KRAIBURG RELASTEC

Technical documentation for architects and planners

IMPACT SOUND INSULATION MADE FROM RECYCLED RUBBER GRANULES FOR FLAT ROOF CONSTRUCTIONS

DAMTEC® sonic • DAMTEC® sonic drain plus

KRAITEC®

EN #1 | 2023

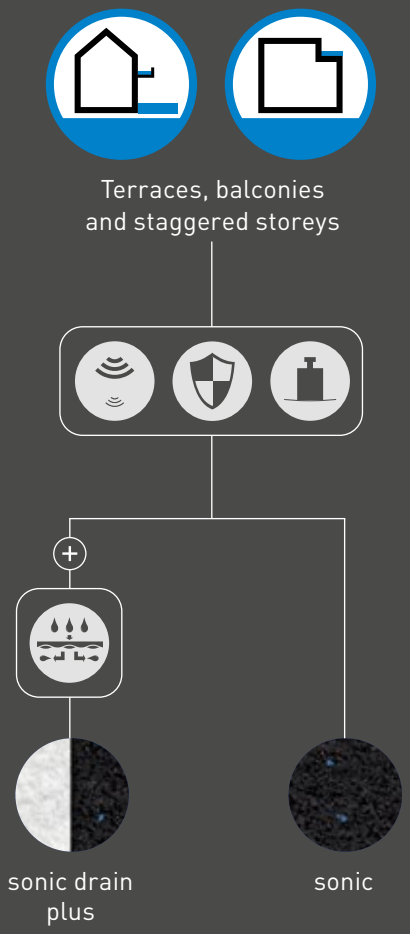
Made in Germany

KRAITEC® product finder for structural protection mats

Advantages and properties

Durability | Protection | Drainage | Drainage & water discharge | Acoustic insulation | Lamination

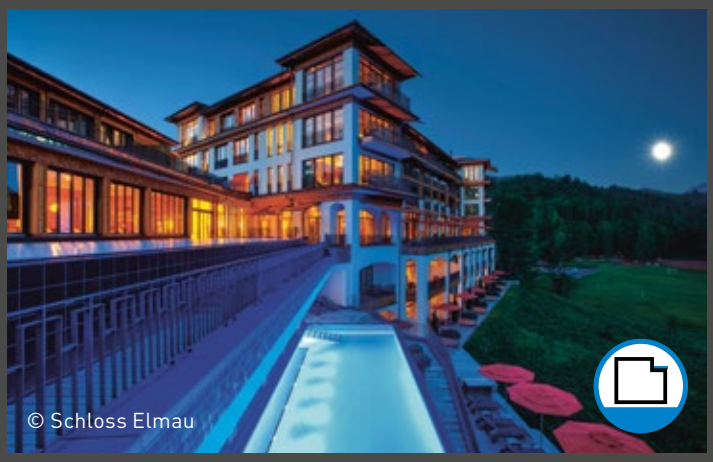
Selection aid for structural protection mats



DAMTEC® sonic - application examples

Staggered storeys

DAMTEC® sonic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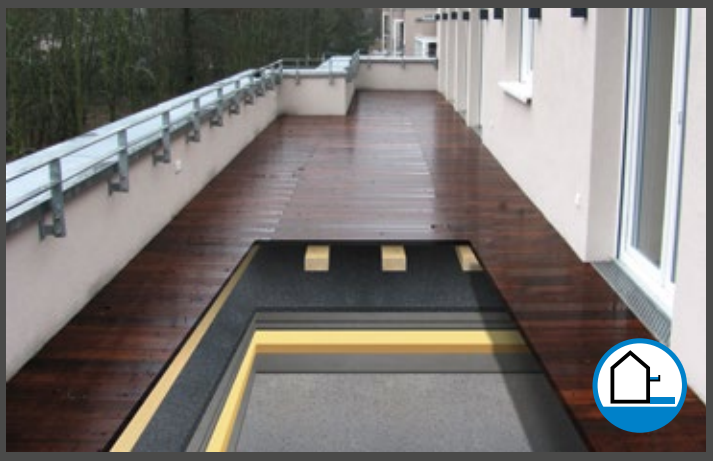
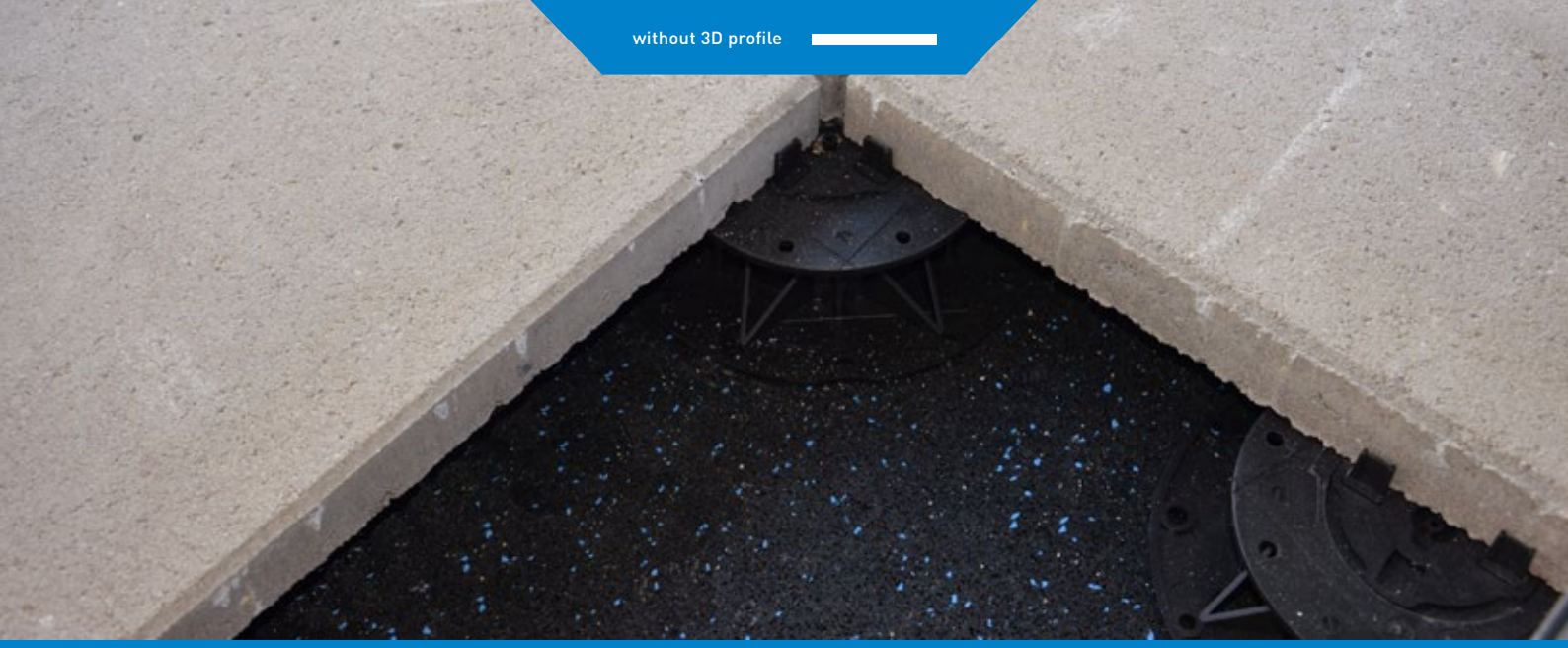
Structural protection & impact sound insulation on terraces, roof terraces and balconies

DAMTEC® sonic or DAMTEC® sonic drain plus (Drainage and water drainage thanks to 3D profile)





DAMTEC® sonic & DAMTEC® sonic FiRe

STRUCTURAL PROTECTION MAT FOR OUTDOOR IMPACT SOUND INSULATION

Structural protection and acoustic insulation combined: for classical superstructures using concrete slabs in split bedding and thermal insulation by PIR, EPS or XPS (warm and inverted roof)

NEW!

DAMTEC® sonic FiRe

$B_{roof(t1)}$ C_{fl}-s1

- Classified structural protection mat as „Hard Roofing" (Broof (t1))
- Fire resistance C_{fl}-s1: flame-retardant according to DIN EN 13501-1

Applications

Properties

Material	Recycled rubber granules, polyurethane-bonded
Density	ca. 780 kg/m³
Thickness	8 mm (± 0.3 mm)
Roll width	1,250 mm (± 1.5 % mm)
Roll length	8.0 m (± 1.5%)
Tensile strength	ca. 0.3 N/mm² (EN ISO 1798)
Elongation at break	ca. 30% (EN ISO 1798)
Fire resistance	sonic: E_{fl} (B2) (DIN EN 13501-1) sonic FiRe: C_{fl} (s1) (DIN EN 13501-1) Broof (t1) (DIN EN 13501-5)
Temperature resistance	-30° bis 80° C
Compression under traffic load	10 % at approx. 17 t/m² 15 % at approx. 32 t/m² 20 % at approx. 47 t/m² (in accordance with DIN EN ISO 12958)

DAMTEC® sonic drain plus

FLEECE-LAMINATED STRUCTURAL PROTECTION MAT FOR SOUND INSULATION

Structural protection and acoustic insulation combined: with fleece lamination and 3D profile; for classical superstructures using concrete slabs in split bedding and thermal insulation by PIR, EPS or XPS (warm and inverted roof)

Test direction: MD hard/hard	Hydraulic gradient i = 0.010	Hydraulic gradient i = 0.020
2 kPa	0.143 l/(m·s)	0.228 l/(m·s)
15 kPa	0.078 l/(m·s)	0.129 l/(m·s)
50 kPa	0.008 l/(m·s)	0.018 l/(m·s)

Applications

Properties

Material	Recycled rubber granules, polyurethane-bonded
Density	ca. 700-800 kg/m³
Thickness	15/6 mm (± 1.0 mm)
Roll width	1,200 mm (± 1.5 % mm)
Roll length	8.0 m (± 1.5%)
Surface	fleece lamination
Tensile strength	ca. 0.3 N/mm² (EN ISO 1798)
Elongation at break	ca. 30% (EN ISO 1798)
Fire resistance	E_{fl} (DIN EN 13501-1)
Temperature resistance	-30° to 80° C
Compression under traffic load	10 % at approx. 0.95 t/m² 15 % at approx. 1.88 t/m² 20 % at approx. 3.18 t/m² (in accordance with DIN EN ISO 3386-2)

CONCRETE CEILINGS
SYSTEM STRUCTURES

Measures for impact sound insulation in residential construction

In recent years, the requirements for increased impact sound insulation in residential buildings have become more and more demanding. Sound or impact sound insulation measures are to be planned and applied on and in building parts with accessible ceilings, often adjacent to other building parts. This also includes ceilings that are located outdoors, such as terraces, loggias, balconies, arcades and so on. On insulated ceilings, the required measures are easy to carry out because sound-absorbing materials such as thermal insulation, roof sealing or separating layers are already installed.

Here, the requirement for increased impact sound insulation and protection of the waterproofing layer according to DIN 18531 can be easily fulfilled with additionally installed sound-absorbing mats - e.g. DAMTEC® sonic or DAMTEC® sonic drain plus.

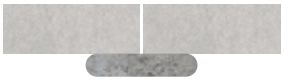
In combination with reinforced concrete with a thickness of at least 140 mm, the tested layers achieve the values of increased sound insulation according to DIN 4109. Depending on the structure, a sound insulation improvement of up to 42 dB (with insulation already underneath) is possible.

In addition, balconies, terraces and loggias must be protected against stagnant water, as these are among the most sensitive structural components on buildings. The product DAMTEC® sonic drain plus was developed for this purpose. Thanks to the 3D profile, it has a high drainage capacity in addition to good impact sound insulation properties.

Below you will find the system-tested structures on concrete ceilings as well as the technical data on water drainage capacity on a flat surface and water permeability of the product DAMTEC® sonic drain plus.

Tested system structures

Walkway slab concrete + mortar bag



Concrete walkway slab + PA stilt bearing

Concrete walkway slab + Rubber disc

Concrete walkway slab + Gravel bed

Wooden planking + supporting beams

DAMTEC® sonic

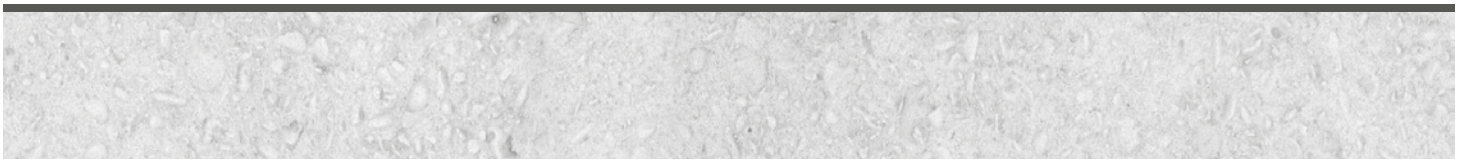
DAMTEC® sonic drain plus

Top layer / waterproofing layer / lamination layer

Insulation PIR

Insulation EPS

Bitumen vapour barrier & concrete ceiling



DAMTEC® sonic ROOF CONSTRUCTION 01

Test report number 137-450

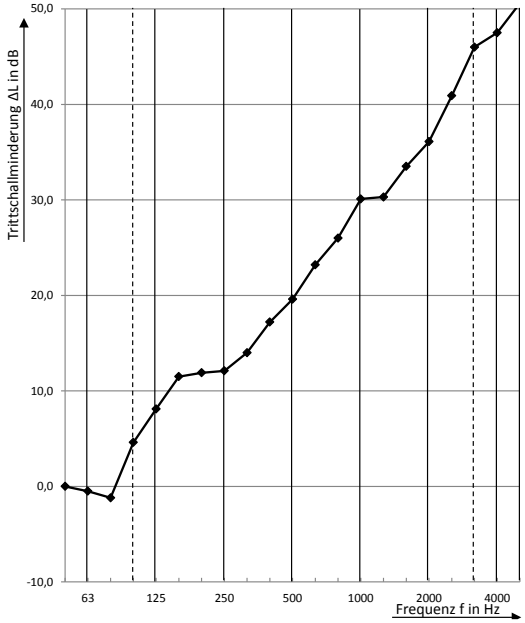
INSULATION PIR / WATERPROOFING BITUMEN SHEETS

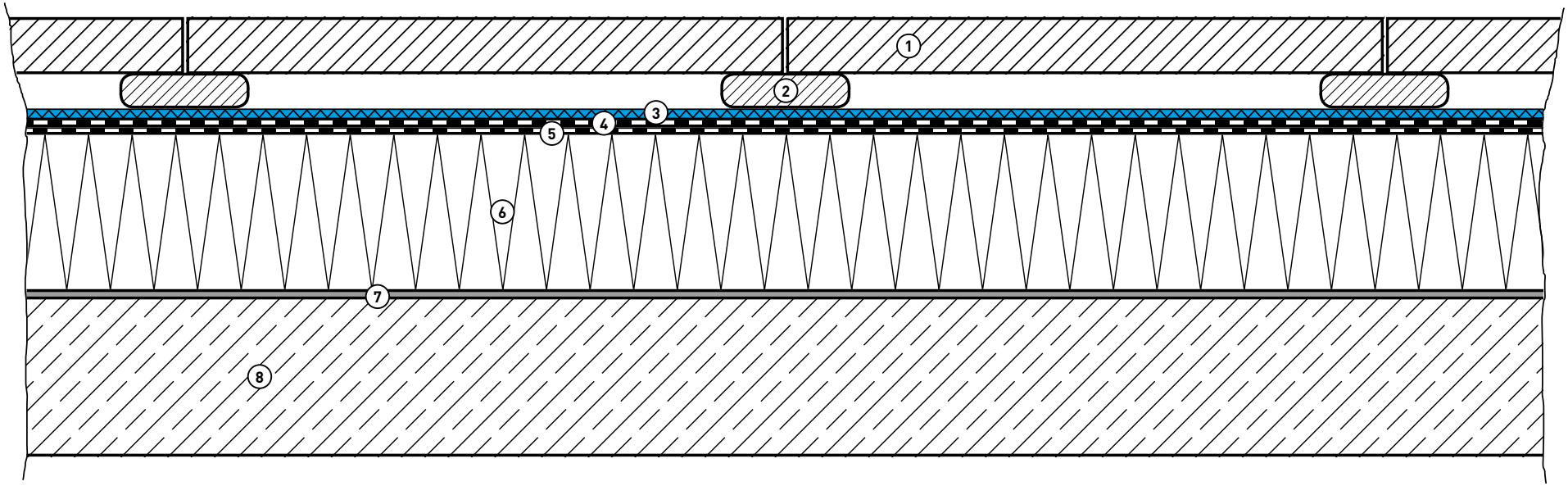
IMPACT SOUND IMPROVEMENT **ΔL_w = 27 dB**

