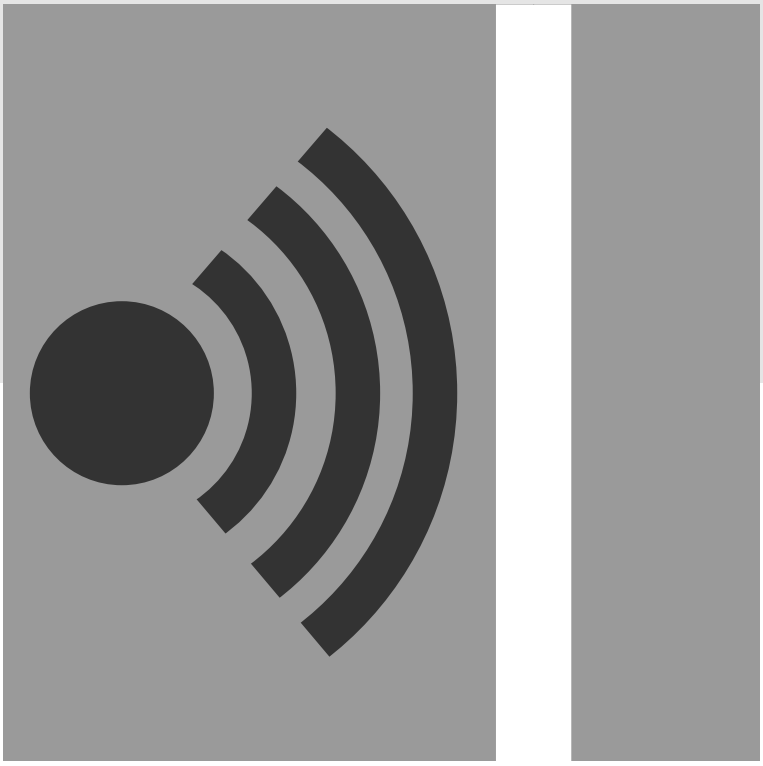
HUGA

DOOR ELEMENTS
COMMERCIAL
RESIDENTIAL



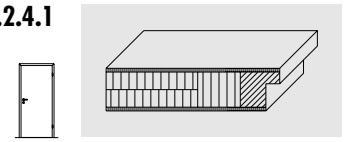
PART 1.2

product

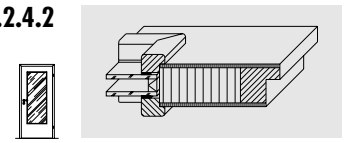
SOUND-INSULATED DOORS

HUGA Sound Insulated Doors WIT (Interior door) per DIN 4109 1.2.3.1

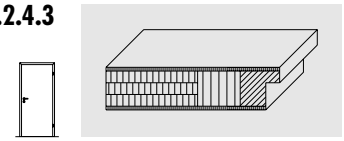
- **Sound insulated door SK I** 1.2.4.1
  Thermal class I
  Stress group M



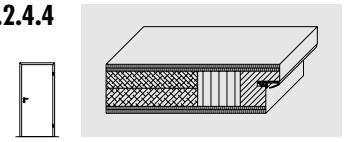
- **Sound insulated door SK I with GCO** 1.2.4.2
  Glass cut-out



- **Sound insulated door SK II** 1.2.4.3
  Thermal rating I
  Stress group M

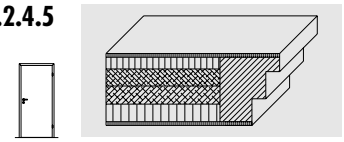


- **Sound insulated door SK III** 1.2.4.4
  Thermal rating I
  Stress group M

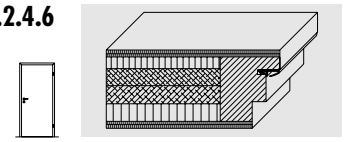


HUGA Sound Insulated Doors WIT Double-Rebate per DIN 4109 1.2.3.2

- **Sound insulated door, double rebate SK III** 1.2.4.5
  Thermal rating I
  Stress group M

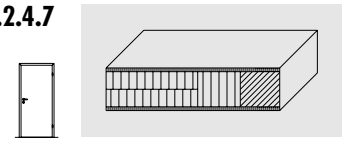


- **Sound insulated door, double rebate SK III plus** 1.2.4.6
  Thermal rating I
  Stress group M

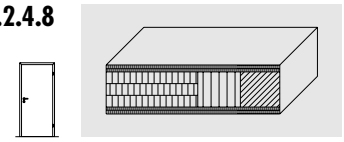


HUGA Sound Insulated Doors WIT ST (flush) per DIN 4109 1.2.3.3

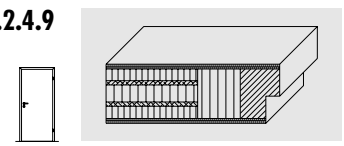
- **Sound insulated door ST SK I** 1.2.4.7
  Thermal rating I
  Stress group S



- **Sound insulated door ST SK II** 1.2.4.8
  Thermal rating I
  Stress group S



- **Sound insulated door ST SK III** 1.2.4.9
  Thermal rating I
  Stress group S



For further information please refer to general section 2.

Sound insulation as a mark of quality

Sound insulation is regarded as one of the most important marks of quality in building. Protection from annoying noise should not only be guaranteed at home; it is just as important for commercial buildings, for offices, doctors' rooms, lawyers' chambers and for all public buildings such as kindergartens, schools or council offices.

Building regulations have clearly set out the technical requirements of sound insulation, for example with the DIN 4109. This contains the following concepts and abbreviations:

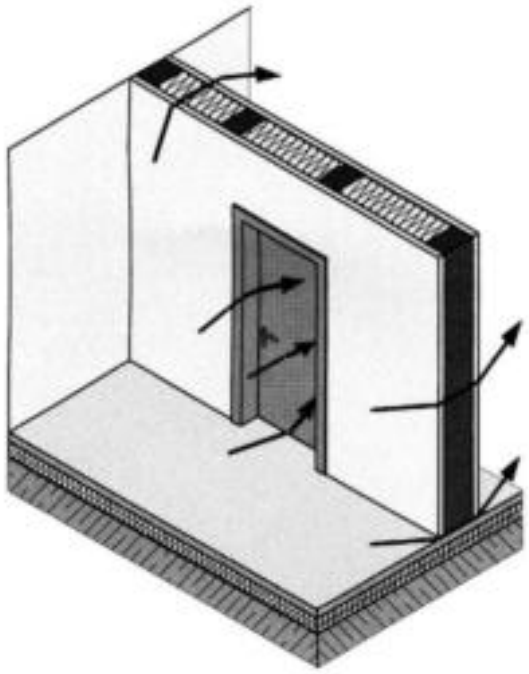
erf.Rw	... "erforderliches Rw" [required standard value] sound insulation requirements per DIN 4109 on a functionally-efficient door on site (≙Rw,P)
Rw	... sound insulation in decibels (dB)
Rw,P	... sound insulation index in testing (dB)
R`w	... sound insulation index in decibels (dB) on site
Rw,R	... standard value per DIN 4109 Rw,R = RwP – 5 dB (expected value on site)
Rw,B	... suitability test III on site, for elements which cannot be installed in test-beds
Frequency	... pitch, vibrations per second

DIN 4109 recommends the appropriate minimum sound insulation requirements of a door between two adjoining rooms. The recommendations have since been anchored in building regulations.

Type of building	Areas and rooms, between which a door should be installed			Erf. R_w (Required standard value) in dB	R_w (sound insulation) in dB
Multi-storey buildings with appartements and offices	Landings and stairwells	⇔	entrance halls and hallways	27 (37) SK I	32 (42)
	Landings and stairwells	⇔	appartment rooms	37 SK III	42
Schools/Training establishments	Entrance halls	⇔	schoolrooms and similar rooms	32 SK II	37
Hotels	Entrance halls	⇔	hotel rooms	32 (37) SK II	37 (42)
Hospitals/ Sanatoriums	Examination rooms or consulting rooms	⇔	examination rooms or consulting rooms and entrance halls	37 SK III	42
	Operating rooms or patients' rooms	⇔	operating rooms or patients' rooms or entrance halls	32 SK II	37

The door as part of total sound insulation

Doors with sound insulation do not have the desired effect on their own. They are only effective when the total sound insulation is right. The large area of wall must have the same sound insulation value as the relatively small door. Waves of sound can find many little gaps to escape through. They penetrate through often unnoticed minor chinks such as open joints and flanks. The risk of open joints in sound insulation can be compared with the risk of tiny splits in water tanks.



The requirements of DIN 4109 apply to the completed element of door leaf and doorframe. In order to achieve the desired level of sound insulation, the seals and connections on the components must receive careful attention.

The door leaf

The most important factors with the construction of the sound-insulated door leaf are the composition and the flexural strength of the sandwich-construction. Multi-layered door leaves have the best insulating effects. They have a mass-spring relationship with which the best building acoustics can be achieved. A pliable layer serves as a spring between the stiff face panels.

HUGA achieves test results of up to 45 dB with these multi-layered door leaves. However, the weight of the door soon climbs to 60 kg/m^2.

Doorframes, Rebates and Seals

The selection of the doorframe is not the decisive factor in sound insulation. The important thing is correct installation (see also "Installation of sound insulation elements"). HUGA can supply its sound insulation programme with the moulded frame, the commercial frame or the steel frame.

Effective sound insulation only occurs when there are no gaps in the connection between door and frame. Open joints reduce the level of sound insulation considerably. Important elements are a wide seal surface and an elastic spring deflection of the door in the cushioning profile of the frame.

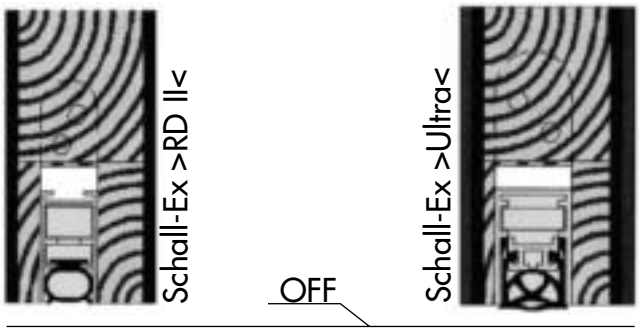
For sound insulation ratings I and II a single sealing plane is enough. To achieve sound insulation rating III, however, a second sealing plane is essential. This is achieved with a double-rebate construction or an additional rebate seal in the door.

The sealing plane is not closed without a tight floor seal, and requires a clean transition to the other sealing elements. The saying goes:

Gaps to the floor
hard to see but easy to hear

We at HUGA use the reliable Schall-Ex-type retractable floor seals.

In order to be able to re-plane sound-insulated doors, the grooves of the floor seals are milled at least 6 mm deeper. The floor seal must be unscrewed, the lower edge is re-planed and then the floor seal can be fixed into the groove again.



Flush Sound Insulated Doors

The construction of a flush sound-insulated door is more expensive than that of a rebated door. The door leaf must demonstrate a higher sound insulation value, because with flush doors there is no sound reflection loss in the joints. We offer our own flush constructions for all three sound insulation ratings.

Thermal Control secures Sound Control

When selecting your sound insulated door do not forget the necessary thermal control. We ensure thermal control in all ratings, also with fire-, smoke- and intruder-proofing.

Door Type	Evidence	Thermal rating	T 30-1	Smoke-proofing	WK2	WK3*	Classical doors
SK I	R_w > 32 dB	I	●	●	●	●	●
SK II	R_w > 37 dB	I + II + III		●	●		●
SK III	R_w > 42 dB	I + II + III	●	●	●	●	●

*acc. to correlation table

For further information please refer to general section 2.

