and DIN 52 210-3

P-BA 269/2001  
**Illustration 5**

Applicant: Franz Nüsing GmbH & Co KG  
48163 Münster  
Germany

## Test specimen:

Twin shell, movable partition wall of wood panel construction (Test Sample S 9066-03), Type NW 100. The movable wall consisted of 4 individual panels, each 1022 mm wide x 2860 mm high, one of which was a telescopic panel. The movable wall was fully operable.

## Panel construction

- 16 mm outer cladding of wood particle board
- 5 mm acoustic mat (fixed with staples), mass per unit area: 12 kg/m<sup>2</sup>
- 78 mm void containing 6 layers of loose laid 13/10 mineral fibre sheets (Product description: G+H Isover, Type 73T, 13/10. Manufacturer's stated density approx. 70 kg/m<sup>3</sup>)
- 5 mm acoustic mat (fixed with staples), mass per unit area: 12 kg/m<sup>2</sup>
- 16 mm outer cladding of wood particle board

Movable wall thickness: 120 mm

Mass per unit area: 56 kg / m<sup>2</sup>

For further description, see Page 2 of test report together with Illustrations 1 to 4 and Table 2

Surface area of wall: 12.5 m<sup>2</sup>

## Test rooms:

Volumes: V<sub>S</sub> = 68.6 m<sup>3</sup>

V<sub>R</sub> = 76.4 m<sup>3</sup>

Type: Laboratory

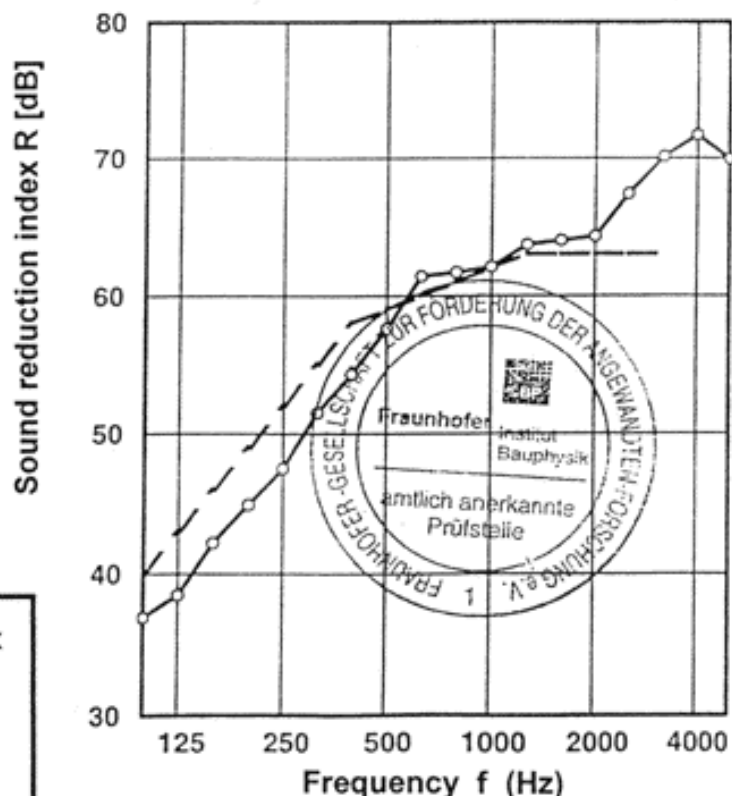
Condition: Empty

## Test conditions:

Ambient air temperature: 20° C

Relative humidity of air: 43 %

Date of test: 6 Dec 2001



## Weighted Sound Reduction Index and Spectrum frequency ranges

R<sub>w</sub> (C; C<sub>tr</sub>; C<sub>100-5000</sub>; C<sub>tr 100-5000</sub>) =

59 (-2; -7; -1; -7) dB

## Fraunhofer

Institut Bauphysik

The test was carried out in an IBP test laboratory, which is accredited in accordance with DIN 45001 by the DAP under Certificate number DAP-PL-2135.17. Stuttgart 11 December 2001

Test facility director: (see signature on German original)