KRAITEC®

1. Concrete sidewalk slab, smooth 500 x 500 x 50 mm
2. Mortar sacks
3. **DAMTEC® sonic**, 8 mm
4. Top layer PYE PV200 S5, slate
5. 1st Waterproofing layer G200 S4, powder
6. Insulation PIR FA WLS 024, 140 mm
7. Bitumen vapour barrier V60 S4 +AL
8. Concrete ceiling, 140 mm

Frequenz f [Hz]	$L_{n,0}$ Terzband [dB]	ΔL Terzband [dB]
50	56,5	0,0
63	62,7	-0,5
80	57,4	-1,2
100	57,2	4,6
125	67,5	8,1
160	62,6	11,5
200	64,1	11,9
250	67,1	12,1
315	65,3	14,0
400	64,7	17,2
500	65,0	19,6
630	65,3	23,2
800	66,4	26,0
1000	67,8	30,1
1250	67,7	30,3
1600	68,2	33,5
2000	68,8	36,1
2500	68,6	40,9
3150	67,9	46,0
4000	66,9	47,5
5000	64,4	50,6





DAMTEC® sonic ROOF CONSTRUCTION 02

Test report number 137-451

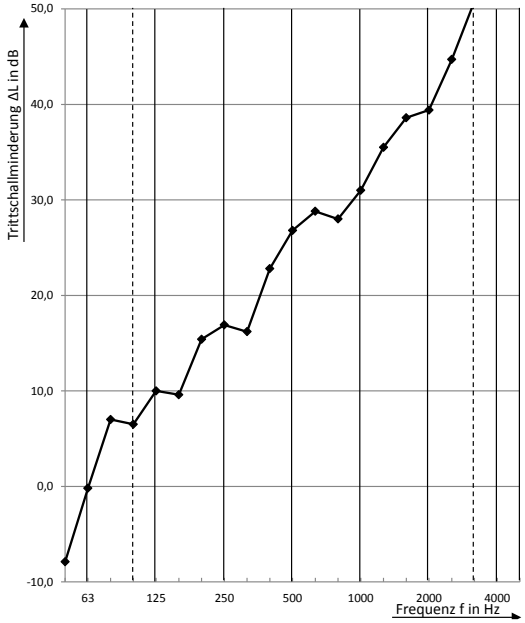
INSULATION EPS / WATERPROOFING BITUMEN SHEETS

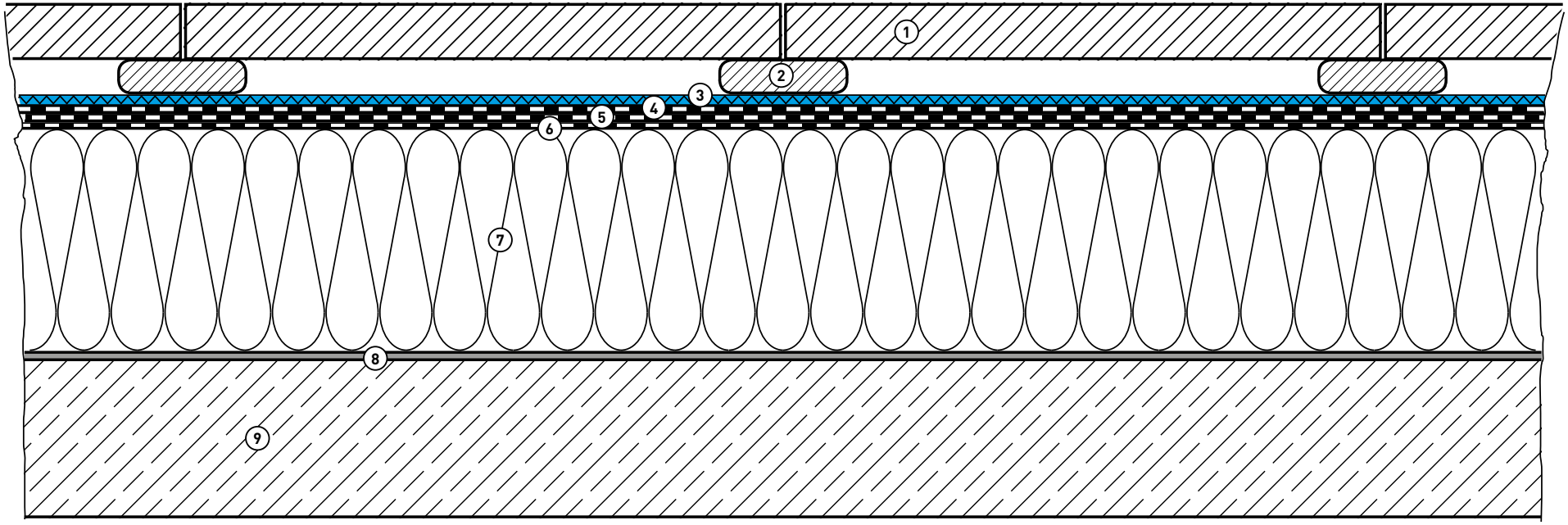
IMPACT SOUND IMPROVEMENT **ΔL_w = 29 dB**

KRAITEC®

1. Concrete sidewalk slab, smooth 500 x 500 x 50 mm
2. Mortar sacks
3. **DAMTEC® sonic**, 8 mm
4. Top layer PYE PV200 S5, slate
5. 1st Waterproofing layer G200 S4, powder
6. Laminate layer G 200 DD, sand
7. Insulation EPS 035/200 KPA DAA DH, 200 mm
8. Bitumen vapour barrier V60 S4 +AL
9. Concrete ceiling, 140 mm

Frequenz f [Hz]	$L_{n,0}$ Terzband [dB]	ΔL Terzband [dB]
50	56,5	-7,9
63	62,7	-0,2
80	57,4	7,0
100	57,2	6,5
125	67,5	10,0
160	62,6	9,6
200	64,1	15,4
250	67,1	16,9
315	65,3	16,2
400	64,7	22,8
500	65,0	26,8
630	65,3	28,8
800	66,4	28,0
1000	67,8	31,0
1250	67,7	35,5
1600	68,2	38,6
2000	68,8	39,4
2500	68,6	44,7
3150	67,9	50,8
4000	66,9	50,2
5000	64,4	51,8





DAMTEC® sonic ROOF CONSTRUCTION 03

Test report number 137-452

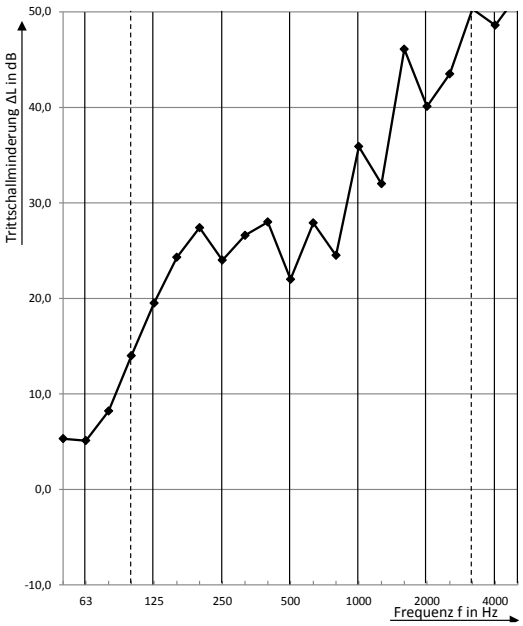
INSULATION PIR / WATERPROOFING BITUMEN SHEETS

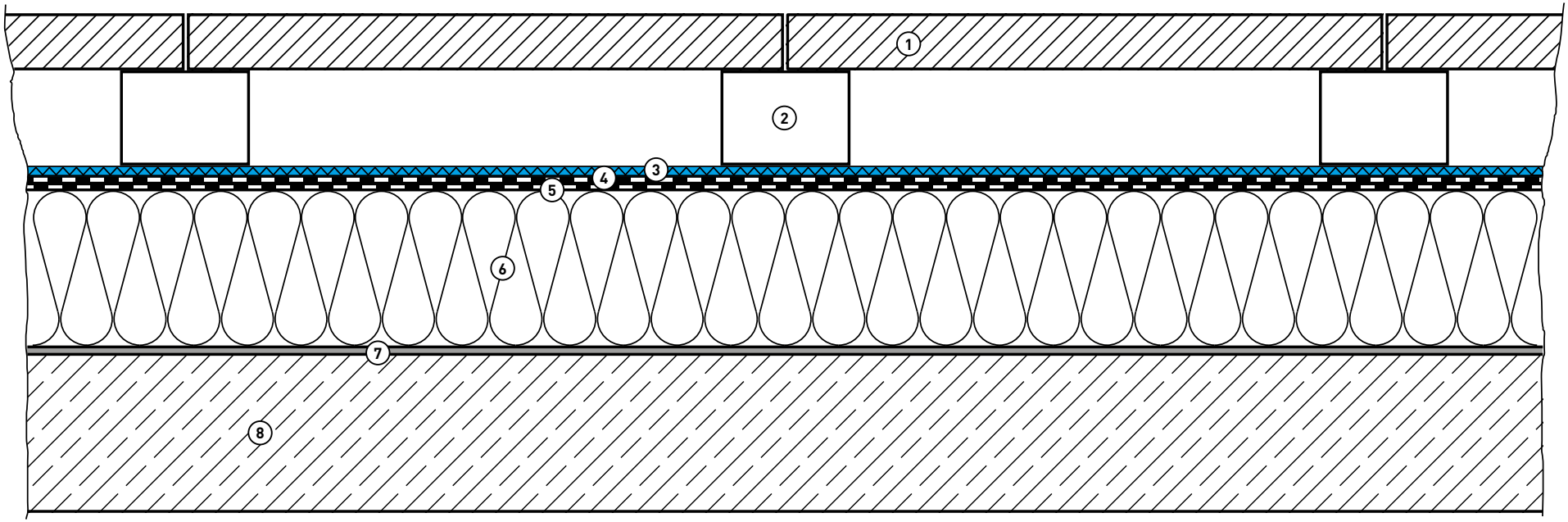
IMPACT SOUND IMPROVEMENT **ΔL_w = 35 dB**

KRAITEC®

1. Concrete sidewalk slab, smooth 500 x 500 x 50 mm
2. PA stilt bearing, adjustable
3. **DAMTEC® sonic**, 8 mm
4. Top layer PYE PV200 S5, slate
5. 1st Waterproofing layer G200 S4, powder
6. Insulation PIR FA WLS 024, 140 mm
7. Bitumen vapour barrier V60 S4 +AL
8. Concrete ceiling, 140 mm

Frequenz f [Hz]	$L_{n,0}$ Terzband [dB]	ΔL Terzband [dB]
50	56,5	5,3
63	62,7	5,1
80	57,4	8,2
100	57,2	14,0
125	67,5	19,5
160	62,6	24,3
200	64,1	27,4
250	67,1	24,0
315	65,3	26,6
400	64,7	28,0
500	65,0	22,0
630	65,3	27,9
800	66,4	24,5
1000	67,8	35,9
1250	67,7	32,0
1600	68,2	46,1
2000	68,8	40,1
2500	68,6	43,5
3150	67,9	50,3
4000	66,9	48,6
5000	64,4	51,8