HUGA DOOR ELEMENTS COMMERCIAL RESIDENTIAL

HUGA sound insulated door WIT (Interior door) per DIN 4109

1. Models
HUGA sound insulated door SK I
HUGA sound insulated door SK I with GCO
HUGA sound insulated door SK II
HUGA sound insulated door SK III

2. Multi-functions
Select doors in the index according to primary function

3. Dimensions
max. 2110 x 1110 mm

4. Doorframes
Timber wrap-around frame
Internally fitted timber frame
Steel wrap-around frame
Steel wrap-around frame for subsequent installation
Steel corner frame
Steel face-fixed frame (NL1,NL2)

5. Door leaf
Rebated
Door with glass cut-out
Classical door with surface-mounted mouldings
Designer door Signum/Sueno/Tarsio

6. Surface finishes
Veneer - transparent lacquered
- stained and lacquered
- painted
- untreated

HPL-coated
DURAT-coated
KARAT-coated

7. Types of edging
Veneer edge
Veneer edge exclusive cornice SF-01
Veneer edge exclusive rounded SF-03
Veneer edge Soft SF-04
Plastic edge
Plastic edge exclusive cornice SF-01
Plastic edge exclusive rounded SF-02
Plastic edge exclusive Forma SF-10
Thick edge 3 mm (latch side edge only)
Concealed edge band rebated
Unconcealed edge band rebated
Differing framing timber, eg. beech, oak

Edgings are dependent upon décor

8. Glass cut-out
Rectangular, with glazing Phonestop 22/37, 22 mm, clear.
Glazing beads to match surface finish (with HPL-coating, neutral lacquered)

9. Hinges

9.1 Timber/steel frames
all hinge types possible, eg.
V 4426 WF
VS 3939
VS 3739
VS 8939
VX 7939/160

9.2 Surface finishes, hinges
matt nickel-coated
brass-coated
stainless steel
gunmetal finish
gold-coated
plastic-coated in colour

9.3 Milled hinges
As desired, eg
HEWI, VIELER,
Simons (hinge no. …)

10. Locks
Mortise lock class I-IV
Three-position control
Special lock as required, eg. Card-activated lock
Block lock

Lock plate colours - nickel/lacqu.
- stainless steel
- brass

11. Optional extras
Wide angle spyhole
Book matching (max. 8 doors)
Installation of veneer or HPL surface finishes supplied by customer
Reinforced escutcheons

For further information please see general section 2.

HUGA DOOR ELEMENTS COMMERCIAL RESIDENTIAL

HUGA sound insulated door WIT double-rebate per DIN 4109

1. Models
HUGA sound insulated double rebate door SK III
HUGA sound insulated double rebate door SK III plus

2. Multi-functions
Select doors in the index according to primary function

3. Dimensions
max. 2110 x 1110 mm

4. Doorframes
Double rebate timber wrap-around frame compatible with double rebate steel wrap-around frames

5. Door leaf
Double rebate
Classical door with surface-mounted mouldings
Designer door Signum/Sueno/Tarsio

6. Surface finishes
Veneer - transparent lacquered
- stained and lacquered
- painted
- untreated

HPL-coated
DURAT-coated
KARAT-coated

7. Types of edging
Veneer edge
Veneer edge exclusive cornice SF-01
Veneer edge exclusive rounded SF-03
Veneer edge Soft SF-04
Plastic edge
Plastic edge exclusive cornice SF-01
Plastic edge exclusive rounded SF-02
Thick edge 3mm (latch side edge only)
Concealed edge band rebated
Unconcealed edge band rebated
Differing framing timber, eg. beech, oak

Edgings are dependent upon décor

8. Hinges

8.1 Timber/steel frames
all hinge types possible, eg.
VS 3939
VS 3739
VS 8939
VX 7939/160

8.2 Surface finishes, hinges
matt nickel-coated
brass-coated
stainless steel
gunmetal finish
gold-coated
plastic-coated in colour

8.3 Milled hinges
As desired, eg.
HEWI, VIELER,
Simons (hinge no. …)

9. Locks
Mortise lock class I-IV
Three-position control
Special lock as required,
eg. Card-activated lock
Block lock

Lock plate colours - nickel/lacqu.
- stainless steel
- brass

10. Optional extras
Wide angle spyhole
Book matching (max. 8 doors)
Installation of veneer or HPL surface finishes supplied by customer

For further information please see general section 2.

HUGA sound insulated door WIT ST (flush) per DIN 4109

1. Models
HUGA WIT ST SK I
HUGA WIT ST SK II
HUGA WIT ST SK III

2. Multi-functions
Thermal rating II
Thermal rating III

3. Dimensions
max. 2097 x 1084 mm

4. Doorframes
Timber wrap-around frame
Internally-fitted timber frame
Steel wrap-around frame
Steel wrap-around frame for subsequent installation
Steel corner frame
Steel face-fixed frame (NL1, NL2)

5. Door leaf
Flush
Flush with jamb rebate
Classical door with surface-mounted mouldings
Designer door Signum/Sueno/Tarsio

6. Surface finishes
Veneer - transparent lacquered
- stained and lacquered
- painted
- untreated

HPL-coated
DURAT-coated
KARAT-coated

7. Types of edging
Veneer edge
Veneer edge exclusive cornice SF-01
Veneer edge exclusive rounded SF-03
Veneer edge Soft SF-04
Plastic edge
Plastic edge exclusive cornice SF-01
Plastic edge exclusive rounded SF-02
Thick edge 3mm (latch side edge only)
Concealed edge band rebated
Unconcealed edge band rebated
Differing framing timber, eg. beech, oak

Edgings are dependent upon décor

8. Hinges

8.1 Timber/steel frames
all hinge types possible, eg.
VS 3949
VS 8949
VX 7729 / 160
Tectus TE 510 HU

8.2 Surface finishes, hinges
matt nickel-coated
brass-coated
stainless steel
gunmetal finish
gold-coated
plastic-coated in colour

8.3 Milled hinges
As desired, eg.
HEWI, VIELER,
Simons (hinge no. …)

9. Locks
Mortise lock class I-IV (lock plate width 20 mm)
Three-position control
Special lock as required,
eg. Card-activated lock
Block lock

Lock plate colours
- nickel/lacqu.
- stainless steel
- brass

10. Optional extras
Wide angle spyhole
Book matching (max. 8 doors)
Installation of veneer or HPL surface finishes supplied by customer

For further information please see general section 2.

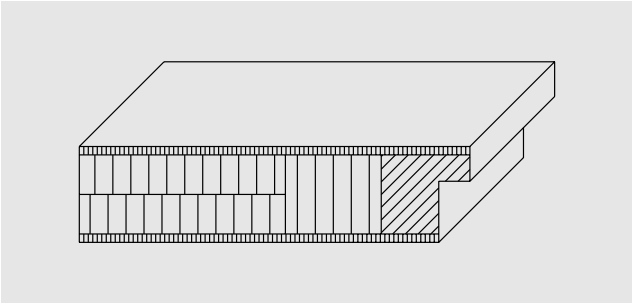
HUGA Sound Insulated Door WIT SK I per DIN 4109

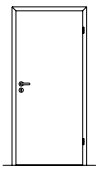
- **Sound insulation rating SK I**
- **Thermal rating I**
- **Stress rating group M**

HUGA DOOR ELEMENTS COMMERCIAL RESIDENTIAL

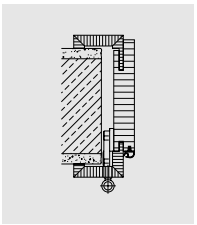
Description

Inspection certificate:	162.13418/1.1.0
Door thickness:	approx. 40 mm
Weight:	approx. 28.1 kg/m²
Heat insulation & value:	approx. 1.85 W/(m²-K)
Sound insulation rating:	SK I (Rw,P = 33 dB) [Rw,P = sound insulation index in testing]
Construction:	framework of solid timber/timber derivative, reinforced, can be shortened up to 50 mm on lower edge
Core:	2 x solid chipboard panels
Face panel:	HDF/MDF seal
Glue:	D2 per DIN EN 204
Boreholes:	per DIN 18101
Rebate:	normal 3-sided rebate 13 x 25.5 mm
Surface finish:	timber veneer, with several coats of satin finish lacquer HPL, DURAT or KARAT coated
Edges:	upright edges timber veneered or coated, upper horizontal rebate coated
Lock:	DIN 18251, class 3, with one side handle, one side knob, punched for profile cylinder
Hinges:	2 x V 0026 WF, nickel-coated
Floor seal:	retractable floor seal
Packaging:	fully sealed carton
Optional extras:	see tender variations

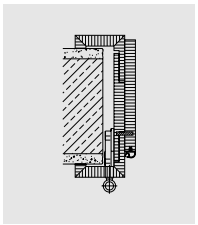




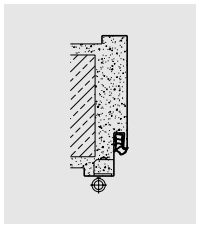
Single door leaf



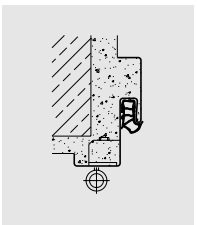
standard frame



alternative standard frame

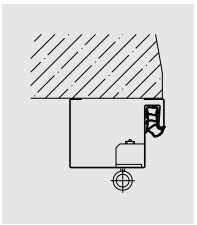


steel wrap-around frame

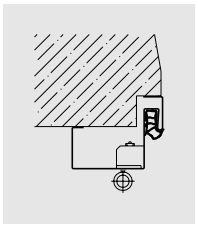


steel corner frame

timber face-fixed standard frame



steel face-fixed frame NL 1



steel face-fixed frame NL 2

Tender Recommendation:

HUGA sound insulated door WIT SK 1, sound insulation rating 1 per DIN 4109, thermal rating 1, stress rating group M, pre-hung per DIN 18101, suitable for standard doorframes of timber or steel.
Framework of solid timber/timber derivative, reinforced. Door thickness approx. 40 mm, central core 2 x solid chipboard panels, HDF/MDF seal, glue D2 per DIN EN 204.
Lock DIN 18251, class 3 with one side handle and one side knob, punched for profile cylinder, hinges 2 x V 0026 WF nickel-coated.
Floor seal retractable: SK 1 (Rw,P = 33dB) [Rw,P = sound insulation index in testing]

Surface

Edges

Measurements

Optional extras

Number

Please see the Variations page of this chapter for further details.

Schalldämm-Maß nach DIN 52 210 Teil 3

Eignungsprüfung I für DIN 4109

Antragsteller: Firma HUGA
4830 Gütersloh 11, Osnabrücker Landstr. 134

Prüfbericht Nr.
162 13418/1.1.0

Beschreibung des Probekörpers:

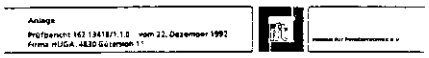
Typbeschreibung:	Wohnungseingangstür
Türblatt:	
Dicke:	40 mm
Außenabmessungen	985 mm × 1985 mm
Flächenbezogene Masse	28,8 kg/m²
Falzausbildung	Einfachfalz
Deckplatte	Furnierlage 0,5 mm
	HFH-Platte 3 mm
Einlage	2 × Holzspanplatten 16 mm
Rahmen	32 mm × 35 mm
Zarge:	Holzzarge
Baurichtmaß	985 mm × 1985 mm
Dichtung:	
Falzdichtung	1 Anschlagdichtung in Zarge
Bodenabschlußdichtung	Schall-Ex RD

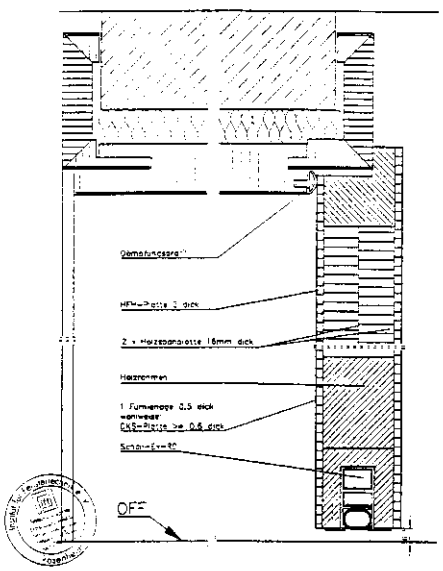
Prüfung DIN 52 210-03-E1-L-P-T **Prüfdatum: 7. Dezember 1992**

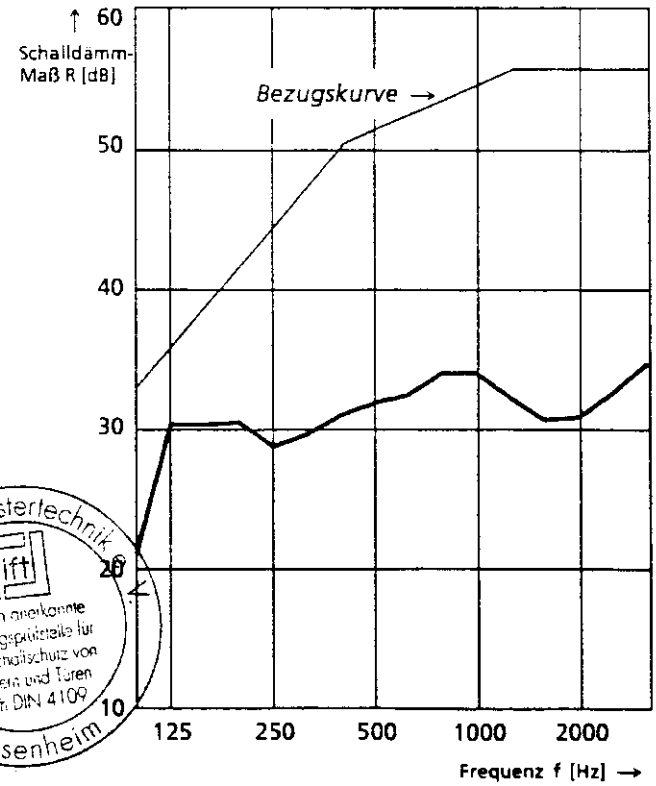
Prüffläche:	1,0m × 2,04m = 2,04m²
Prüfstandstrennwand:	zweischalige Wand, DIN 52 210 Teil 2 (Ausgabe 1984)
Einbaubedingungen:	Befestigung mit Holzkeilen; Anschlußfugen zwischen Zarge und Prüföffnung vollständig mit Mineralwolle ausgestopft; Zier- und Falzbekleidung mit plastischem Dichtstoff gedichtet.
Maximales Schalldämm-Maß:	$R_{w,max}$ = 62 dB
Meßbedingungen:	Prüfschall: Terzrauschen Empfangsfilter: Terzfilter
Volumina der Prüfräume:	V_1 = 89,4 m³ V_2 = 112,7m³

$R_{w,P}$ aus Diagramm R(f); $R_{w,R} = R_{w,P} - 5$ dB

Bewertetes Schalldämm-Maß
Meßwert $R_{w,P} = 33$ dB
Rechenwert $R_{w,R} = 28$ dB







Rosenheim, den 22. Dezember 1992

Prüfstellenleiter
Dr. R. Schumacher

Institut für Fenstertechnik e.V.

HUGA Sound Insulated Door WIT SK I with Glass Cut-out

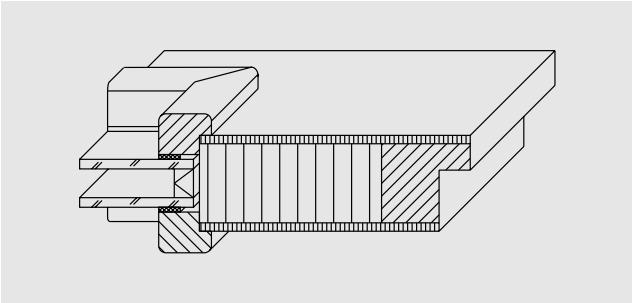
per DIN 4109

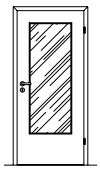
- **Sound insulation rating SK I**

HUGA DOOR ELEMENTS COMMERCIAL RESIDENTIAL

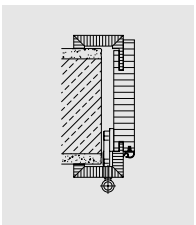
Description

Inspection certificate:	162.13662/1.6.0
Door thickness:	approx. 40 mm
Weight:	approx. 26.7 kg/m²
Heat insulation & value:	approx. 1.85 W/(m²-K)
Sound insulation rating:	SK I (Rw,P = 34 dB) [Rw,P = sound insulation index in testing]
Construction:	framework of solid timber/timber derivative, can be shortened up to 50 mm on lower edge
Core:	solid chipboard panel
Face panel:	HDF/MDF seal
Glue:	D2 per DIN EN 204
Boreholes:	per DIN 18101
Rebate:	normal 3-sided rebate 13 x 25.5 mm
Surface finish:	timber veneer, with several coats of satin finish lacquer HPL, DURAT or KARAT coated
Edges:	upright edges timber veneered or coated, upper horizontal rebate coated
Glass cut-out:	rectangular, Phonestop glazing 22/37, 22 mm, clear glazing beads compatible with surface finish, HPL coating neutral-lacquered
Lock:	DIN 18251, class 3, with one side handle, one side knob, punched for profile cylinder
Hinges:	2 x V 0026 WF, nickel-coated
Floor seal:	retractable floor seal
Packaging:	fully sealed carton
Optional extras:	see tender variations

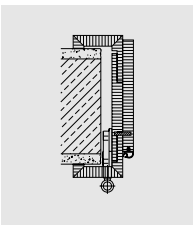




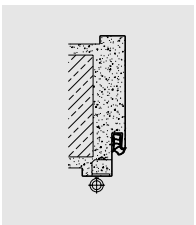
Single door leaf



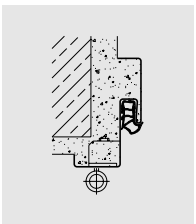
standard frame



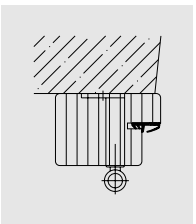
alternative standard frame



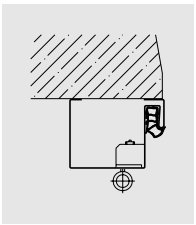
steel wrap-around frame



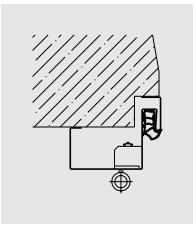
steel corner frame



timber face-fixed standard frame



steel face-fixed frame NL 1



steel face-fixed frame NL 2

Tender Recommendation:

HUGA sound insulated door WIT SK 1 with glass cut-out, sound insulation rating 1 per DIN 4109, pre-hung per DIN 18101, compatible with standard doorframes of timber or steel. Framework of solid timber/timber derivative. Door thickness approx. 40 mm, central core solid chipboard panel, HDF/MDF seal, glue D2 per DIN EN 204. Glass cut-out rectangular, with Phonestop 22/37 glazing, 22 mm, clear.
Lock DIN 18251, class 3 with one side handle and one side knob, punched for profile cylinder, hinges 2 x V 0026 WF nickel-coated. Floor seal retractable: SK 1 (Rw,P = 34 dB) [Rw,P = sound insulation index in testing]

Surface

Edges

Measurements

Optional extras

Number

Schalldämm-Maß nach DIN 52 210 Teil 3

Eignungsprüfung I für DIN 4109

Antragsteller: Firma HUGA Hubert Gaisendrees
4830 Gütersloh 11, Osnabrücker Landstr. 134

Prüfbericht Nr.
162 13662/1.6.0

Beschreibung des Probekörpers:

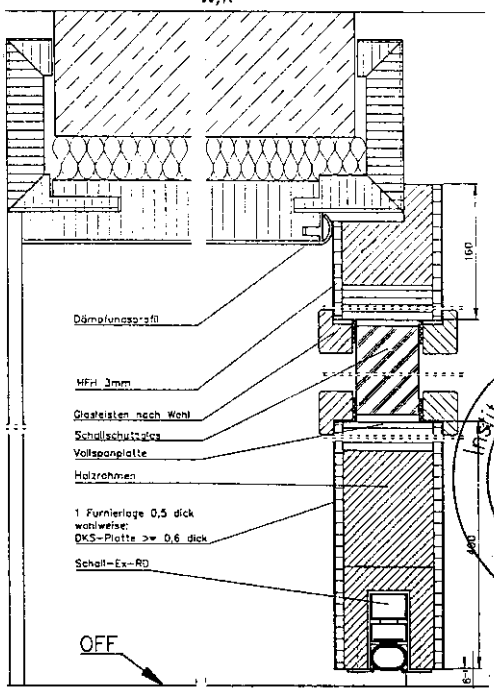
Typbeschreibung:	Innentür aus Holz und Holzwerkstoffen mit Glasfüllung in Holzzarge
Türblatt:	
Dicke:	40 mm
Außenabmessungen	985 mm × 1985 mm
Flächenbezogene Masse	25,5 kg/m²
Falzausbildung	Einfachfalz
Deckplatte	Hartfaserplatte 3 mm dick
Einlage	Vollspanplatte
Rahmen	ca. 35 mm breiter Massivholzrahmen
Verglasung	6/12/4 mm Isolierglas, luftgefüllt
Zarge:	Holzzarge
Baurichtmaß	985 mm × 1985 mm
Dichtung:	
Falzdichtung	1 Anschlagdichtung in der Zarge
Bodenabschlußdichtung	Schall-Ex-RD

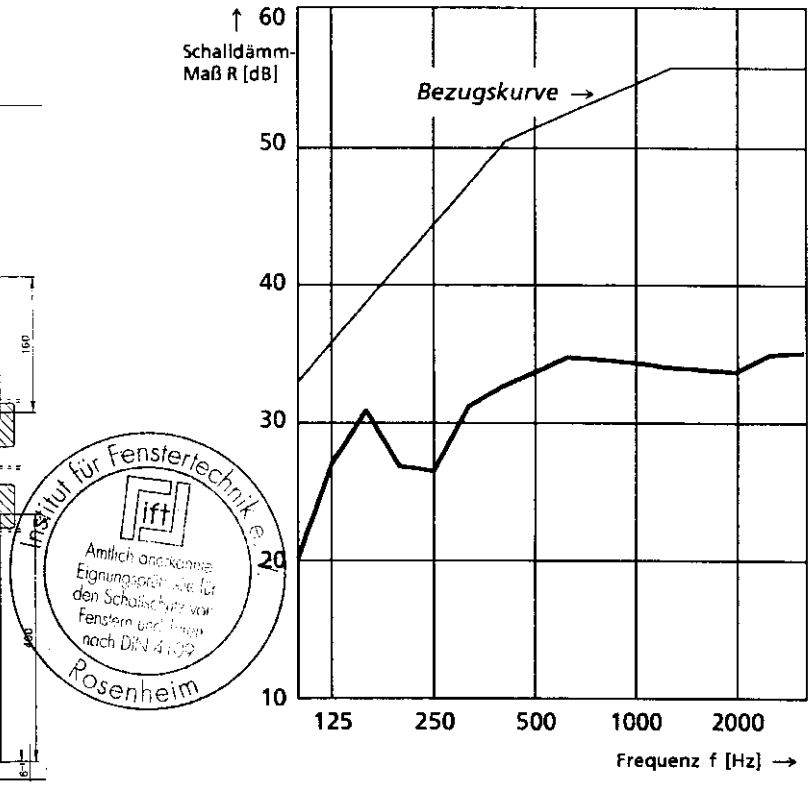
Prüfung DIN 52 210–03–E1–L–P–T **Prüfdatum:** 10. März 1993

Prüffläche:	1,00m × 2,04m = 2,04m²
Prüfstandstrennwand:	zweischalige Wand, DIN 52 210 Teil 2 (Ausgabe 1984)
Einbaubedingungen:	Befestigung mit Holzkeilen; Anschlußfugen zwischen Zarge und Prüföffnung vollständig mit Mineralwolle ausgestopft; Zier- und Falzbekleidung mit plastischem Dichtstoff gedichtet.
Maximales Schalldämm-Maß:	$R_{w,max}$ = 62 dB
Meßbedingungen:	Prüfschall: Terzrauschen Empfangsfilter: Terzfilter
Volumina der Prüfräume:	V_1 = 89,4 m³ V_2 = 112,7m³

$R_{w,P}$ aus Diagramm R(f); $R_{w,R} = R_{w,P} - 5$ dB

Bewertetes Schalldämm-Maß
Meßwert $R_{w,P} = 34$ dB
Rechenwert $R_{w,R} = 29$ dB





Institut für Fenstertechnik e.V. Amtlich anerkannte Eignungsprüfstelle für den Schallschutz von Fenstern und Türen nach DIN 4109 ift Rosenheim

Rosenheim, den 8. April 1993

Prüfstellenleiter
Dr. R. Schumacher

Institut für Fenstertechnik e.V.