DAMTEC® sonic ROOF CONSTRUCTION 04

Test report number 137-453

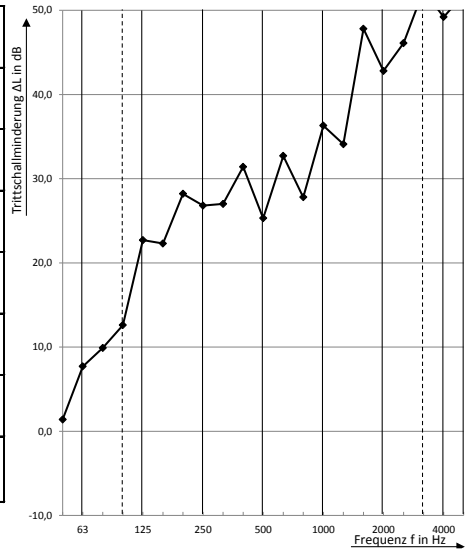
INSULATION EPS / WATERPROOFING BITUMEN SHEETS

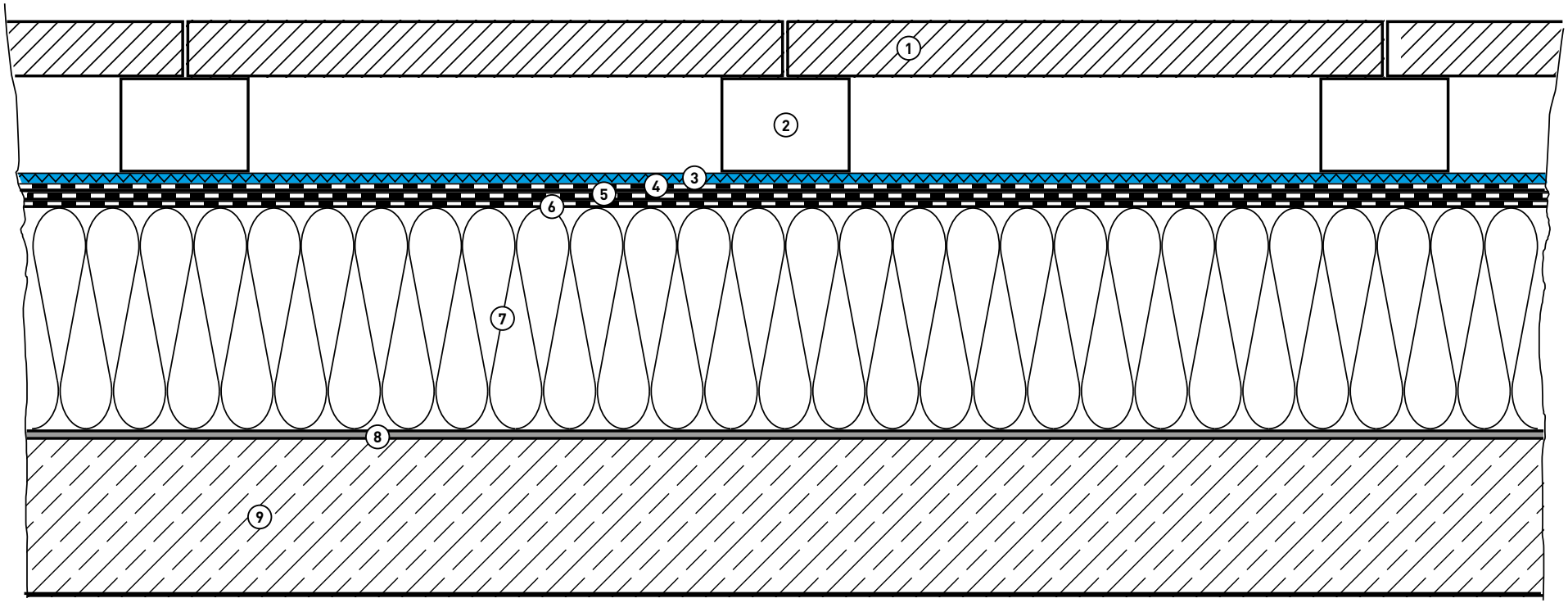
IMPACT SOUND IMPROVEMENT **ΔL_w = 37 dB**

KRAITEC®

1. Concrete sidewalk slab, smooth 500 x 500 x 50 mm
2. PA stilt bearing, adjustable
3. **DAMTEC® sonic**, 8 mm
4. Top layer PYE PV200 S5, slate
5. 1st Waterproofing layer G200 S4, powder
6. Laminate layer G 200 DD, sand
7. Insulation EPS 035/200 KPA DAA DH, 200 mm
8. Bitumen vapour barrier V60 S4 +AL
9. Concrete ceiling, 140 mm

Frequenz f [Hz]	$L_{n,0}$ Terzband [dB]	ΔL Terzband [dB]
50	56,5	1,4
63	62,7	7,7
80	57,4	9,9
100	57,2	12,6
125	67,5	22,7
160	62,6	22,3
200	64,1	28,2
250	67,1	26,8
315	65,3	27,0
400	64,7	31,4
500	65,0	25,3
630	65,3	32,7
800	66,4	27,8
1000	67,8	36,3
1250	67,7	34,1
1600	68,2	47,8
2000	68,8	42,8
2500	68,6	46,1
3150	67,9	52,4
4000	66,9	49,2
5000	64,4	51,9





DAMTEC® sonic ROOF CONSTRUCTION 05

Test report number 137-454

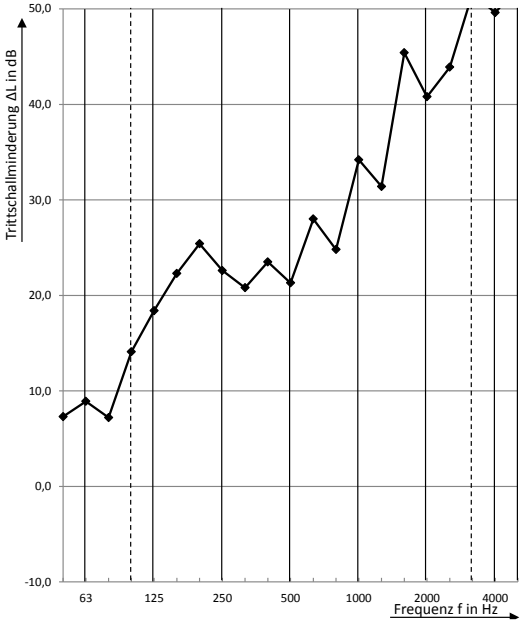
INSULATION PIR / WATERPROOFING BITUMEN SHEETS

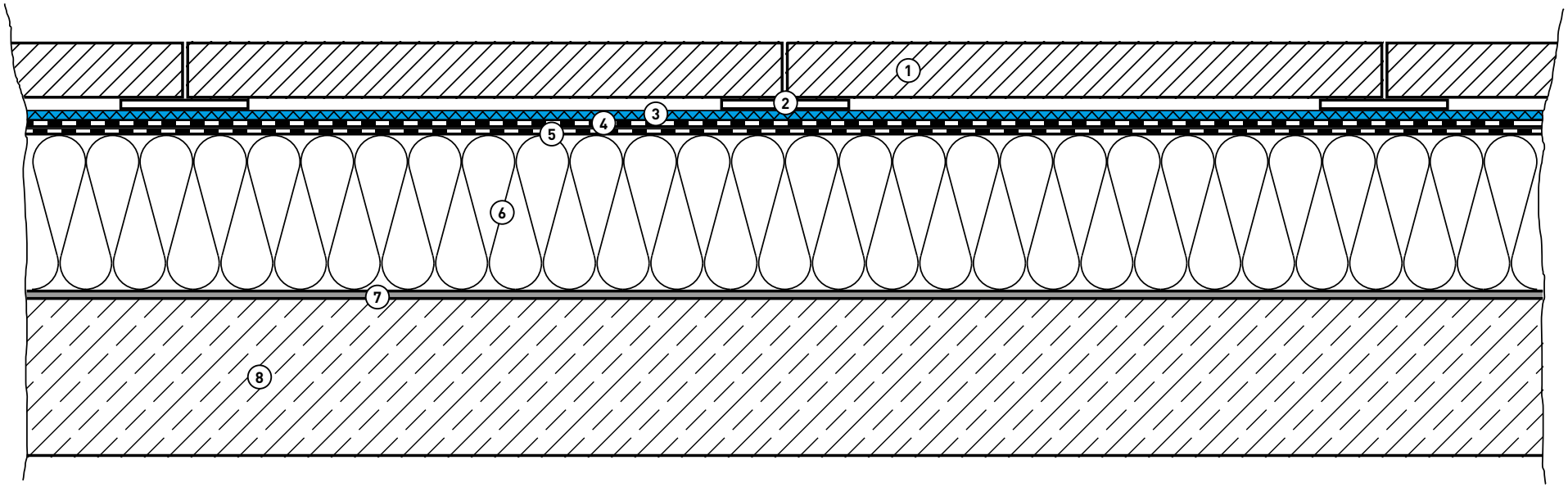
IMPACT SOUND IMPROVEMENT **ΔL_w = 34 dB**

KRAITEC®

1. Concrete sidewalk slab, smooth 500 x 500 x 50 mm
2. Rubber disks
3. **DAMTEC® sonic**, 8 mm
4. Top layer PYE PV200 S5, slate
5. 1st Waterproofing layer G200 S4, powder
6. Insulation PIR FA WLS 024, 140 mm
7. Bitumen vapour barrier V60 S4 +AL
8. Concrete ceiling, 140 mm

Frequenz f [Hz]	$L_{n,0}$ Terzband [dB]	ΔL Terzband [dB]
50	56,5	7,3
63	62,7	8,9
80	57,4	7,2
100	57,2	14,1
125	67,5	18,4
160	62,6	22,3
200	64,1	25,4
250	67,1	22,6
315	65,3	20,8
400	64,7	23,5
500	65,0	21,3
630	65,3	28,0
800	66,4	24,8
1000	67,8	34,2
1250	67,7	31,4
1600	68,2	45,4
2000	68,8	40,8
2500	68,6	43,9
3150	67,9	51,6
4000	66,9	49,6
5000	64,4	52,4





DAMTEC® sonic ROOF CONSTRUCTION 06

Test report number 137-455

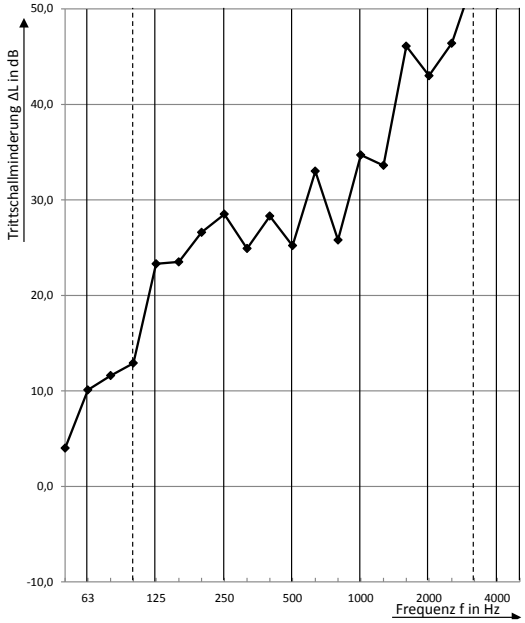
INSULATION EPS / WATERPROOFING BITUMEN SHEETS

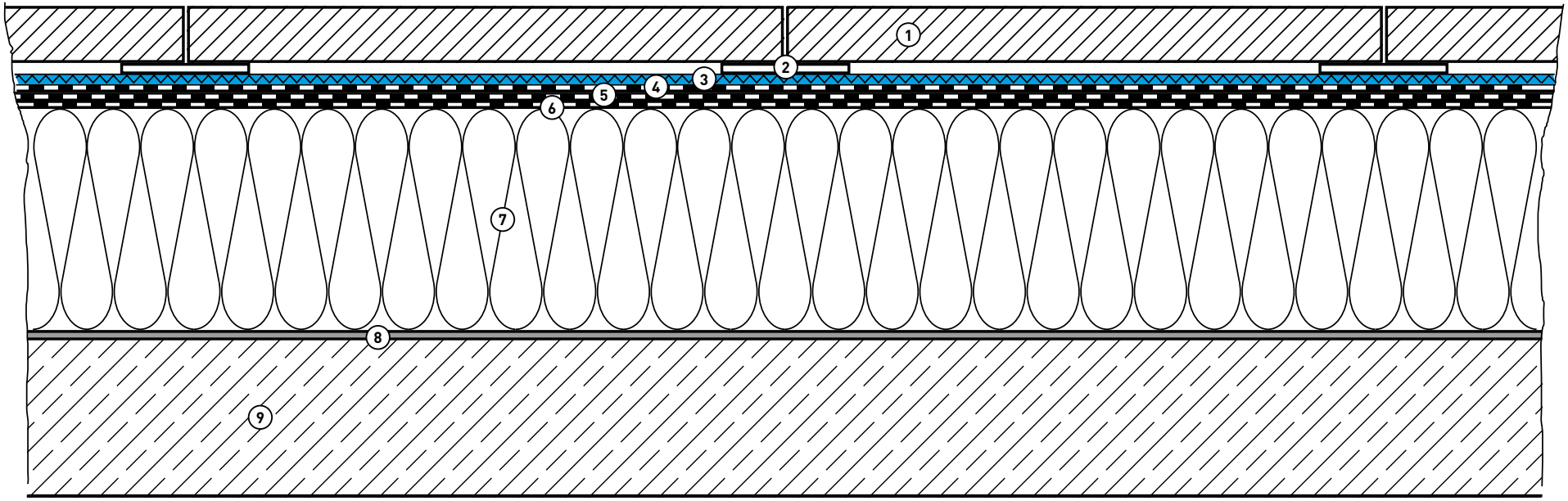
IMPACT SOUND IMPROVEMENT **ΔL_w = 37 dB**

KRAITEC®

1. Concrete sidewalk slab, smooth 500 x 500 x 50 mm
2. Rubber disks
3. **DAMTEC® sonic**, 8 mm
4. Top layer PYE PV200 S5, slate
5. 1st Waterproofing layer G200 S4, powder
6. Laminate layer G 200 DD, sand
7. Insulation EPS 035/200 KPA DAA DH, 200 mm
8. Bitumen vapour barrier V60 S4 +AL
9. Concrete ceiling, 140 mm

Frequenz f [Hz]	$L_{n,0}$ Terzband [dB]	ΔL Terzband [dB]
50	56,5	4,0
63	62,7	10,1
80	57,4	11,6
100	57,2	12,9
125	67,5	23,3
160	62,6	23,5
200	64,1	26,6
250	67,1	28,5
315	65,3	24,9
400	64,7	28,3
500	65,0	25,2
630	65,3	33,0
800	66,4	25,8
1000	67,8	34,7
1250	67,7	33,6
1600	68,2	46,1
2000	68,8	43,0
2500	68,6	46,4
3150	67,9	53,4
4000	66,9	50,1
5000	64,4	52,5