Certificates
Sound Insulated Doors

Subject to errors and omissions.

We reserve the right to make structural changes. Status 06/2004.

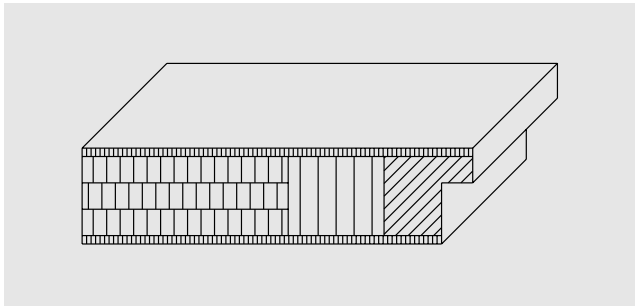
HUGA Sound Insulated Door WIT SK II per DIN 4109

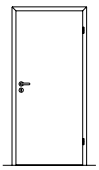
- **Sound insulation rating SK II**
- **Thermal rating I**
- **Stress rating group M**

HUGA DOOR ELEMENTS COMMERCIAL RESIDENTIAL

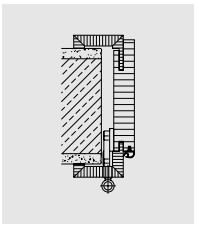
Description

Inspection certificate:	162.13662/1.4.0
Door thickness:	approx. 40 mm
Weight:	approx. 28.9 kg/m²
Heat insulation & value:	approx. 1.85 W/(m²-K)
Sound insulation rating:	SK II (Rw,P = 37 dB) [Rw,P = sound insulation index in testing]
Construction:	framework of solid timber/timber derivative, reinforced. Can be shortened up to 50 mm on lower edge
Core:	3 x solid chipboard panel
Face panel:	HDF/MDF seal
Glue:	D2 per DIN EN 204
Boreholes:	per DIN 18101
Rebate:	normal 3-sided rebate 13 x 25.5 mm
Surface finish:	timber veneer, with several coats of satin finish lacquer HPL, DURAT or KARAT coated
Edges:	upright edges timber veneered or coated, upper horizontal rebate coated
Lock:	DIN 18251, class 3, with one side handle, one side knob, punched for profile cylinder
Hinges:	2 x V 0026 WF, nickel-coated
Floor seal:	retractable floor seal
Packaging:	fully sealed carton
Optional extras:	see tender variations

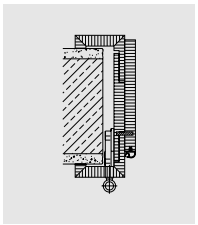




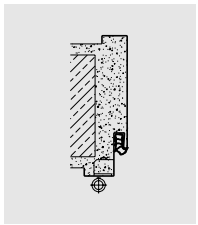
Single door leaf



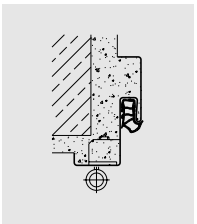
standard frame



alternative standard frame

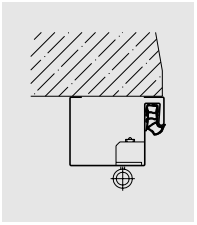


steel wrap-around frame

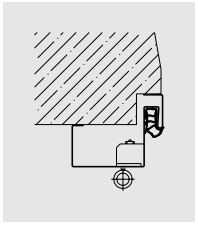


steel corner frame

timber face-fixed standard frame



steel face-fixed frame NL 1



steel face-fixed frame NL 2

Tender Recommendation:

HUGA sound insulated door WIT SK II, sound insulation rating II per DIN 4109, thermal rating I, stress rating group M, pre-hung per DIN 18101, compatible with standard doorframes of timber or steel.
Framework of solid timber/timber derivative, reinforced. Door thickness approx. 40 mm, central core 3 x solid chipboard panel, HDF/MDF seal, glue D2 per DIN EN 204.
Lock DIN 18251, class 3 with one side handle and one side knob, punched for profile cylinder, hinges 2 x V 0026 WF nickel-coated.
Floor seal retractable: SK II (Rw,P = 37 dB) [Rw,P = sound insulation index in testing]

Surface

Edges

Measurements

Optional extras

Number

Please see the Variations page of this chapter for further details.

Schalldämm-Maß nach DIN 52 210 Teil 3

Eignungsprüfung I für DIN 4109

Antragsteller: Firma HUGA Hubert Gaisendrees
4830 Gütersloh 11, Osnabrücker Landstr. 134

Prüfbericht Nr.
162 13662/1.4.0

Beschreibung des Probekörpers:

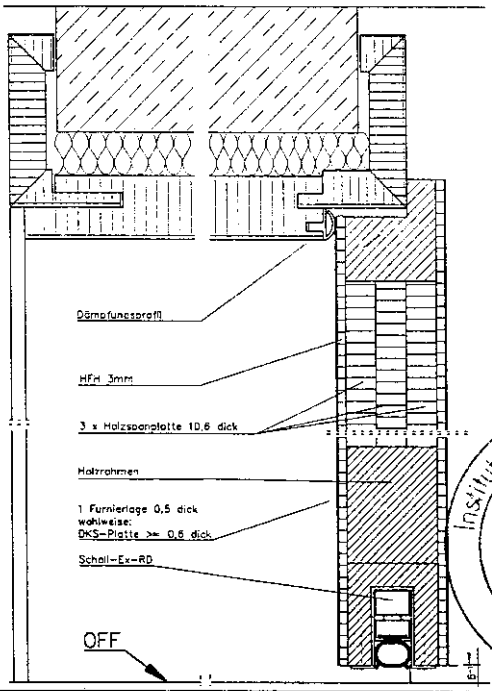
Typbeschreibung:	Innentür aus Holz und Holzwerkstoffen
Türblatt:	
Dicke:	40 mm
Außenabmessungen	985 mm × 1985 mm
Flächenbezogene Masse	25,7 kg/m²
Falzausbildung	Einfachfalz
Deckplatte	Hartfaserplatte 3 mm dick
Einlage	3 × 10,6 mm Holzspanplatten
Rahmen	ca. 35 mm breiter Massivholzrahmen
Zarge:	Holzzarge
Baurichtmaß	985 mm × 1985 mm
Dichtung:	
Falzdichtung	1 Anschlagdichtung in der Zarge
Bodenabschlußdichtung	Schall-Ex-RD

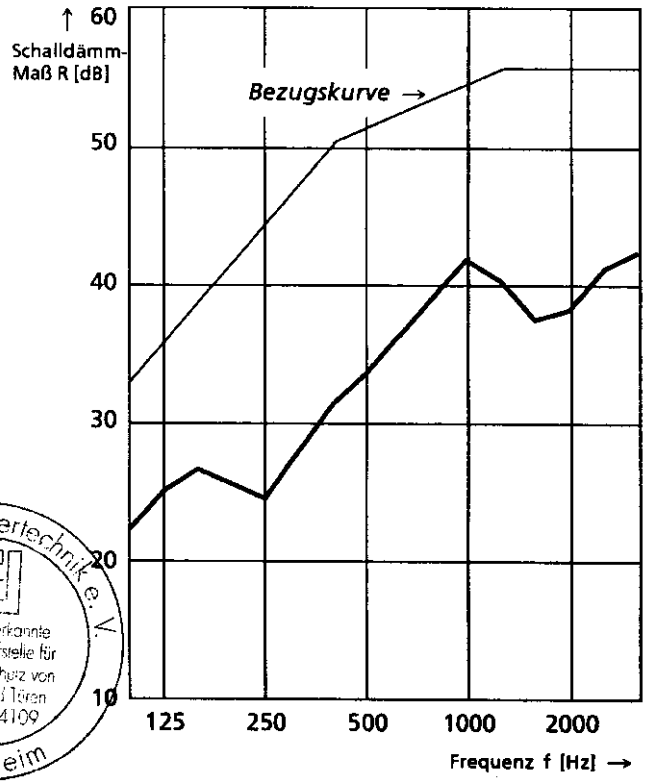
Prüfung DIN 52 210–03–E1–L–P–T **Prüfdatum:** 10. März 1993

Prüffläche:	1,00m × 2,04m = 2,04m²
Prüfstandstrennwand:	zweischalige Wand, DIN 52 210 Teil 2 (Ausgabe 1984)
Einbaubedingungen:	Befestigung mit Holzkeilen; Anschlußfugen zwischen Zarge und Prüföffnung vollständig mit Mineralwolle ausgestopft; Zier- und Falzbekleidung mit plastischem Dichtstoff gedichtet.
Maximales Schalldämm-Maß:	$R_{w,max}$ = 62 dB
Meßbedingungen:	Prüfschall: Terzrauschen Empfangsfilter: Terzfilter
Volumina der Prüfräume:	V_1 = 89,4 m³ V_2 = 112,7m³

$R_{w,P}$ aus Diagramm R(f); $R_{w,R} = R_{w,P} - 5$ dB

Bewertetes Schalldämm-Maß
Meßwert $R_{w,P} = 37$ dB
Rechenwert $R_{w,R} = 32$ dB





Rosenheim, den 8. April 1993

Prüfstellenleiter
Dr. R. Schumacher

Institut für Fenstertechnik e.V.