DAMTEC® sonic ROOF CONSTRUCTION 07

Test report number 137-456

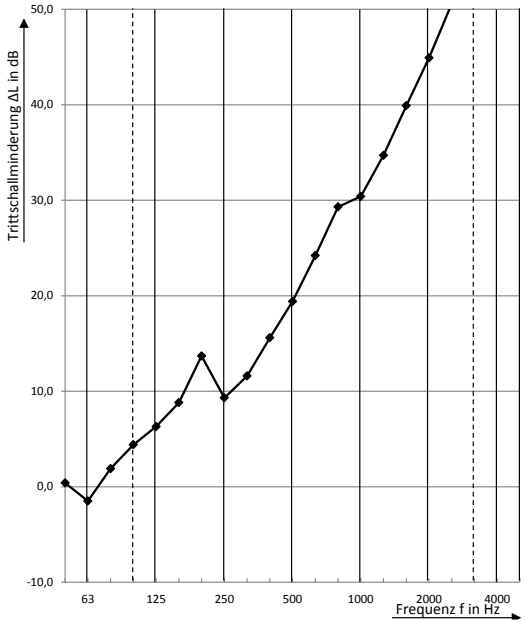
INSULATION PIR / WATERPROOFING BITUMEN SHEETS

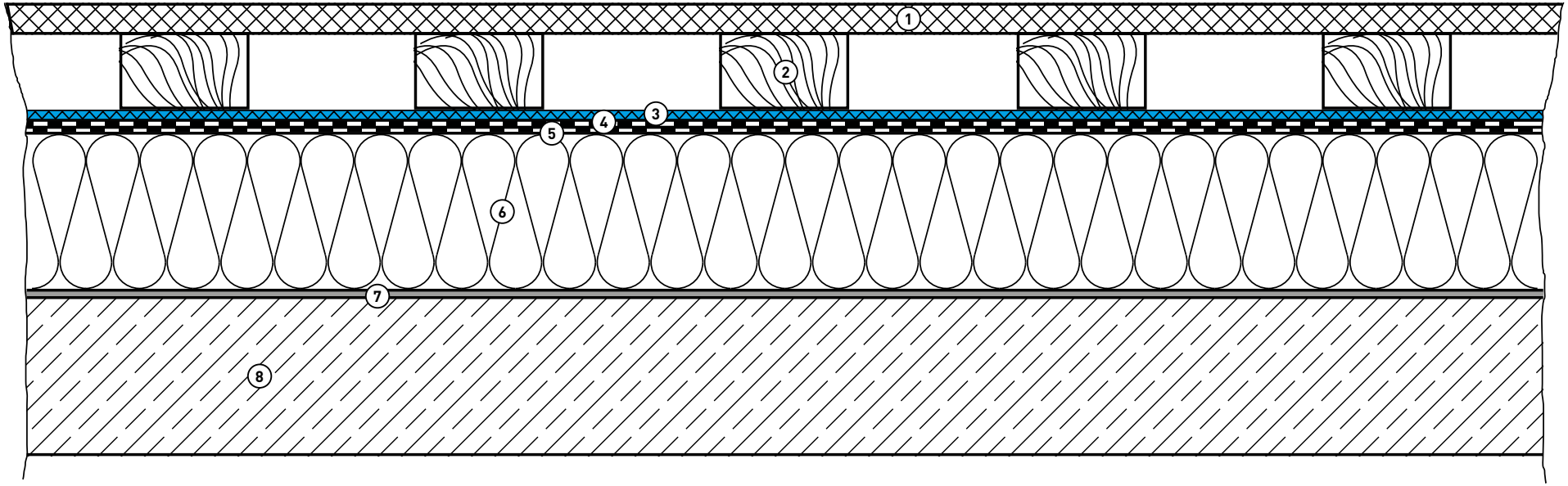
IMPACT SOUND IMPROVEMENT **ΔL_w = 25 dB**

KRAITEC®

1. Wood planking, larch, 28 mm, center distance 60 cm
2. Support laths 40 x 80 mm
3. **DAMTEC® sonic**, 8 mm
4. Top layer PYE PV200 S5, slate
5. 1st Waterproofing layer G200 S4, powder
6. Insulation PIR FA WLS 024, 140 mm
7. Bitumen vapour barrier V60 S4 +AL
8. Concrete ceiling, 140 mm

Frequenz f [Hz]	$L_{n,0}$ Terzband [dB]	ΔL Terzband [dB]
50	56,5	0,4
63	62,7	-1,5
80	57,4	1,9
100	57,2	4,4
125	67,5	6,3
160	62,6	8,8
200	64,1	13,7
250	67,1	9,3
315	65,3	11,6
400	64,7	15,6
500	65,0	19,4
630	65,3	24,2
800	66,4	29,3
1000	67,8	30,4
1250	67,7	34,7
1600	68,2	39,9
2000	68,8	44,9
2500	68,6	50,6
3150	67,9	55,0
4000	66,9	56,5
5000	64,4	54,4





DAMTEC® sonic ROOF CONSTRUCTION 08

Test report number 137-457

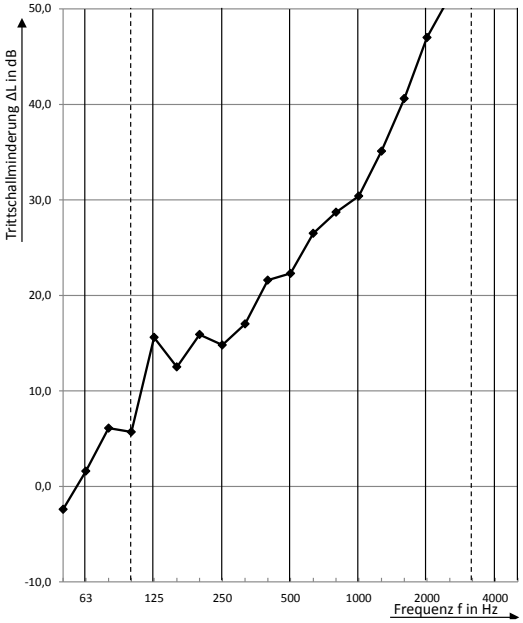
INSULATION EPS / WATERPROOFING BITUMEN SHEETS

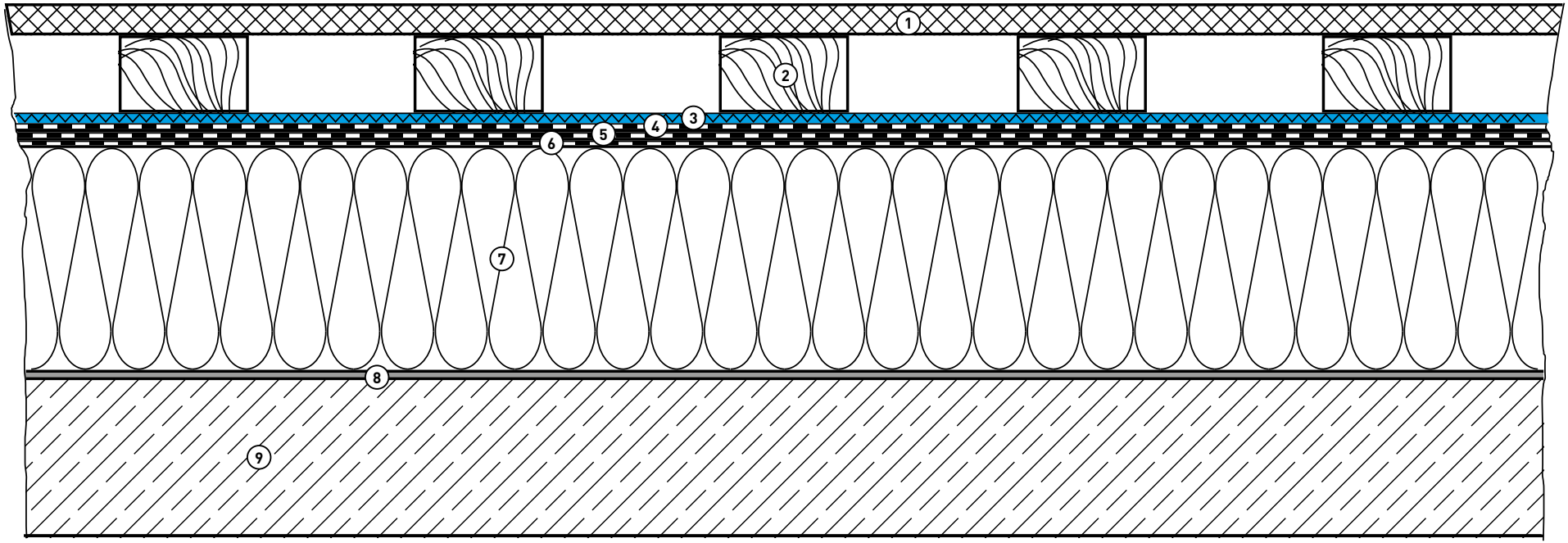
IMPACT SOUND IMPROVEMENT **ΔL_w = 30 dB**

KRAITEC®

1. Wood planking, larch, 28 mm, center distance 60 cm
2. Support laths 40 x 80 mm, center distance 600 mm
3. **DAMTEC® sonic**, 8 mm
4. Top layer PYE PV200 S5, slate
5. 1st Waterproofing layer G200 S4, powder
6. Laminate layer G 200 DD, sand
7. Insulation EPS 035/200 KPA DAA DH, 200 mm
8. Bitumen vapour barrier V60 S4 +AL
9. Concrete ceiling, 140 mm

Frequenz f [Hz]	$L_{n,0}$ Terzband [dB]	ΔL Terzband [dB]
50	56,5	-2,4
63	62,7	1,6
80	57,4	6,1
100	57,2	5,7
125	67,5	15,6
160	62,6	12,5
200	64,1	15,9
250	67,1	14,8
315	65,3	17,0
400	64,7	21,6
500	65,0	22,3
630	65,3	26,5
800	66,4	28,7
1000	67,8	30,4
1250	67,7	35,1
1600	68,2	40,6
2000	68,8	47,0
2500	68,6	51,3
3150	67,9	54,8
4000	66,9	56,7
5000	64,4	54,7





DAMTEC® sonic ROOF CONSTRUCTION 09

Test report number 137-458

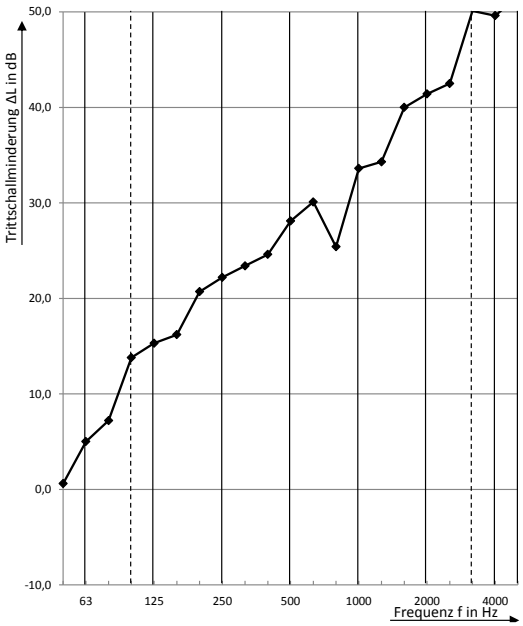
INSULATION PIR / WATERPROOFING FOIL

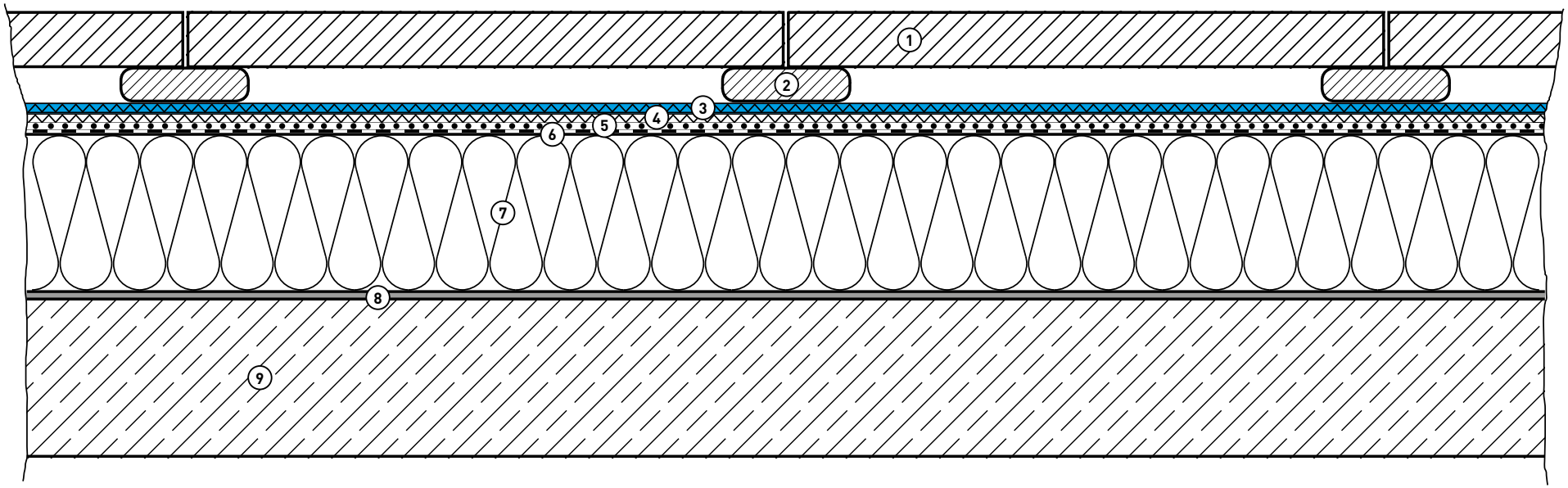
IMPACT SOUND IMPROVEMENT **ΔL_w = 34 dB**

KRAITEC®

1. Concrete sidewalk slabs, smooth 500 x 500 x 50 mm
2. Mortar sacks
3. **DAMTEC® sonic**, 8 mm
4. Separating layer polyester fleece, 300 g/m²
5. PVC roofing felt 1.5 mm
6. Rough glass fleece 120 g/m²
7. Insulation PIR FA WLS 024, 140 mm
8. Bitumen vapour barrier V60 S4 +AL
9. Concrete ceiling, 140 mm

Frequenz f [Hz]	$L_{n,0}$ Terzband [dB]	ΔL Terzband [dB]
50	56,5	0,6
63	62,7	5,0
80	57,4	7,2
100	57,2	13,8
125	67,5	15,3
160	62,6	16,2
200	64,1	20,7
250	67,1	22,2
315	65,3	23,4
400	64,7	24,6
500	65,0	28,1
630	65,3	30,1
800	66,4	25,4
1000	67,8	33,6
1250	67,7	34,3
1600	68,2	40,0
2000	68,8	41,4
2500	68,6	42,5
3150	67,9	50,1
4000	66,9	49,6
5000	64,4	51,7





DAMTEC® sonic ROOF CONSTRUCTION 10

Test report number 137-459

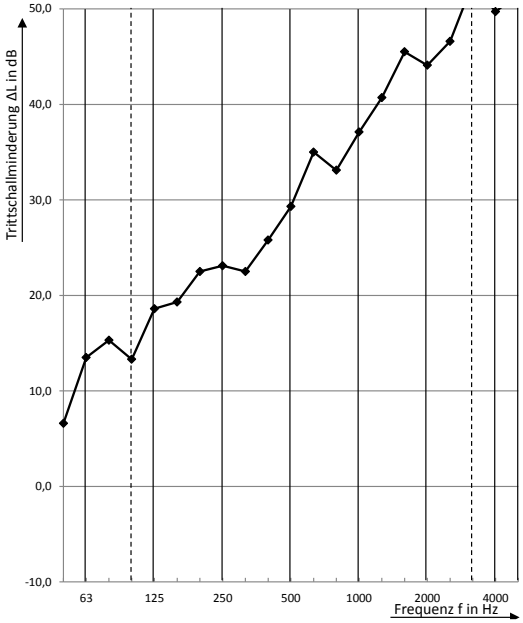
INSULATION EPS / WATERPROOFING FOIL

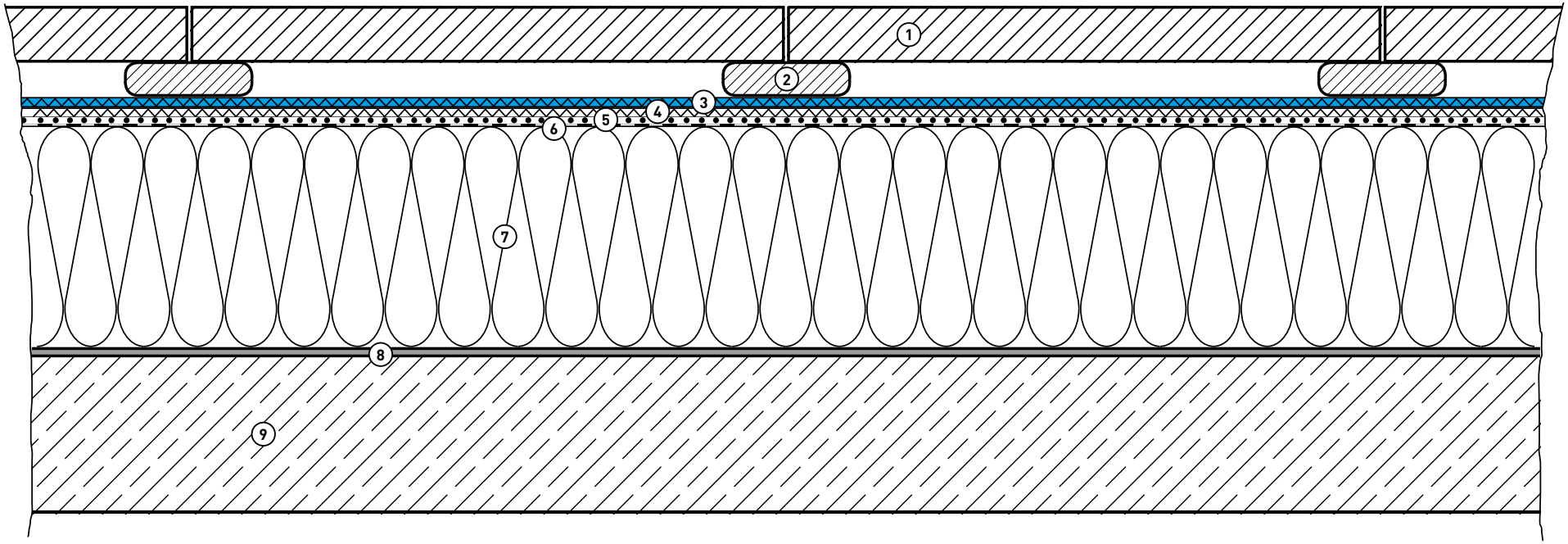
IMPACT SOUND IMPROVEMENT **ΔL_w = 36 dB**

KRAITEC®

1. Concrete sidewalk slabs, smooth 500 x 500 x 50 mm
2. Mortar sacks
3. **DAMTEC® sonic**, 8 mm
4. Separating layer polyester fleece, 300 g/m²
5. PVC roofing felt 1.5 mm
6. Rough glass fleece 120 g/m²
7. Insulation EPS 035/200 KPA DAA DH, 200 mm
8. Bitumen vapour barrier V60 S4 +AL
9. Concrete ceiling, 140 mm

Frequenz f [Hz]	$L_{n,0}$ Terzband [dB]	ΔL Terzband [dB]
50	56,5	6,6
63	62,7	13,5
80	57,4	15,3
100	57,2	13,3
125	67,5	18,6
160	62,6	19,3
200	64,1	22,5
250	67,1	23,1
315	65,3	22,5
400	64,7	25,8
500	65,0	29,3
630	65,3	35,0
800	66,4	33,1
1000	67,8	37,1
1250	67,7	40,7
1600	68,2	45,5
2000	68,8	44,1
2500	68,6	46,6
3150	67,9	52,7
4000	66,9	49,7
5000	64,4	51,6





DAMTEC® sonic ROOF CONSTRUCTION 11

Test report number 137-460

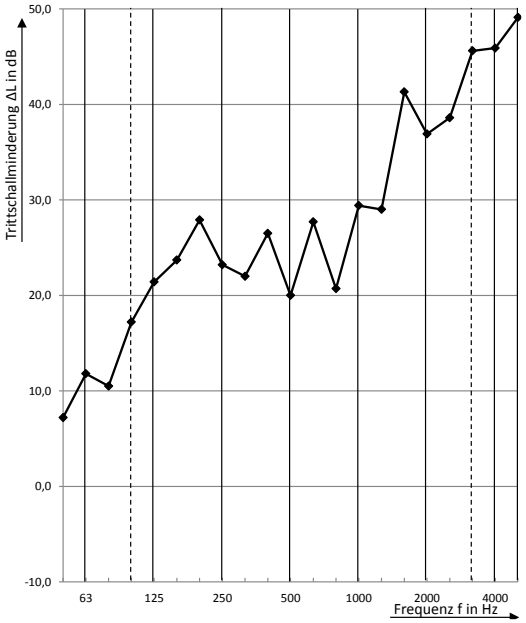
INSULATION PIR / WATERPROOFING FOIL

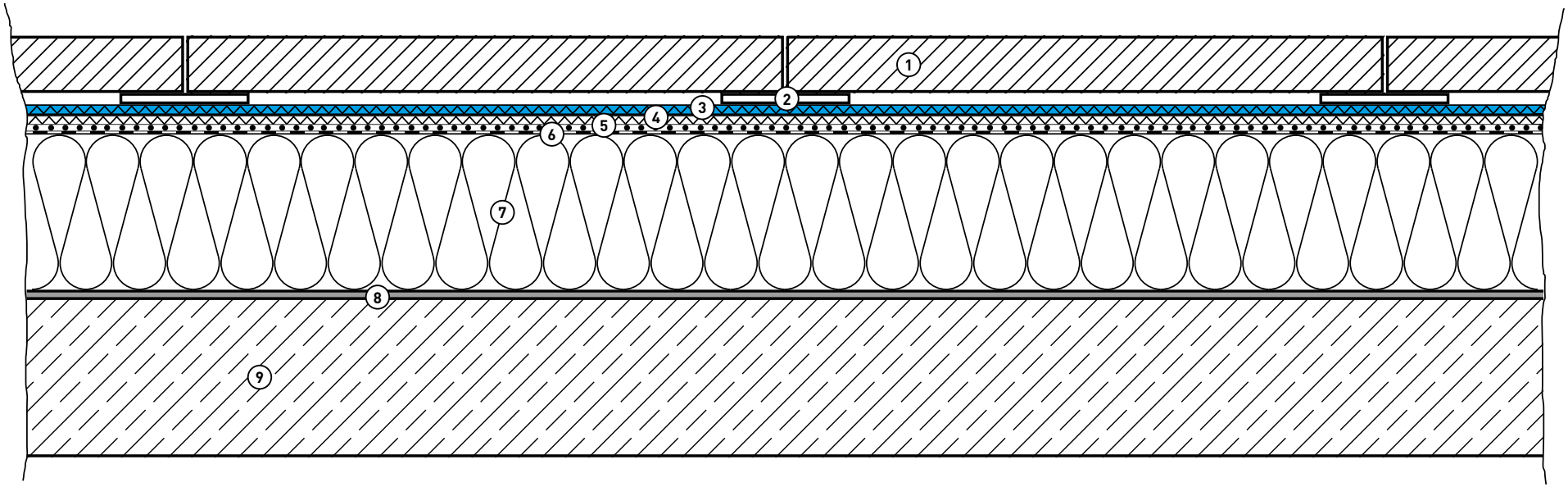
IMPACT SOUND IMPROVEMENT **ΔL_w = 33 dB**

KRAITEC®

1. Concrete sidewalk slabs, smooth 500 x 500 x 50 mm
2. Rubber disks
3. **DAMTEC® sonic**, 8 mm
4. Separating layer polyester fleece, 300 g/m²
5. PVC roofing felt 1.5 mm
6. Rough glass fleece 120 g/m²
7. Insulation PIR FA WLS 024, 140 mm
8. Bitumen vapour barrier V60 S4 +AL
9. Concrete ceiling, 140 mm

Frequenz f [Hz]	$L_{n,0}$ Terzband [dB]	ΔL Terzband [dB]
50	56,5	7,2
63	62,7	11,8
80	57,4	10,5
100	57,2	17,2
125	67,5	21,4
160	62,6	23,7
200	64,1	27,9
250	67,1	23,2
315	65,3	22,0
400	64,7	26,5
500	65,0	20,0
630	65,3	27,7
800	66,4	20,7
1000	67,8	29,4
1250	67,7	29,0
1600	68,2	41,3
2000	68,8	36,9
2500	68,6	38,6
3150	67,9	45,6
4000	66,9	45,9
5000	64,4	49,1





DAMTEC® sonic ROOF CONSTRUCTION 12

Test report number 137-461

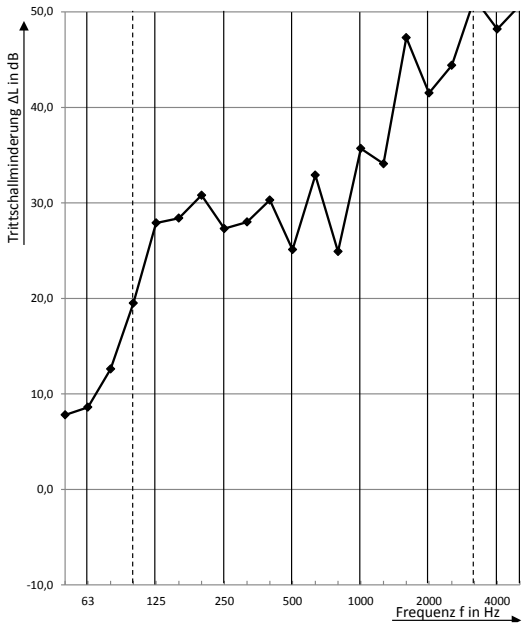
INSULATION EPS / WATERPROOFING FOIL

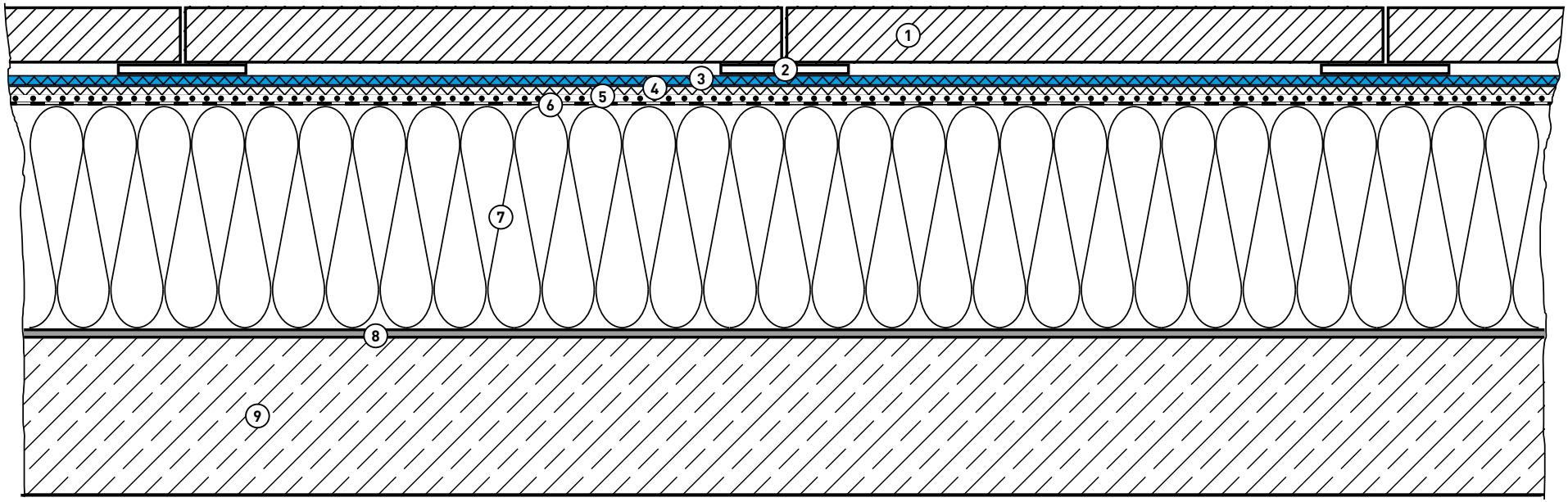
IMPACT SOUND IMPROVEMENT **ΔL_w = 38 dB**

KRAITEC®

1. Concrete sidewalk slabs, smooth 500 x 500 x 50 mm
2. Rubber disks
3. **DAMTEC® sonic**, 8 mm
4. Separating layer polyester fleece, 300 g/m²
5. PVC roofing felt 1.5 mm
6. Rough glass fleece 120 g/m²
7. Insulation EPS 035/200 KPA DAA DH, 200 mm
8. Bitumen vapour barrier V60 S4 +AL
9. Concrete ceiling, 140 mm

Frequenz f [Hz]	$L_{n,0}$ Terzband [dB]	ΔL Terzband [dB]
50	56,5	7,8
63	62,7	8,6
80	57,4	12,6
100	57,2	19,5
125	67,5	27,9
160	62,6	28,4
200	64,1	30,8
250	67,1	27,3
315	65,3	28,0
400	64,7	30,3
500	65,0	25,1
630	65,3	32,9
800	66,4	24,9
1000	67,8	35,7
1250	67,7	34,1
1600	68,2	47,3
2000	68,8	41,5
2500	68,6	44,4
3150	67,9	51,4
4000	66,9	48,2
5000	64,4	50,7