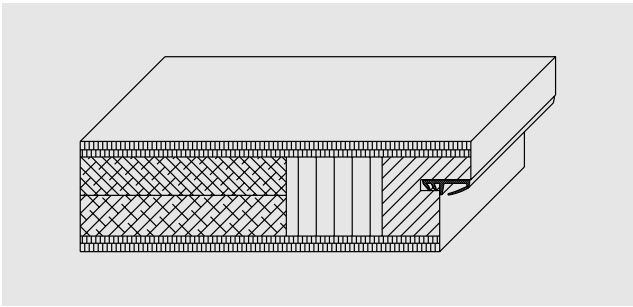
HUGA Sound Insulated Door WIT SK III per DIN 4109

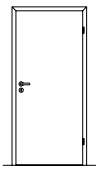
- **Sound insulation rating SK III**
- **Thermal rating I**
- **Stress rating group M**

HUGA DOOR ELEMENTS COMMERCIAL RESIDENTIAL

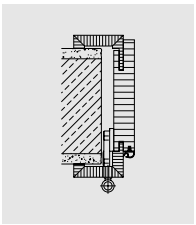
Description

Inspection certificate:	162.14932/1.3.0
Door thickness:	approx. 46 mm
Weight:	approx. 38.7 kg/m²
Heat insulation & value:	approx. 1.45 W/(m²-K)
Sound insulation rating:	SK III (Rw,P = 42 dB) [Rw,P = sound insulation index in testing]
Construction:	framework of solid timber/timber derivative, reinforced. Can be shortened up to 50 mm on lower edge
Core:	special sound insulation panel
Face panel:	double facing
Glue:	D2 per DIN EN 204
Boreholes:	per DIN 18101
Rebate:	normal 3-sided rebate 13 x 25.5 mm
Surface finish:	timber veneer, with several coats of satin finish lacquer HPL, DURAT or KARAT coated
Edges:	upright edges timber veneered or coated, upper horizontal rebate coated
Lock:	DIN 18251, class 3, with one side handle, one side knob, punched for profile cylinder
Hinges:	2 x VS 3939, nickel-coated
Door rebate seal:	3-sided wrap-around
Floor seal:	Schall-Ex Ultra N (increased sound insulation)
Packaging:	fully sealed carton
Optional extras:	see tender variations

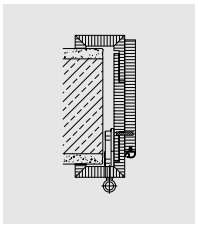




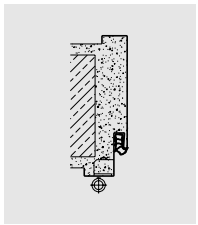
Single door leaf



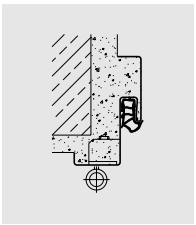
standard frame



alternative standard frame

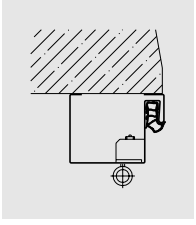


steel wrap-around frame

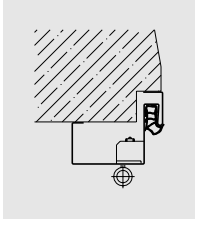


steel corner frame

timber face-fixed standard frame



steel face-fixed frame NL 1



steel face-fixed frame NL 2

Tender Recommendation:

HUGA sound insulated door WIT SK III, sound insulation rating III per DIN 4109, thermal rating I, stress rating group M, pre-hung per DIN 18101, compatible with standard doorframes of timber or steel.
Framework of solid timber/timber derivative, reinforced. Door thickness approx. 46 mm, central core special sound insulated panel, double facing, glue D2 per DIN EN 204.
Lock DIN 18251, class 3 with one side handle and one side knob, punched for profile cylinder, hinges 2 x VS 3939 nickel-coated, 3-sided wrap-around door rebate seal, floor seal retractable:
SK III (Rw,P = 42 dB) [Rw,P = sound insulation index in testing]

Surface

Edges

Measurements

Optional extras

Number

Please see the Variations page of this chapter for further details.

Schalldämm-Maß nach DIN 52 210 Teil 3

Antragsteller: Firma HUGA Hubert Gaisendrees
33335 Gütersloh, Osnabrücker Landstr. 134

Eignungsprüfung I für DIN 4109

Prüfbericht Nr.
162 14932/1.3.0

Beschreibung des Probekörpers:

Türblatt:

Türblattdicke:	45 mm
Außenabmessungen	985 mm × 1985 mm
Flächenbezogene Masse	36,8 kg/m²
Falzausbildung	Einfachfalz
Deckplatte	je 2 HFH-Platten 3 mm stark
Einlage	zweischichtige Schallschutzeinlage
Rahmen	Tropenholzrahmen, 32 mm, furniert

Zarge:

Baurichtmaß	1000 mm × 2000 mm

Dichtung:

Falzdichtung	seitlich und oben 1 Anschlagdichtung in der Zarge und 1 Überschlagdichtung im Blendrahmen, in den Ecken auf Gehrung gestoßen
Bodenabschlußdichtung	absenkbare Bodendichtung, Fabrikat Schall-Ex >S<

Beschläge:

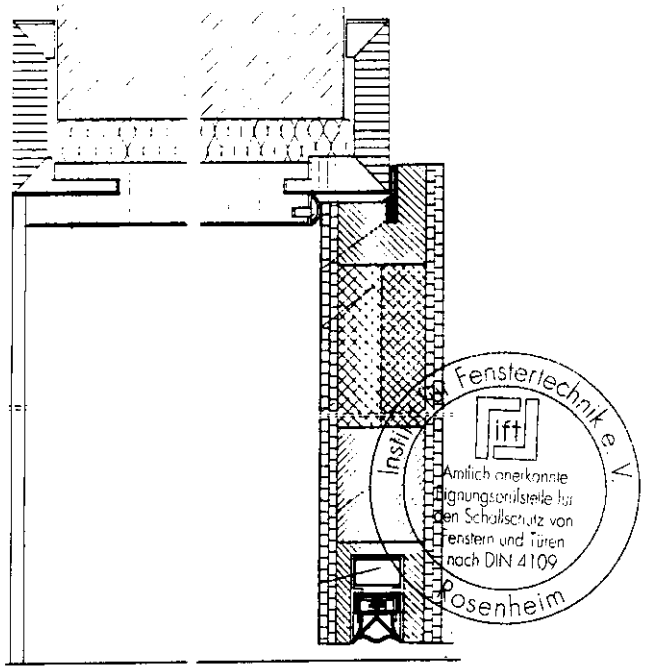
Schloß	Einsteckschloß mit 1 Verriegelung
Bänder	2 dreiteilige Bänder

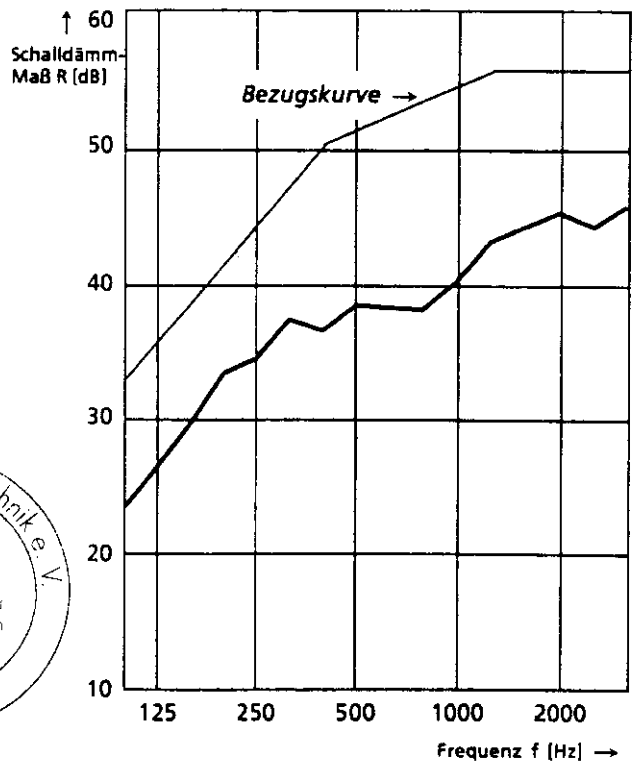
Prüfung DIN 52 210-03-E1-L-P-T **Prüfdatum:** 10. März 1994

Prüffläche:	1,01m × 2,01m = 2,03m²
Prüfstandstrennwand:	zweischalige Wand, DIN 52 210 Teil 2 (Ausgabe 1984)
Einbaubedingungen:	Befestigung mit Holzkeilen; Anschlußfugen zwischen Zarge und Prüföffnung vollständig mit Mineralwolle ausgestopft; Zier- und Falzbekleidung mit plastischem Dichtstoff gedichtet.
Maximales Schalldämm-Maß:	$R_{w,max}$ = 62 dB
Volumina der Prüfräume:	V_1 = 89,4 m³ V_2 = 112,7m³

$R_{w,P}$ aus Diagramm R(f); $R_{w,R} = R_{w,P} - 5$ dB

Bewertetes Schalldämm-Maß
Meßwert $R_{w,P} = 42$ dB
Rechenwert $R_{w,R} = 37$ dB





Rosenheim, den 24. März 1994

Prüfstellenleiter
Dr. R. Schumacher

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Institut für Fenstertechnik e.V.

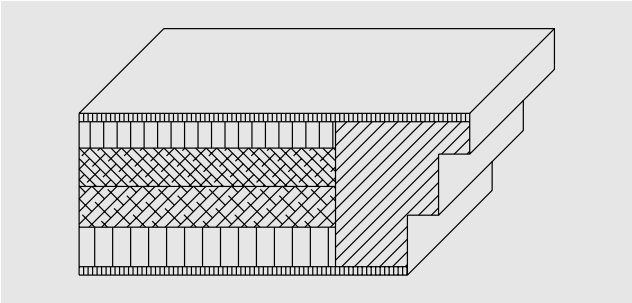
HUGA Sound Insulated Door WIT Double-Rebate SK III per DIN 4109

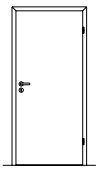
- **Sound insulation rating SK III**
- **Thermal rating II**
- **Stress rating group S**

HUGA DOOR ELEMENTS COMMERCIAL RESIDENTIAL

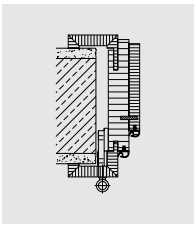
Description

Inspection certificate:	162.15481/1.2.0, 221 23618 U*
Door thickness:	67 - 71 mm
Weight:	approx. 51.3 kg/m²
Heat insulation & value:	approx. 1.15 W/(m²-K)
Sound insulation rating:	SK III (Rw,P = 42 dB) [Rw,P = sound insulation index in testing]
Construction:	Imported timber framework 60 mm wide in light-coloured or red hardwood. Can be shortened up to 50 mm on lower edge
Core:	composite board
Face panel:	double facing or MDF/HDF seal
Glue:	D2 per DIN EN 204
Boreholes:	per DIN 18101
Rebate:	3-sided double rebate
Surface finish:	timber veneer, with several coats of satin finish lacquer. HPL, DURAT or KARAT coated
Edges:	neutral lacquered, either veneered or coated.
Lock:	DIN 18251, class 3, with one side handle, one side knob, punched for profile cylinder
Hinges:	2 x VS 3939, nickel-coated
Floor seal:	Schall-Ex RD II (retractable, smoke-proof II)
Packaging:	fully sealed carton
Optional extras:	see tender variations

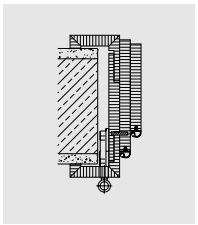




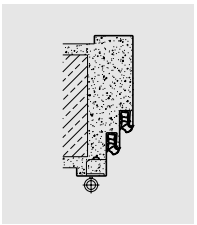
Single door leaf



standard double rebate frame



alternative double rebate frame



steel double rebate frame

Tender Recommendation:

HUGA sound insulated door WIT double rebate SK III, sound insulation rating III per DIN 4109, thermal rating II, stress rating group S, compatible with HUGA double rebate frames or steel double rebate frames.
Framework of 60 mm wide hardwood. Door thickness approx. 70 mm, central core composite board, double facing or MDF/HDF seal, glue D2 per DIN EN 204.
Lock DIN 18251, class 3 with one side handle and one side knob, punched for profile cylinder, hinges 2 x VS 3939 nickel-coated.
Floor seal retractable: SK III (Rw,P = 42 dB) [Rw,P = sound insulation index in testing]

Surface

Edges

Measurements

Optional extras

Number

Please see the Variations page of this chapter for further details.

Schalldämm-Maß nach DIN 52 210 Teil 3

Auftraggeber: HUGA Hubert Gaisendrees, 33335 Gütersloh

Eignungsprüfung I
für DIN 4109
Prüfbericht 162 15481/1.2.0

Beschreibung des Probekörpers

Türblatt:

Türblattdicke:	66 mm
Außenabmessungen	985 mm x 1985 mm
Flächenbezogene Masse	44 kg/m^2
Falzausbildung	Doppelfalz
Deckplatte	3 mm Hartfaserplatte
Einlage	10,6 mm Strangpreßplatte 32 mm Schallschutzeinlage 16 mm Strangpreßplatte
Rahmen	Holzrahmen (Limba)
Zarge:	Holzwerkstoffzarge
Baurichtmaß	1000 mm x 2000 mm
Dichtung:	
Falzdichtung	2 Anschlagdichtungen
Bodenabschlußdichtung	1 Absenkdichtung, Typ „Schall-Ex RD"
Beschläge:	
Schloß	Einsteckschloß
Bänder	2 dreiteilige Bänder

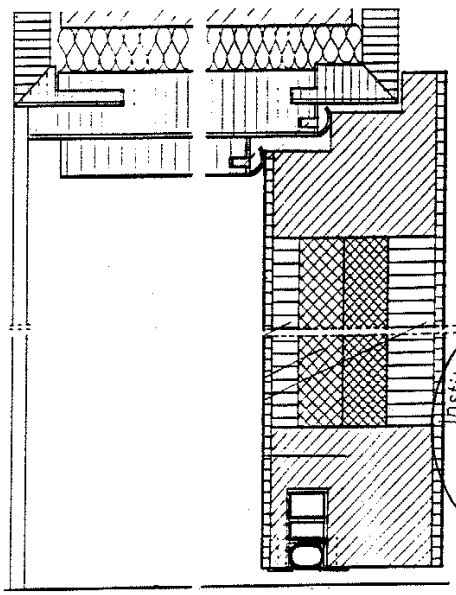
Prüfung DIN 52 210-03-E1-L-P-T	**Prüfdatum: 15. September 1994**
Prüffläche	1,01 m x 2,01 m = 2,03 m^2
Prüfstandstrennwand	zweischalige Wand, DIN 52 210 Teil 2 (Ausgabe 1984)
Einbaubedingungen	Befestigung mit Holzkeilen; Anschlußfugen zwischen Zarge und Prüföffnung vollständig mit Schaumstoff ausgestopft; Zier- und Falzbekleidung mit plastischem Dichtstoff gedichtet.
Maximales Schalldämm-Maß	$R_{w,max}$ = 62 dB (bezogen auf die Prüffläche)
Volumina der Prüfräume	V_1 = 89,4 m^3 V_2 = 112,7 m^3

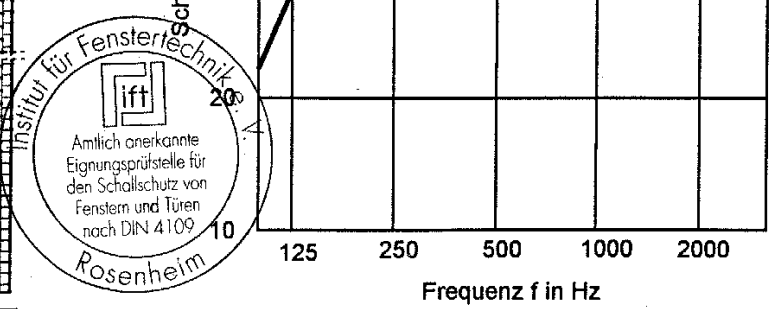
$R_{w,P}$ aus Diagramm R(f); $R_{w,R} = R_{w,P} - 5$ dB

Bewertete Schalldämm-Maße R_w

Prüfwert $R_{w,P}$ = 42 dB

Rechenwert $R_{w,R}$ = 37 dB





***Rosenheim**, 16. September 1994*

Prüfstellenleiter
Dr. Rolf Schumacher

Institut für Fenstertechnik e. V.

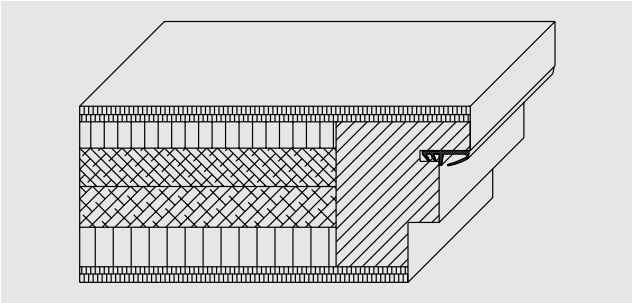
HUGA Sound Insulated Door WIT Double-Rebate SK III plus per DIN 4109

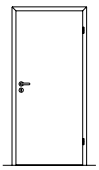
- **Sound insulation rating SK III**
- **Thermal rating II**
- **Stress rating group S**

HUGA DOOR ELEMENTS COMMERCIAL RESIDENTIAL

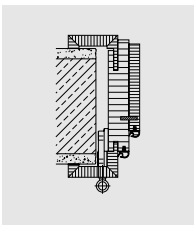
Description

Inspection certificate:	162.15132/1.5.0, 221 23618 U*
Door thickness:	approx. 74 mm
Heat insulation & value:	approx. 1.15 W/(m²-K)
Sound insulation rating:	SK III (Rw,P = 45 dB) [Rw,P = sound insulation index in testing]
Construction:	Imported timber framework 60 mm wide in light-coloured or red hardwood. Can be shortened up to 50 mm on lower edge
Core:	composite board
Face panel:	double facing
Glue:	D2 per DIN EN 204
Boreholes:	per DIN 18101
Rebate:	3-sided double rebate
Surface finish:	timber veneer, with several coats of satin finish lacquer. HPL, DURAT or KARAT coated
Edges:	neutral lacquered, either veneered or coated.
Lock:	DIN 18251, class 3, with one side handle, one side knob, punched for profile cylinder
Hinges:	2 x VS 3939, nickel-coated
Door rebate seal:	3-sided wrap-around
Floor seal:	Schall-Ex Ultra N (increased sound insulation) and Schall-Ex RD II (retractable, smoke-proof II)
Packaging:	fully sealed carton
Optional extras:	see tender variations

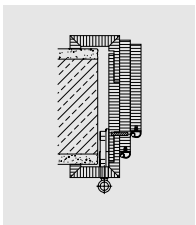




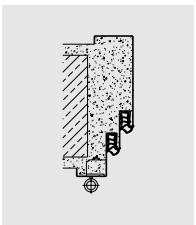
Single door leaf



standard double rebate frame



alternative double rebate frame



steel double rebate frame

Tender Recommendation:

HUGA sound insulated door WIT Double rebate SK III plus, sound insulation rating III per DIN 4109, thermal rating II, stress rating group S, compatible with HUGA double rebate frames or steel double rebate frames.
Framework of 60 mm wide hardwood. Door thickness approx. 74 mm, central core composite board, double facing, glue D2 per DIN EN 204.
Lock DIN 18251, class 3 with one side handle and one side knob, punched for profile cylinder, hinges 2 x VS 3939 nickel-coated, 3-sided wrap-around door rebate seal, 2 floor seals retractable: SK III (Rw,P = 45 dB) [Rw,P = sound insulation index in testing]

Surface

Edges

Measurements

Optional extras

Number

Schalldämm-Maß nach DIN 52 210 Teil 3

Eignungsprüfung I für DIN 4109

Antragsteller: Firma HUGA Hubert Gaisendrees
33335 Gütersloh, Osnabrücker Landstr. 134

Prüfbericht Nr.
162 15132/1.5.0

Beschreibung des Probekörpers:

Türblatt:

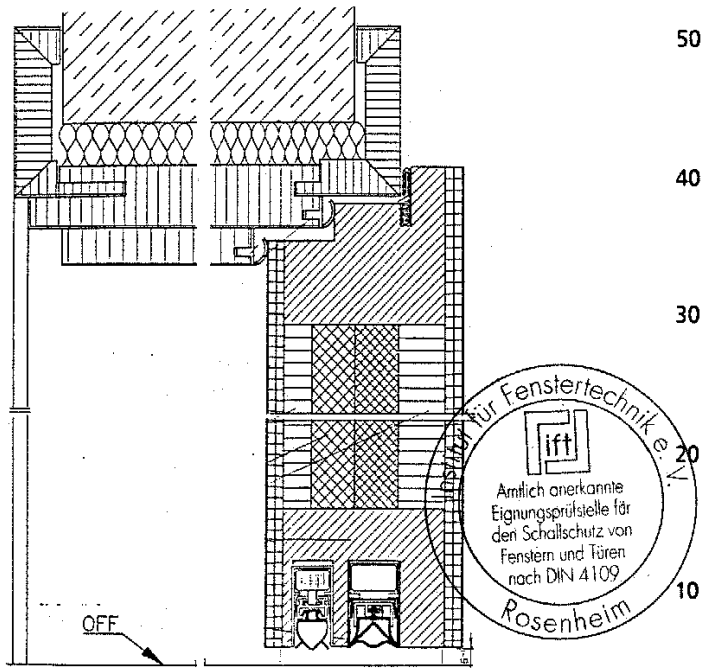
Türblattdicke:	72 mm
Außenabmessungen	985 mm × 1985 mm
Flächenbezogene Masse	49,6 kg/m²
Falzausbildung	Doppelfalz
Deckplatte	2 × 3 mm HFH-Platten
Einlage	10,6 mm Strangpreßplatte, 32 mm Schallschutzeinlage, 16 mm Strangpreßplatte
Rahmen	Holz (Limba), 50 mm
Zarge:	Holzwerkstoffzarge
Baurichtmaß	1000 mm × 2000 mm
Dichtung:	
Falzdichtung	2 Anschlagdichtungen in der Zarge, 1 Überschlagdichtung im Türblatt
Bodenabschlußdichtung	2 × absenkbare Bodendichtung, Typ Schall-Ex
Beschläge:	
Schloß	Einsteckschloß mit 1 Verriegelungspunkt
Bänder	2 dreiteilige Bänder

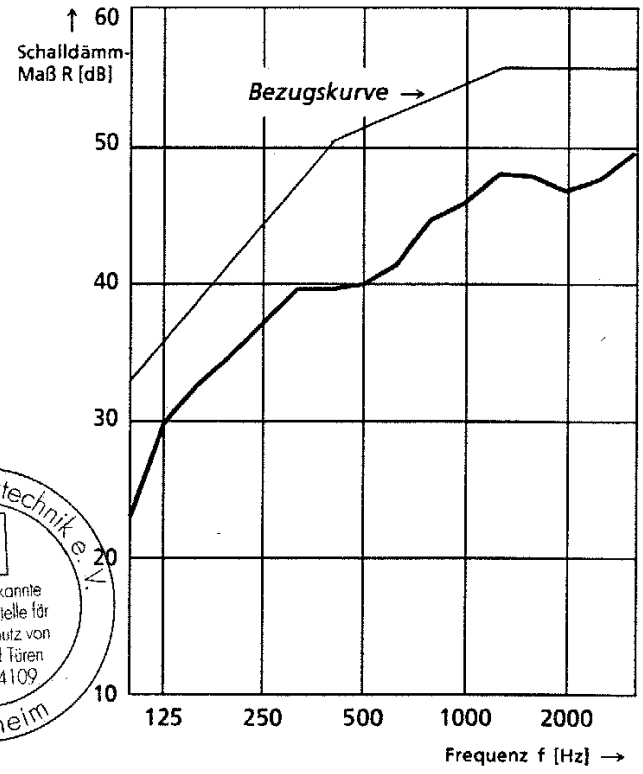
Prüfung DIN 52 210–03–E1–L–P–T **Prüfdatum:** 30. Mai 1994

Prüffläche:	1,01m × 2,01m = 2,03m²
Prüfstandstrennwand:	zweischalige Wand, DIN 52 210 Teil 2 (Ausgabe 1984)
Einbaubedingungen:	Befestigung mit Holzkeilen; Anschlußfugen zwischen Zarge und Prüföffnung vollständig mit Schaumstoff ausgestopft; Zier- und Falzbekleidung mit plastischem Dichtstoff gedichtet.
Maximales Schalldämm-Maß:	$R_{w,max}$ = 62 dB
Volumina der Prüfräume:	V_1 = 89,4 m³ V_2 = 112,7m³

$R_{w,P}$ aus Diagramm R(f); $R_{w,R} = R_{w,P} - 5$ dB

Bewertetes Schalldämm-Maß
Meßwert $R_{w,P} = 45$ dB
Rechenwert $R_{w,R} = 40$ dB





Institut für Fenstertechnik e.V. Amtlich anerkannte Eignungsprüfstelle für den Schallschutz von Fenstern und Türen nach DIN 4109 Rosenheim

Rosenheim, den 10. Juni 1994

Prüfstellenleiter
Dr. R. Schumacher

Institut für Fenstertechnik e.V.