DAMTEC® sonic ROOF CONSTRUCTION 13

Test report number 137-462

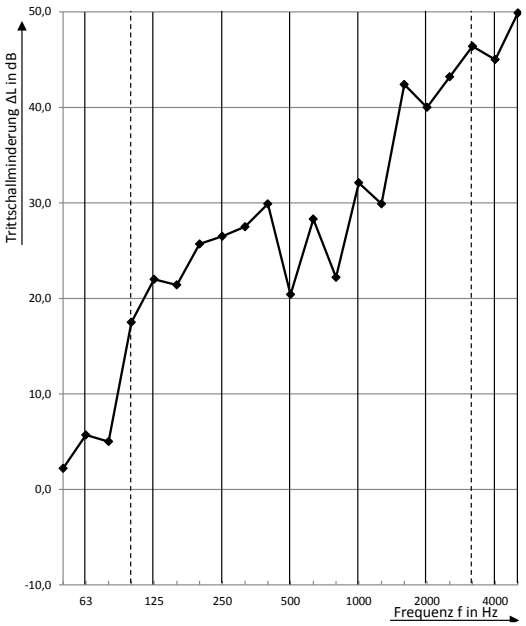
INSULATION PIR / WATERPROOFING FOIL

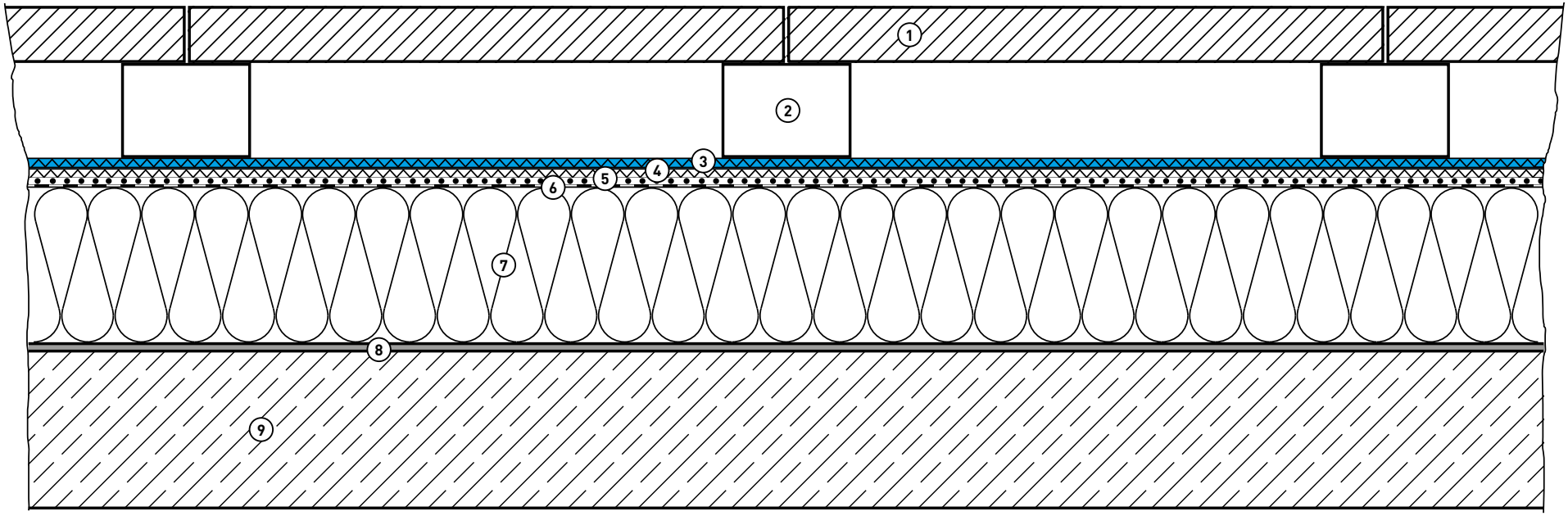
IMPACT SOUND IMPROVEMENT **ΔL_w = 35 dB**

KRAITEC®

1. Concrete sidewalk slabs, smooth 500 x 500 x 50 mm
2. PA stilt bearing, adjustable
3. **DAMTEC® sonic**, 8 mm
4. Separating layer polyester fleece, 300 g/m²
5. PVC roofing felt 1.5 mm
6. Rough glass fleece 120 g/m²
7. Insulation PIR FA WLS 024, 140 mm
8. Bitumen vapour barrier V60 S4 +AL
9. Concrete ceiling, 140 mm

Frequenz f [Hz]	$L_{n,0}$ Terzband [dB]	ΔL Terzband [dB]
50	56,5	2,2
63	62,7	5,7
80	57,4	5,0
100	57,2	17,5
125	67,5	22,0
160	62,6	21,4
200	64,1	25,7
250	67,1	26,5
315	65,3	27,5
400	64,7	29,9
500	65,0	20,4
630	65,3	28,3
800	66,4	22,2
1000	67,8	32,1
1250	67,7	29,9
1600	68,2	42,4
2000	68,8	40,0
2500	68,6	43,2
3150	67,9	46,4
4000	66,9	45,0
5000	64,4	49,9





DAMTEC® sonic ROOF CONSTRUCTION 14

Test report number 137-463

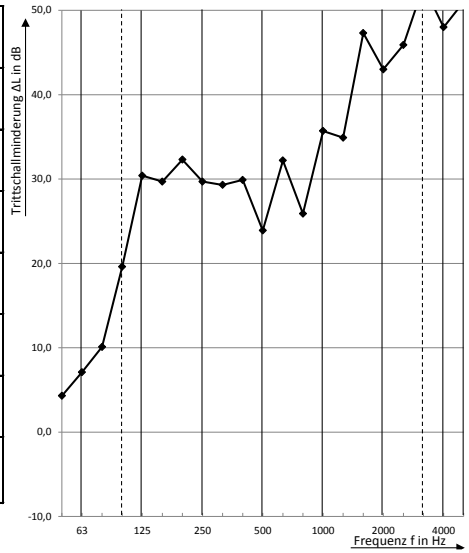
INSULATION EPS / WATERPROOFING FOIL

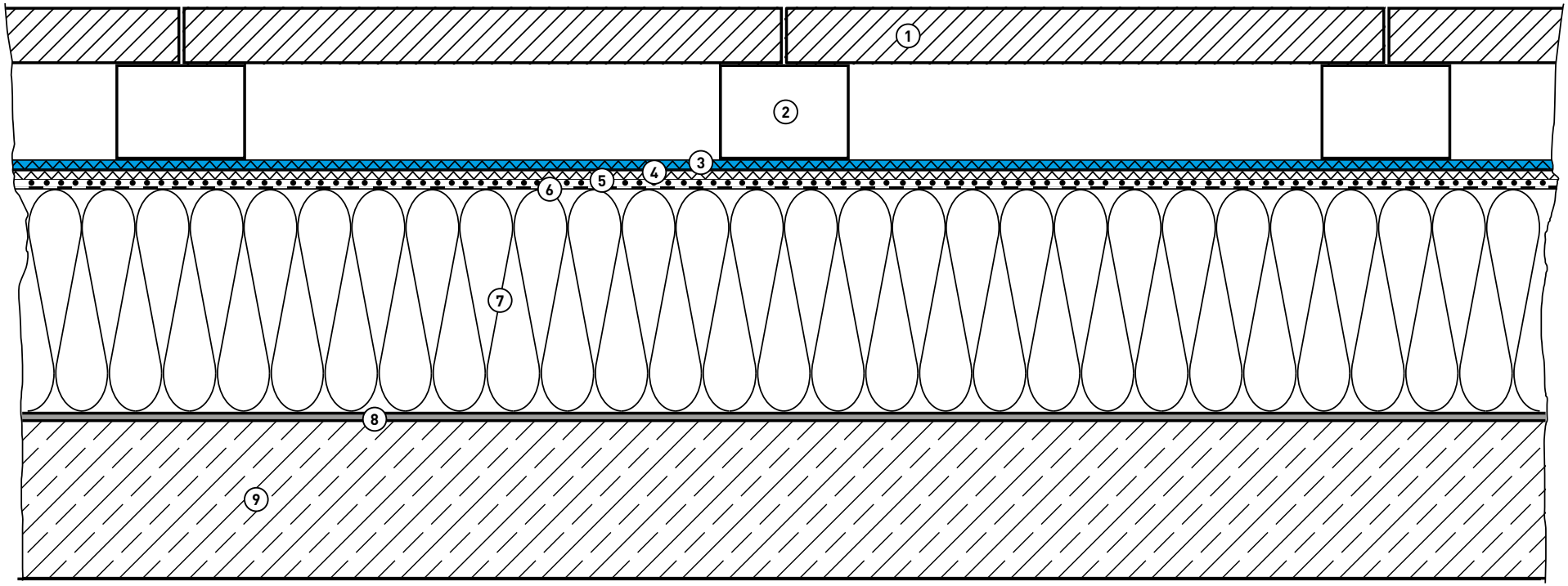
IMPACT SOUND IMPROVEMENT **ΔL_w = 39 dB**

KRAITEC®

1. Concrete sidewalk slabs, smooth 500 x 500 x 50 mm
2. PA stilt bearing, adjustable
3. **DAMTEC® sonic**, 8 mm
4. Separating layer polyester fleece, 300 g/m²
5. PVC roofing felt 1.5 mm
6. Rough glass fleece 120 g/m²
7. Insulation EPS 035/200 KPA DAA DH, 200 mm
8. Bitumen vapour barrier V60 S4 +AL
9. Concrete ceiling, 140 mm

Frequenz f [Hz]	$L_{n,0}$ Terzband [dB]	ΔL Terzband [dB]
50	56,5	4,3
63	62,7	7,1
80	57,4	10,1
100	57,2	19,6
125	67,5	30,4
160	62,6	29,7
200	64,1	32,3
250	67,1	29,7
315	65,3	29,3
400	64,7	29,9
500	65,0	23,9
630	65,3	32,2
800	66,4	25,9
1000	67,8	35,7
1250	67,7	34,9
1600	68,2	47,3
2000	68,8	43,0
2500	68,6	45,9
3150	67,9	52,9
4000	66,9	48,0
5000	64,4	51,0





DAMTEC® sonic ROOF CONSTRUCTION 15

Test report number 137-464

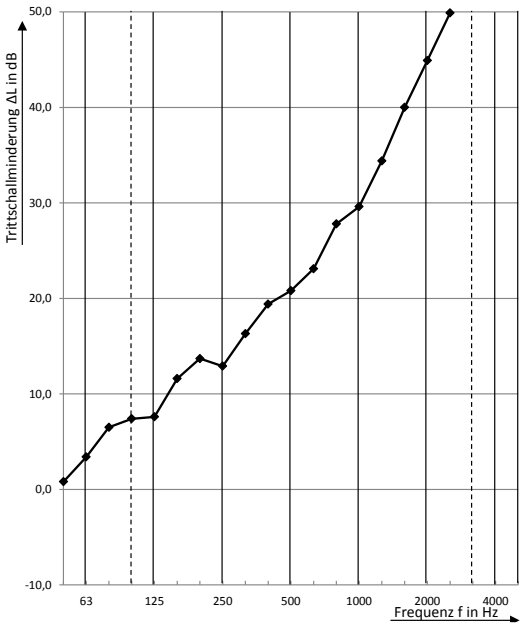
INSULATION PIR / WATERPROOFING FOIL

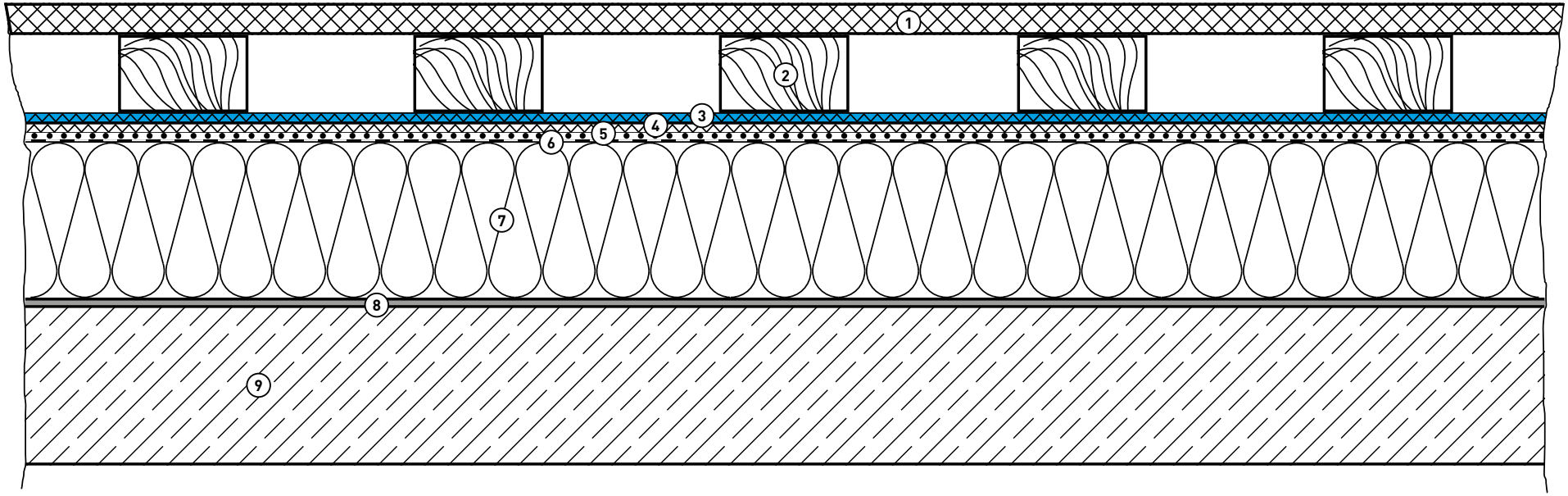
IMPACT SOUND IMPROVEMENT **ΔL_w = 28 dB**

KRAITEC®

1. Wood planking, larch, 28 mm, center distance 60 cm
2. Support laths, 40 x 80 mm
3. **DAMTEC® sonic**, 8 mm
4. Separating layer polyester fleece, 300 g/m²
5. PVC roofing felt 1.5 mm
6. Rough glass fleece 120 g/m²
7. Insulation PIR FA WLS 024, 140 mm
8. Bitumen vapour barrier V60 S4 +AL
9. Concrete ceiling, 140 mm

Frequenz f [Hz]	$L_{n,0}$ Terzband [dB]	ΔL Terzband [dB]
50	56,5	0,8
63	62,7	3,4
80	57,4	6,5
100	57,2	7,4
125	67,5	7,6
160	62,6	11,6
200	64,1	13,7
250	67,1	12,9
315	65,3	16,3
400	64,7	19,4
500	65,0	20,8
630	65,3	23,1
800	66,4	27,8
1000	67,8	29,6
1250	67,7	34,4
1600	68,2	40,0
2000	68,8	44,9
2500	68,6	49,9
3150	67,9	54,4
4000	66,9	56,5
5000	64,4	54,4