Certificates
Sound Insulated Doors

Subject to errors and omissions.

We reserve the right to make structural changes. Status 06/2004.

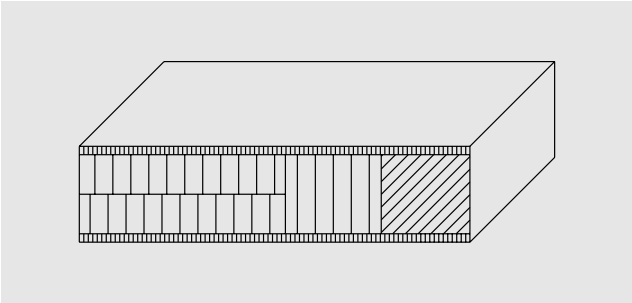
HUGA Sound Insulated Door WIT ST SK I per DIN 4109

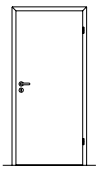
- **Sound insulation rating SK I**
- **Thermal rating I**
- **Stress rating group M**

HUGA DOOR ELEMENTS COMMERCIAL RESIDENTIAL

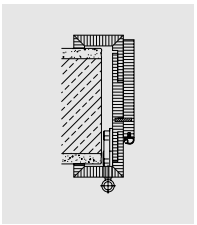
Description

Inspection certificate:	162.21706/1.8.0
Door thickness:	approx. 40 mm
Weight:	approx. 28.9 kg/m²
Heat insulation & value:	approx. 1.85 W/(m²-K)
Sound insulation rating:	SK I (Rw,P = 33 dB) [Rw,P = sound insulation index in testing]
Construction:	framework of solid timber/timber derivative, reinforced. Can be shortened up to 50 mm on lower edge
Core:	2 x solid chipboard panel
Face panel:	HDF/MDF seal
Glue:	D2 per DIN EN 204
Boreholes:	per DIN 18101
Rebate:	flush
Surface finish:	timber veneer, with several coats of satin finish lacquer. HPL, DURAT or KARAT coated
Edges:	upright edges timber veneered or coated, upper horizontal edge coated
Lock:	DIN 18251, class 3, with one side handle, one side knob, punched for profile cylinder
Hinges:	2 x VX 7729/100
Floor seal:	retractable floor seal
Packaging:	fully sealed carton
Optional extras:	see tender variations

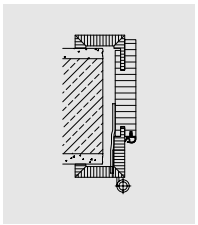




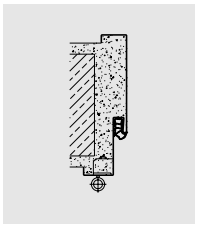
Single door leaf



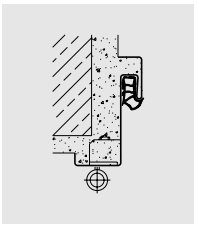
alternative standard frame - flush



moulded frame flush



steel wrap-around frame - flush



steel corner frame - flush

Tender Recommendation:

HUGA sound insulated door WIT ST SK I, flush, sound insulation rating I per DIN 4109, thermal rating I, stress rating group M, compatible with standard flush frames of timber or steel. Framework of solid timber/timber derivative, reinforced. Door thickness approx. 40 mm, central core 2 x solid chipboard panel, HDF/MDF seal, glue D2 per DIN EN 204.
Lock DIN 18251, class 3 with one side handle and one side knob, punched for profile cylinder; hinges 2 x VX 7729/100 nickel-coated; floor seal retractable: SK I (Rw,P = 33 dB) [Rw,P = sound insulation index in testing]

Surface

Edges

Measurements

Optional extras

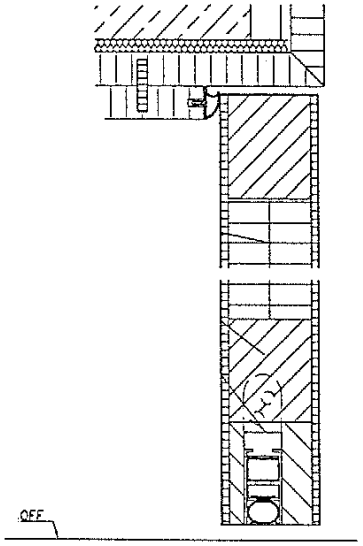
Number

Schalldämm-Maß nach DIN 52210–3

Auftraggeber: HUGA Hubert Gaisendrees, 33335 Gütersloh

Eignungsprüfung I
für DIN 4109

Probekörper	Wohnungseingangtür, stumpf
Produktbezeichnung	SK 1 - ST
Türblatt	
Außenabmessung	959 mm x 1972 mm
Dicke	40 mm
Flächengewicht	24,9 kg/m²
Deckplatte	3 mm HFH-Platte
Einlage	2×16,5 mm SV
Falzdichtung	1 Anschlagdichtung in der Zarge
Bodendichtung	Absenkbare Bodendichtung, Typ Schall-EX RD
Zarge	Holzwerkstoff
Baurichtmaß	1000 mm x 2000 mm



verschobene Bezugskurve
Meßkurve

Prüfung	DIN 52210-03-E1-L-P-T
Prüfdatum	06. Juli 1999
Prüföffnung	1,01 m x 2,01 m = 2,03 m²

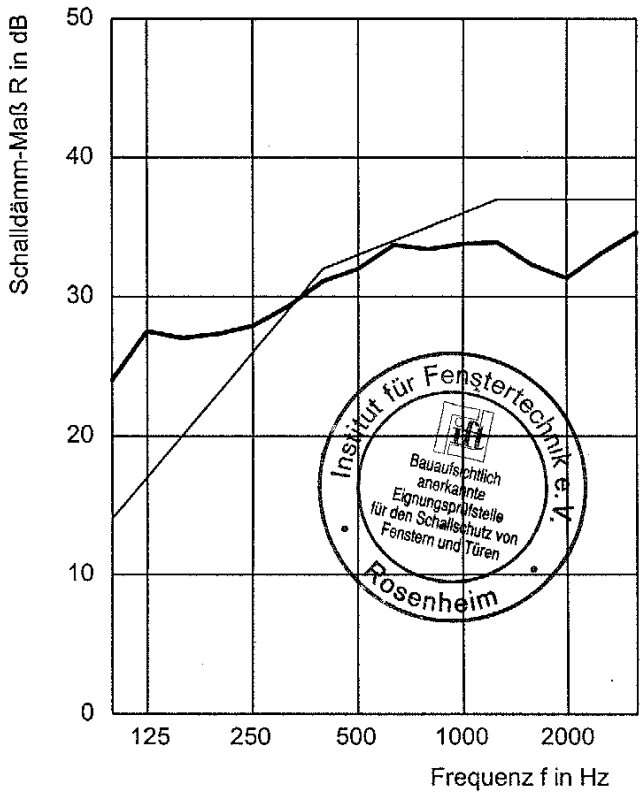
Prüfstandstrennwand
KSV-Doppelwand, DIN 52210-2 : 1984

Prüfschall Rosa Rauschen

Volumina der Prüfräume
V_S = 89,4 m³
V_E = 112,7 m³

Maximales Schalldämmaß
$R_{w,max}$ = 62 dB (bezogen auf die Prüffläche)

Einbaubedingungen
Zarge in die Prüföffnung eingesetzt und verkeilt. Anschlußfugen vollständig mit Schaumstoff ausgestopft und beidseitig mit plastischem Dichtstoff gedichtet.



$R_{w,P}$ aus Diagramm R(f)
$R_{w,R} = R_{w,P} - 5$ dB

Bewertete Schalldämmaße R_w

Prüfwert	$R_{w,P}$ = 33 dB
Rechenwert	$R_{w,R}$ = 28 dB

Prüfbericht-Nr.: **162 21706/1.8.0**

***i.f.t. Rosenheim,** 10. Juli 1999*

Prüfstellenleiter
Dr. Rolf Schumacher

ROSENHEIM

1.2.6.7

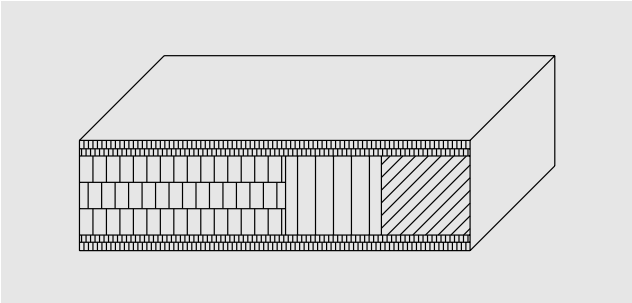
HUGA Sound Insulated Door WIT ST SK II per DIN 4109

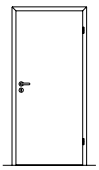
- **Sound insulation rating SK II**
- **Thermal rating I**
- **Stress rating group S**

HUGA DOOR ELEMENTS COMMERCIAL RESIDENTIAL

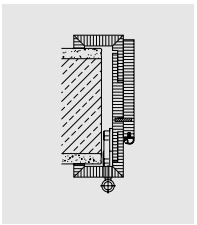
Description

Inspection certificate:	162.21706/1.5.0
Door thickness:	approx. 46 mm
Weight:	approx. 30.9 kg/m²
Heat insulation & value:	approx. 1.75 W/(m²-K)
Sound insulation rating:	SK II (Rw,P = 37 dB) [Rw,P = sound insulation index in testing]
Construction:	framework of solid timber/timber derivative, reinforced; can be shortened up to 50 mm on lower edge
Core:	3 x solid chipboard panel
Face panel:	double facing
Glue:	D2 per DIN EN 204
Boreholes:	per DIN 18101
Rebate:	flush
Surface finish:	timber veneer, with several coats of satin finish lacquer. HPL, DURAT or KARAT coated
Edges:	upright edges timber veneered or coated, upper horizontal edge coated
Lock:	DIN 18251, class 3, with one side handle, one side knob, punched for profile cylinder
Hinges:	2 x VX 7729/100
Floor seal:	retractable floor seal
Packaging:	fully sealed carton
Optional extras:	see tender variations

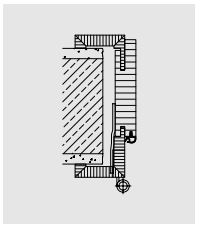




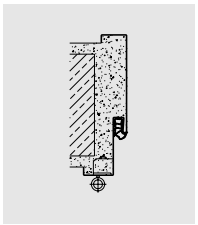
Single door leaf



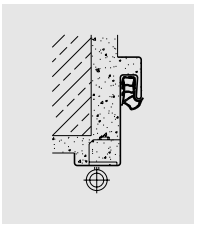
alternative standard frame - flush



moulded frame flush



steel wrap-around frame - flush



steel corner frame - flush

Tender Recommendation:

HUGA sound insulated door WIT ST SK II, flush, sound insulation rating II per DIN 4109, thermal rating I, stress rating group S, compatible with standard flush frames of timber or steel. Framework of solid timber/timber derivative, reinforced. Door thickness approx. 46 mm, central core 3 x solid chipboard panel, double facing, glue D2 per DIN EN 204.
Lock DIN 18251, class 3 with one side handle and one side knob, punched for profile cylinder; hinges 2 x VX 7729/100 nickel-coated; floor seal retractable: SK II (Rw,P = 37 dB) [Rw,P = sound insulation index in testing]

Surface

Edges

Measurements

Optional extras

Number

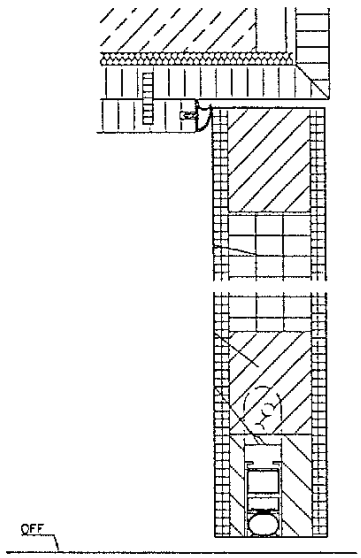
Schalldämm-Maß nach DIN 52210–3

Auftraggeber: HUGA Hubert Gaisendrees, 33335 Gütersloh

Eignungsprüfung I

für DIN 4109

Probekörper	Wohnungseingangtür, stumpf
Produktbezeichnung	SK 2 - ST
Türblatt	
Außenabmessung	959 mm x 1972 mm
Dicke	46 mm
Flächengewicht	33,5 kg/m²
Deckplatte	2×3 mm HFH-Platte
Einlage	3×11 mm SV
Falzdichtung	1 Anschlagdichtung in der Zarge
Bodendichtung	Absenkbare Bodendichtung, Typ Schall-EX RD
Zarge	Holzwerkstoff
Baurichtmaß	1000 mm x 2000 mm



——— verschobene Bezugskurve

——— Meßkurve

Prüfung DIN 52210-03-E1-L-P-T

Prüfdatum 06. Juli 1999

Prüföffnung 1,01 m x 2,01 m = 2,03 m²

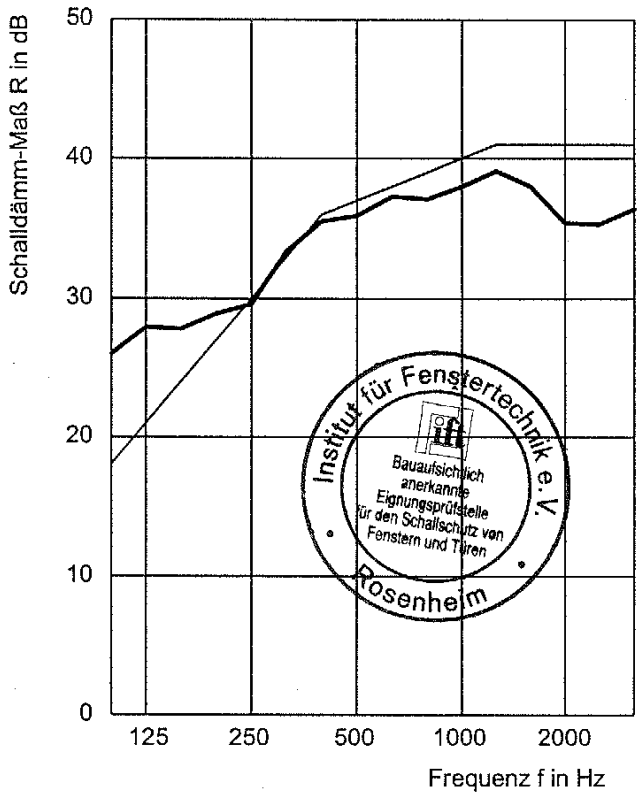
Prüfstandstrennwand
KSV-Doppelwand, DIN 52210-2 : 1984

Prüfschall Rosa Rauschen

Volumina der Prüfräume
V_S = 89,4 m³
V_E = 112,7 m³

Maximales Schalldämmaß
$R_{w,max}$ = 62 dB (bezogen auf die Prüffläche)

Einbaubedingungen
Zarge in die Prüföffnung eingesetzt und verkeilt. Anschlußfugen vollständig mit Schaumstoff ausgestopft und beidseitig mit plastischem Dichtstoff gedichtet.



$R_{w,P}$ aus Diagramm R(f)
$R_{w,R} = R_{w,P} - 5$ dB

Bewertete Schalldämmaße R_w

Prüfwert	$R_{w,P}$ = 37 dB
Rechenwert	$R_{w,R}$ = 32 dB

Prüfbericht-Nr.: **162 21706/1.5.0**

***i.f.t. Rosenheim,** 10. Juli 1999*

Prüfstellenleiter
Dr. Rolf Schumacher

ift ROSENHEIM

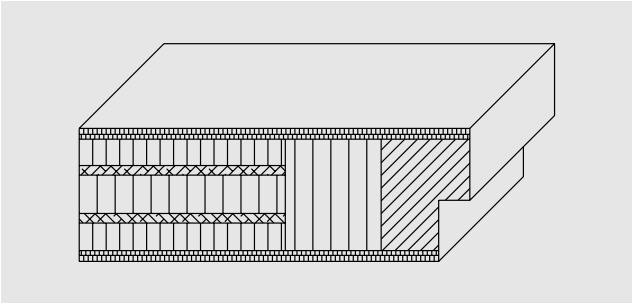
HUGA Sound Insulated Door WIT ST SK III per DIN 4109

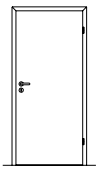
- **Sound insulation rating SK III**

HUGA DOOR ELEMENTS COMMERCIAL RESIDENTIAL

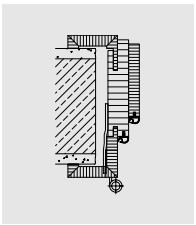
Description

Inspection certificate:	162.21706/1.4.0
Door thickness:	approx. 58 mm
Weight:	approx. 38.0 kg/m²
Heat insulation & value:	approx. 1.65 W/(m²-K)
Sound insulation rating:	SK III (Rw,P = 42 dB) [Rw,P = sound insulation index in testing]
Construction:	framework of solid timber/timber derivative; can be shortened up to 50 mm on lower edge
Core:	special sound insulation panel
Face panel:	double facing
Glue:	D2 per DIN EN 204
Boreholes:	per DIN 18101
Rebate:	flush with jamb rebate
Surface finish:	timber veneer, with several coats of satin finish lacquer. HPL, DURAT or KARAT coated
Edges:	upright edges timber veneered or coated, upper horizontal edge coated
Lock:	DIN 18251, class 3, with one side handle, one side knob, punched for profile cylinder
Hinges:	2 x VX 7729/120
Floor seal:	two retractable floor seals
Packaging:	fully sealed carton
Optional extras:	see tender variations

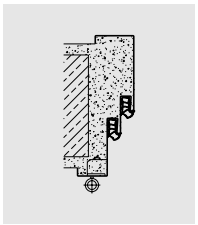




Single door leaf



double rebate moulded frame - flush



steel double rebate frame - flush

Tender Recommendation:

HUGA sound insulated door WIT ST SK III, flush with jamb rebate, sound insulation rating III per DIN 4109, thermal rating I, stress rating group S, compatible with flush double rebate frames of timber or steel.
Framework of solid timber/timber derivative. Door thickness approx. 58 mm, central core special sound insulation panel, double facing, glue D2 per DIN EN 204.
Lock DIN 18251, class 3 with one side handle and one side knob, punched for profile cylinder; hinges 2 x VX 7729/120 nickel-coated; 2 retractable floor seals: SK III (Rw,P = 42 dB) [Rw,P = sound insulation index in testing]

Surface

Edges

Measurements

Optional extras

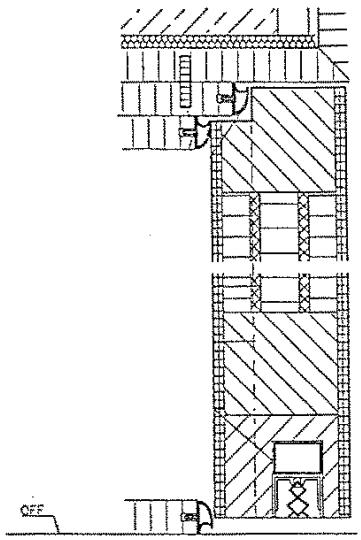
Number

Schalldämm-Maß nach DIN 52210–3

Auftraggeber: HUGA Hubert Gaisendrees, 33335 Gütersloh

Eignungsprüfung I
für DIN 4109

Probekörper	Wohnungseingangtür, stumpf
Produktbezeichnung	SK 3 - ST
Türblatt	
Außenabmessung	959 mm x 1972 mm
Dicke	52 mm
Flächengewicht	38,0 kg/m²
Deckplatte	2×2 mm HFH-Platte
Einlage	Der Aufbau ist dem i.f.t. bekannt, soll aber auf Wunsch des Herstellers nicht mit angegeben werden
Falzdichtung	2 Anschlagdichtungen in der Zarge
Bodendichtung	Absenkbare Bodendichtung, Typ Schall-EX S, Anschlagschwelle mit Dichtung
Zarge	Holzwerkstoff



verschobene Bezugskurve
Meßkurve

Prüfung	DIN 52210-03-E1-L-P-T
Prüfdatum	06. Juli 1999
Prüföffnung	1,01 m x 2,01 m = 2,03 m²

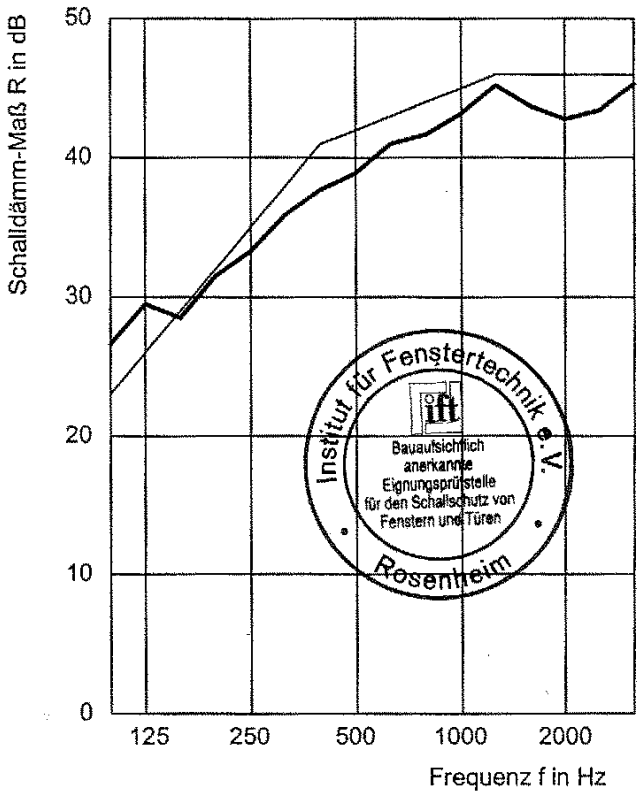
Prüfstandstrennwand
KSV-Doppelwand, DIN 52210-2 : 1984

Prüfschall Rosa Rauschen

Volumina der Prüfräume
V_S = 89,4 m³
V_E = 112,7 m³

Maximales Schalldämmaß
$R_{w,max}$ = 62 dB (bezogen auf die Prüffläche)

Einbaubedingungen
Zarge in die Prüföffnung eingesetzt und verkeilt. Anschlußfugen vollständig mit Schaumstoff ausgestopft und beidseitig mit plastischem Dichtstoff gedichtet.



$R_{w,P}$ aus Diagramm R(f)
$R_{w,R} = R_{w,P} - 5$ dB

Bewertete Schalldämmaße R_w

Prüfwert	$R_{w,P}$ = 42 dB
Rechenwert	$R_{w,R}$ = 37 dB

Prüfbericht-Nr.: **162 21706/1.4.0**

***i.f.t. Rosenheim,** 10. Juli 1999*

Prüfstellenleiter
Dr. Rolf Schumacher

ift ROSENHEIM