DAMTEC® sonic ROOF CONSTRUCTION 16

Test report number 137-465

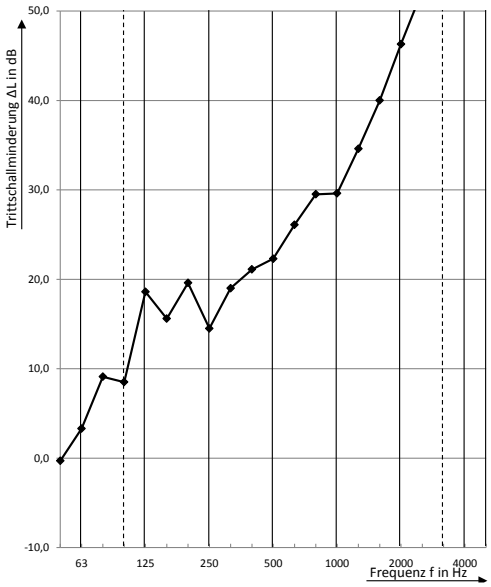
INSULATION EPS / WATERPROOFING FOIL

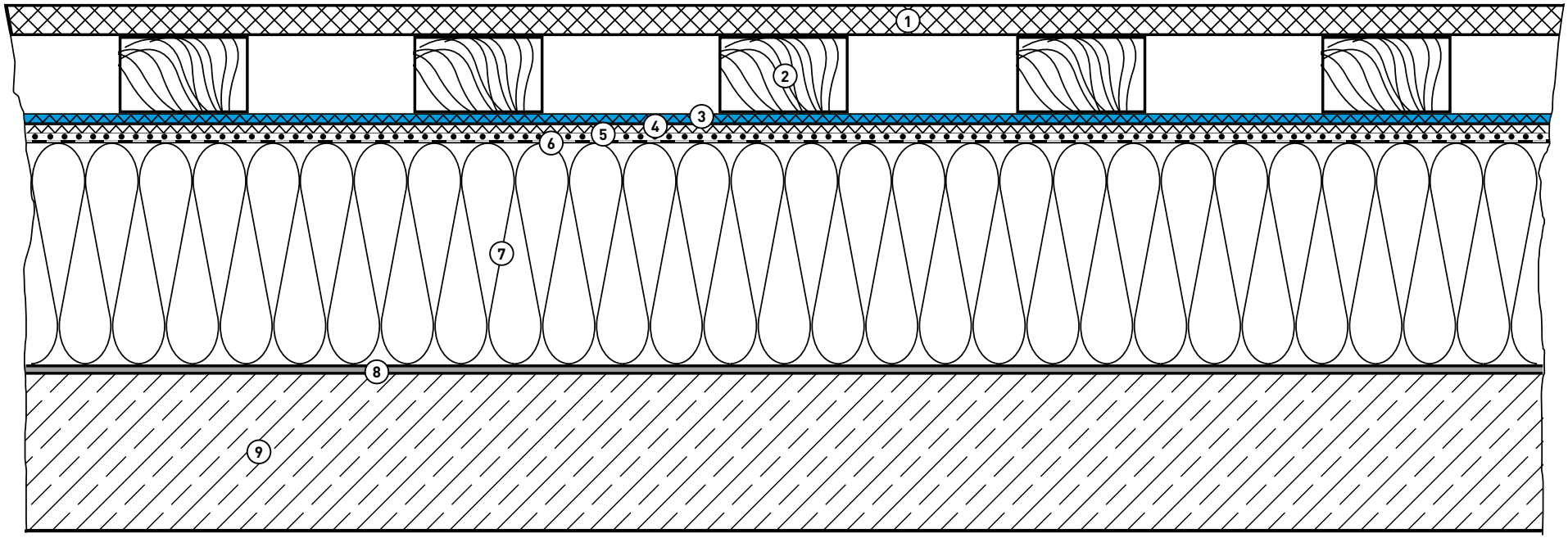
IMPACT SOUND IMPROVEMENT **ΔL_w = 32 dB**

KRAITEC®

1. Wood planking, larch, 28 mm, center distance 60 cm
2. Support laths, 40 x 80 mm, center distance 600 mm
3. **DAMTEC® sonic**, 8 mm
4. Separating layer polyester fleece, 300 g/m²
5. PVC roofing felt 1.5 mm
6. Rough glass fleece 120 g/m²
7. Insulation EPS 035/200 KPA DAA DH, 200 mm
8. Bitumen vapour barrier V60 S4 +AL
9. Concrete ceiling, 140 mm

Frequenz f [Hz]	$L_{n,0}$ Terzband [dB]	ΔL Terzband [dB]
50	56,5	-0,3
63	62,7	3,3
80	57,4	9,1
100	57,2	8,5
125	67,5	18,6
160	62,6	15,6
200	64,1	19,6
250	67,1	14,5
315	65,3	19,0
400	64,7	21,1
500	65,0	22,3
630	65,3	26,1
800	66,4	29,5
1000	67,8	29,6
1250	67,7	34,6
1600	68,2	40,0
2000	68,8	46,3
2500	68,6	52,3
3150	67,9	55,6
4000	66,9	56,6
5000	64,4	54,2





DAMTEC® sonic ROOF CONSTRUCTION 17

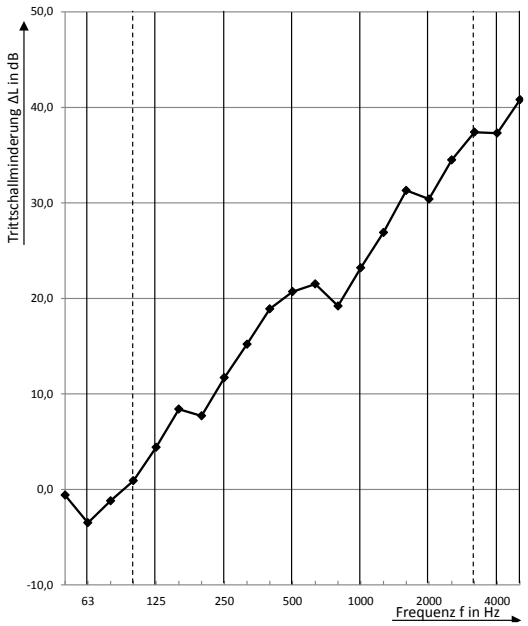
Test report number 137-466

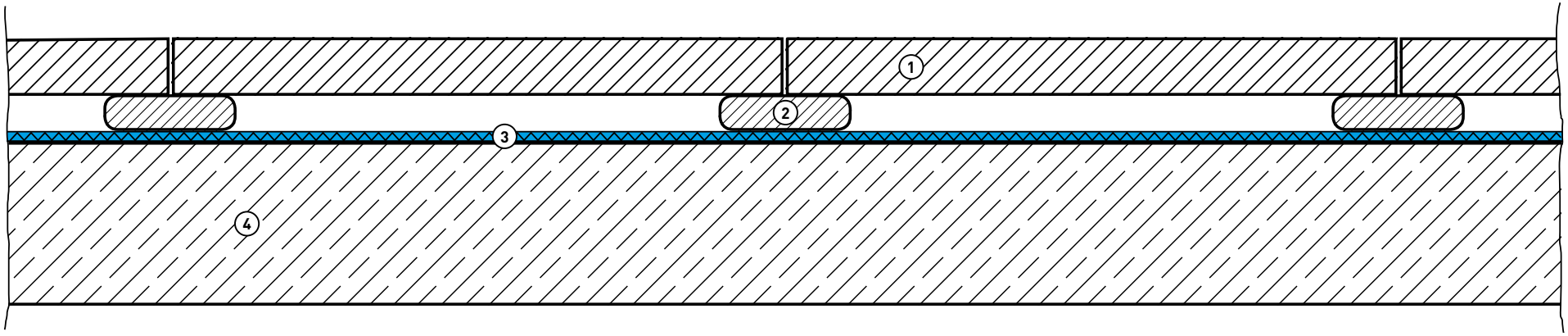
IMPACT SOUND IMPROVEMENT **ΔL_w = 24 dB**

KRAITEC®

1. Concrete sidewalk slabs, smooth 500 x 500 x 50 mm
2. Mortar sacks
3. **DAMTEC® sonic**, 8 mm
4. Concrete ceiling, 140 mm

Frequenz f [Hz]	$L_{n,0}$ Terzband [dB]	ΔL Terzband [dB]
50	56,5	-0,6
63	62,7	-3,5
80	57,4	-1,2
100	57,2	0,9
125	67,5	4,4
160	62,6	8,4
200	64,1	7,7
250	67,1	11,7
315	65,3	15,2
400	64,7	18,9
500	65,0	20,7
630	65,3	21,5
800	66,4	19,2
1000	67,8	23,2
1250	67,7	26,9
1600	68,2	31,3
2000	68,8	30,4
2500	68,6	34,5
3150	67,9	37,4
4000	66,9	37,3
5000	64,4	40,8





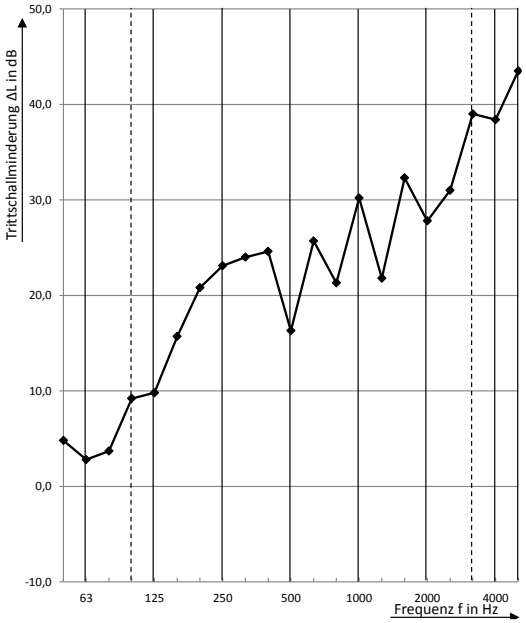
DAMTEC® sonic ROOF CONSTRUCTION 18

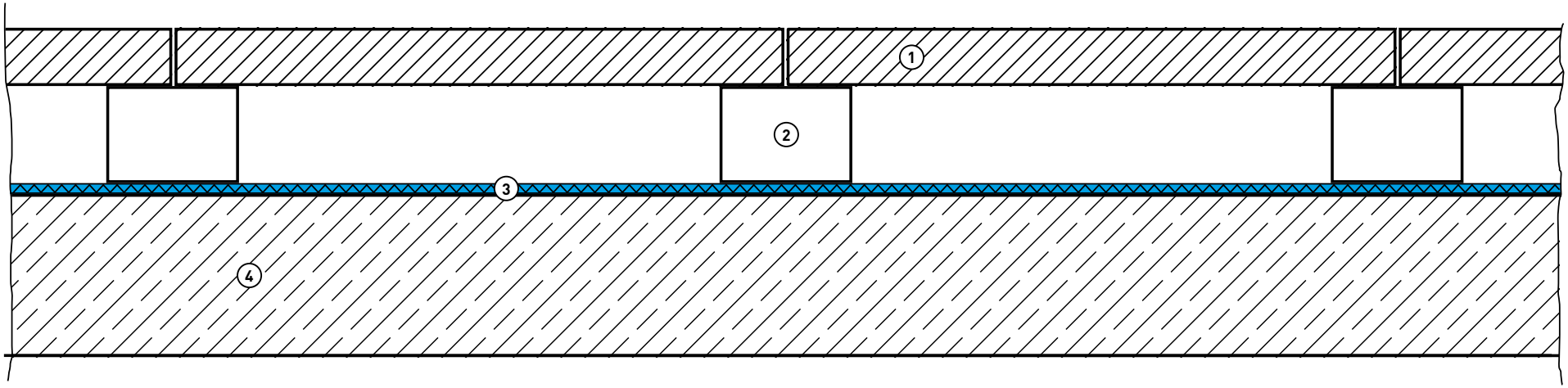
Test report number 137-467

IMPACT SOUND IMPROVEMENT **ΔL_w = 27 dB**

1. Concrete sidewalk slabs, smooth 500 x 500 x 50 mm
2. PA stilt bearing, adjustable
3. **DAMTEC® sonic**, 8 mm
4. Concrete ceiling, 140 mm

Frequenz f [Hz]	$L_{n,0}$ Terzband [dB]	ΔL Terzband [dB]
50	56,5	4,8
63	62,7	2,8
80	57,4	3,7
100	57,2	9,2
125	67,5	9,8
160	62,6	15,7
200	64,1	20,8
250	67,1	23,1
315	65,3	24,0
400	64,7	24,6
500	65,0	16,3
630	65,3	25,7
800	66,4	21,3
1000	67,8	30,2
1250	67,7	21,8
1600	68,2	32,3
2000	68,8	27,8
2500	68,6	31,0
3150	67,9	39,0
4000	66,9	38,4
5000	64,4	43,5





DAMTEC® sonic ROOF CONSTRUCTION 19

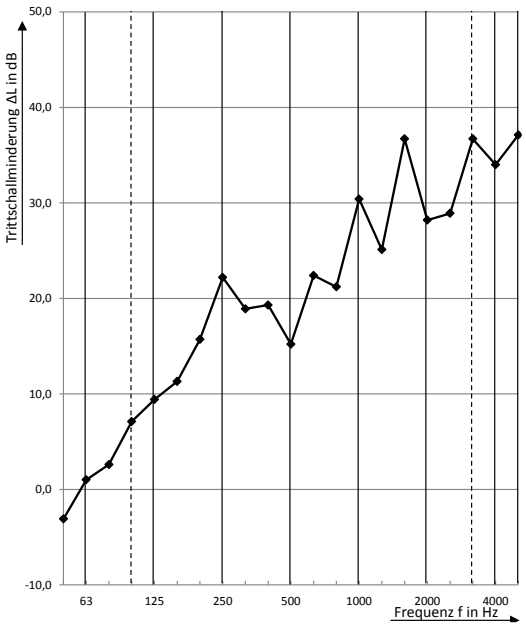
Test report number 137-468

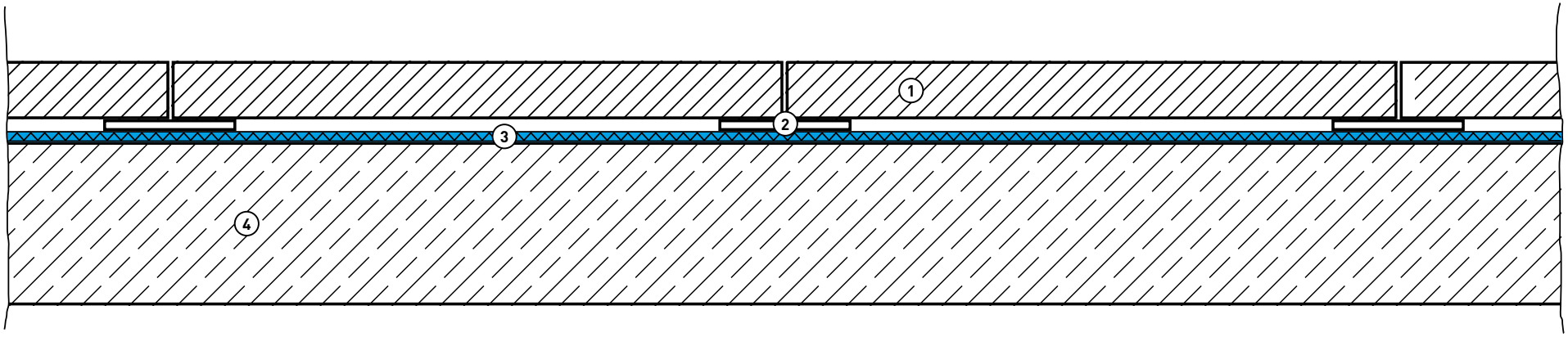
IMPACT SOUND IMPROVEMENT **ΔL_w = 26 dB**

KRAITEC®

1. Concrete sidewalk slabs, smooth 500 x 500 x 50 mm
2. Rubber disks
3. **DAMTEC® sonic**, 8 mm
4. Concrete ceiling, 140 mm

Frequenz f [Hz]	$L_{n,0}$ Terzband [dB]	ΔL Terzband [dB]
50	56,5	-3,1
63	62,7	1,0
80	57,4	2,6
100	57,2	7,1
125	67,5	9,4
160	62,6	11,3
200	64,1	15,7
250	67,1	22,2
315	65,3	18,9
400	64,7	19,3
500	65,0	15,2
630	65,3	22,4
800	66,4	21,2
1000	67,8	30,4
1250	67,7	25,1
1600	68,2	36,7
2000	68,8	28,2
2500	68,6	28,9
3150	67,9	36,7
4000	66,9	34,0
5000	64,4	37,1





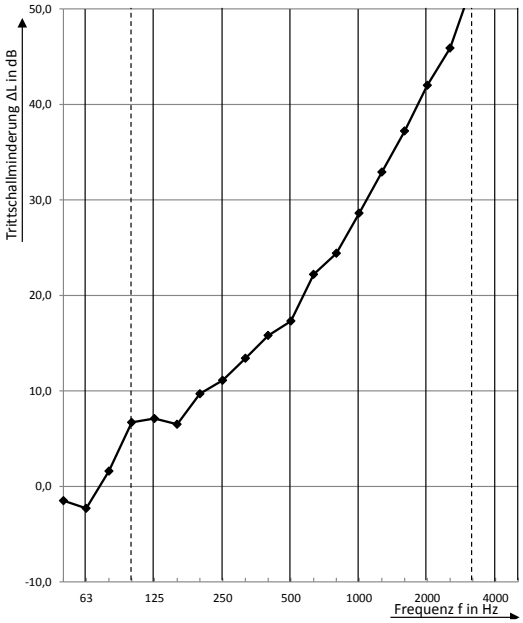
DAMTEC® sonic ROOF CONSTRUCTION 20

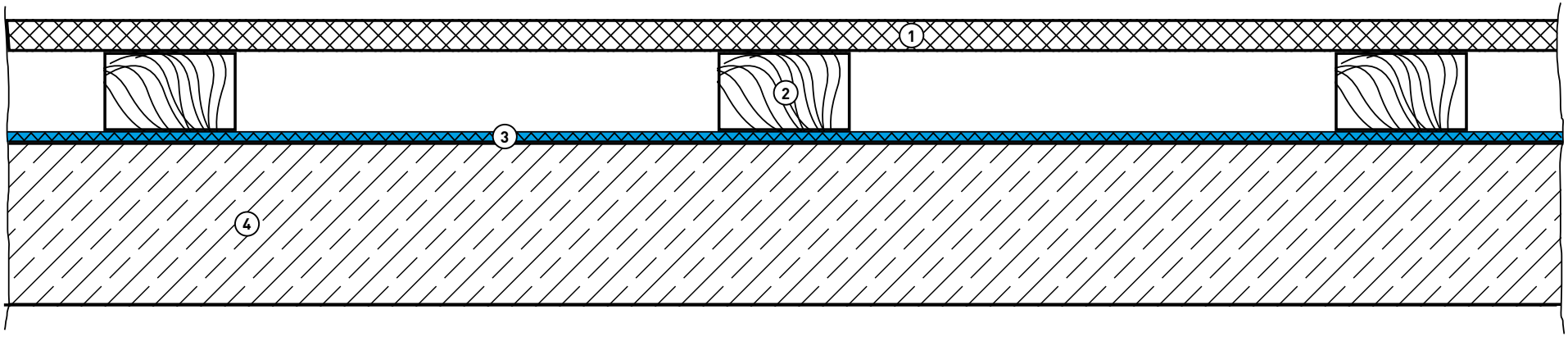
Test report number 137-469

IMPACT SOUND IMPROVEMENT **ΔL_w = 25 dB**

1. Wood planking, larch, 28 mm, center distance 60 cm
2. Support laths, 40 x 80 mm, center distance 600 mm
3. **DAMTEC® sonic**, 8 mm
4. Concrete ceiling, 140 mm

Frequenz f [Hz]	$L_{n,0}$ Terzband [dB]	ΔL Terzband [dB]
50	56,5	-1,5
63	62,7	-2,3
80	57,4	1,6
100	57,2	6,7
125	67,5	7,1
160	62,6	6,5
200	64,1	9,7
250	67,1	11,1
315	65,3	13,4
400	64,7	15,8
500	65,0	17,3
630	65,3	22,2
800	66,4	24,4
1000	67,8	28,6
1250	67,7	32,9
1600	68,2	37,2
2000	68,8	42,0
2500	68,6	45,9
3150	67,9	52,7
4000	66,9	55,2
5000	64,4	53,7





DAMTEC® sonic ROOF CONSTRUCTION 21

Test report number 1111/114 TS

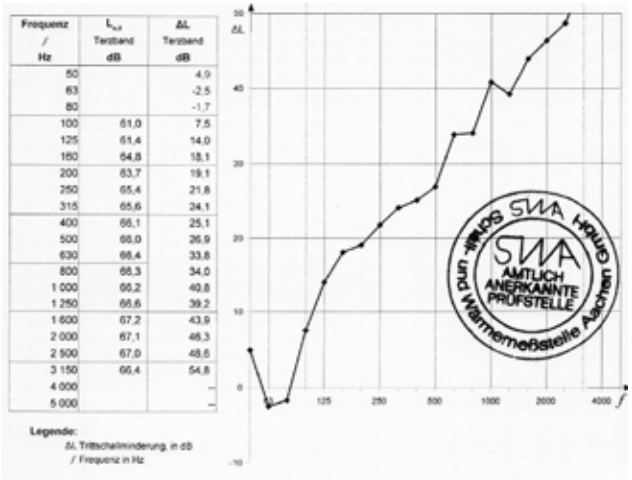
IMPACT SOUND IMPROVEMENT **ΔL_w = 34 dB**

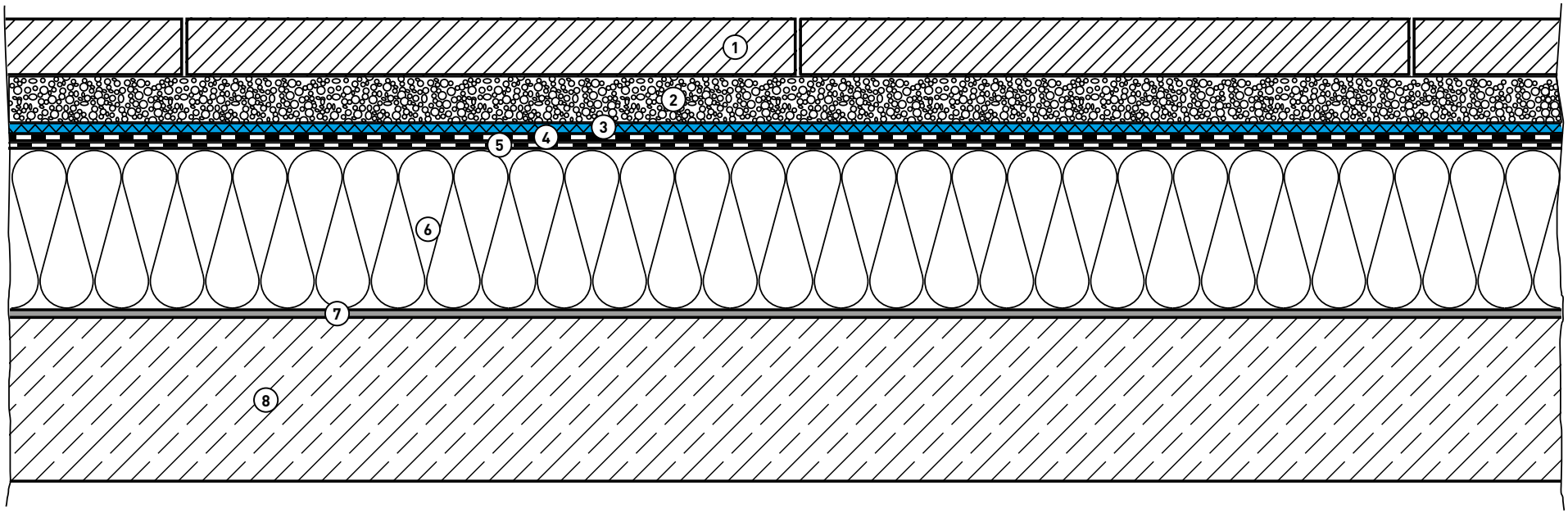
KRAITEC®

1. Concrete sidewalk slabs, 500 x 500 x 50 mm
2. Gravel bed 2/8, d = 40 mm
3. **DAMTEC® sonic** 8 mm
4. Top layer PYE PV 200 S 5, slate
5. 1st Waterproofing layer G200 S4, powder
6. Insulation PIR FA WLS 024, 140 mm
7. Bitumen vapour barrier V60 S4 +AL
8. Concrete ceiling, 140 mm

Frequenz / Hz	$L_{n,0}$ Terzband dB	ΔL Terzband dB
50		4,9
63		-2,5
80		-1,7
100	61,0	7,5
125	61,4	14,0
160	64,8	18,1
200	63,7	19,1
250	65,4	21,8
315	65,6	24,1
400	66,1	25,1
500	66,0	26,9
630	66,4	33,8
800	66,3	34,0
1 000	66,2	40,8
1 250	66,6	39,2
1 600	67,2	43,9
2 000	67,1	46,3
2 500	67,0	48,6
3 150	66,4	54,8
4 000		–
5 000		–

Legende:
ΔL Trittschallminderung, in dB
/ Frequenz in Hz





DAMTEC® sonic ROOF CONSTRUCTION 22

Test report number 1111/115 TS

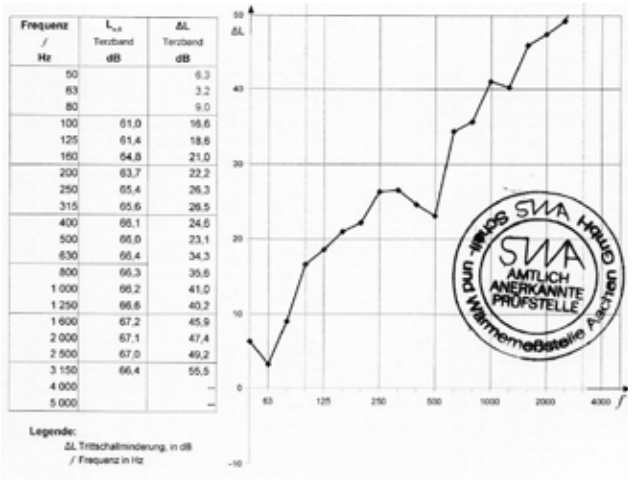
IMPACT SOUND IMPROVEMENT **ΔL_w = 37 dB**

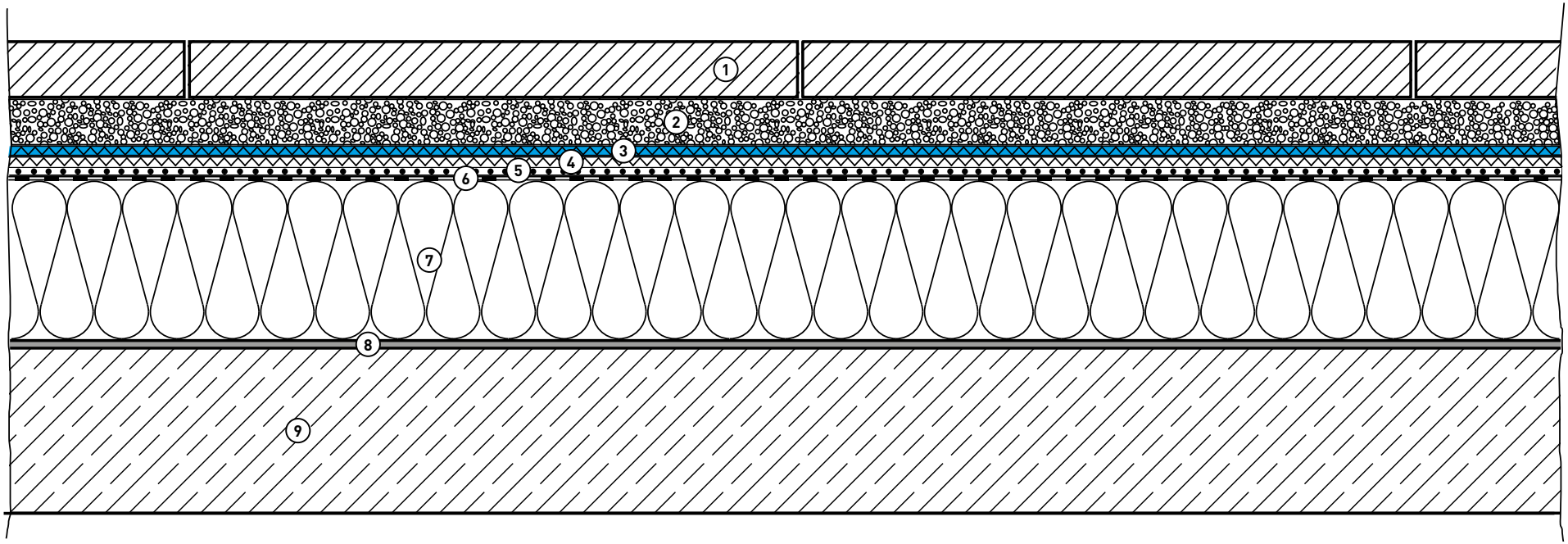
KRAITEC®

1. Concrete sidewalk slabs, 500 x 500 x 50 mm
2. Gravel bed 2/8, d = 4 cm
3. **DAMTEC® sonic** 8 mm
4. Separating layer polyester fleece, 300 g/m²
5. Waterproofing Soprema Flagon SR 150
6. Rough glass fleece 120 g/m²
7. Insulation PIR FA WLS 024, 140 mm
8. Bitumen vapour barrier V60 S4 +AL
9. Concrete ceiling, 140 mm

Frequenz / Hz	$L_{n,0}$ Terzband dB	ΔL Terzband dB
50		6,3
63		3,2
80		9,0
100	61,0	16,6
125	61,4	18,8
160	64,8	21,0
200	63,7	22,2
250	65,4	26,3
315	65,6	26,5
400	66,1	24,6
500	66,0	23,1
630	66,4	34,3
800	66,3	35,6
1 000	66,2	41,0
1 250	66,6	40,2
1 600	67,2	45,9
2 000	67,1	47,4
2 500	67,0	49,2
3 150	66,4	55,5
4 000		--
5 000		--

Legende:
ΔL Trittschallminderung, in dB
/ Frequenz in Hz





DAMTEC® sonic ROOF CONSTRUCTION 23

Test report number 1111/116 TS

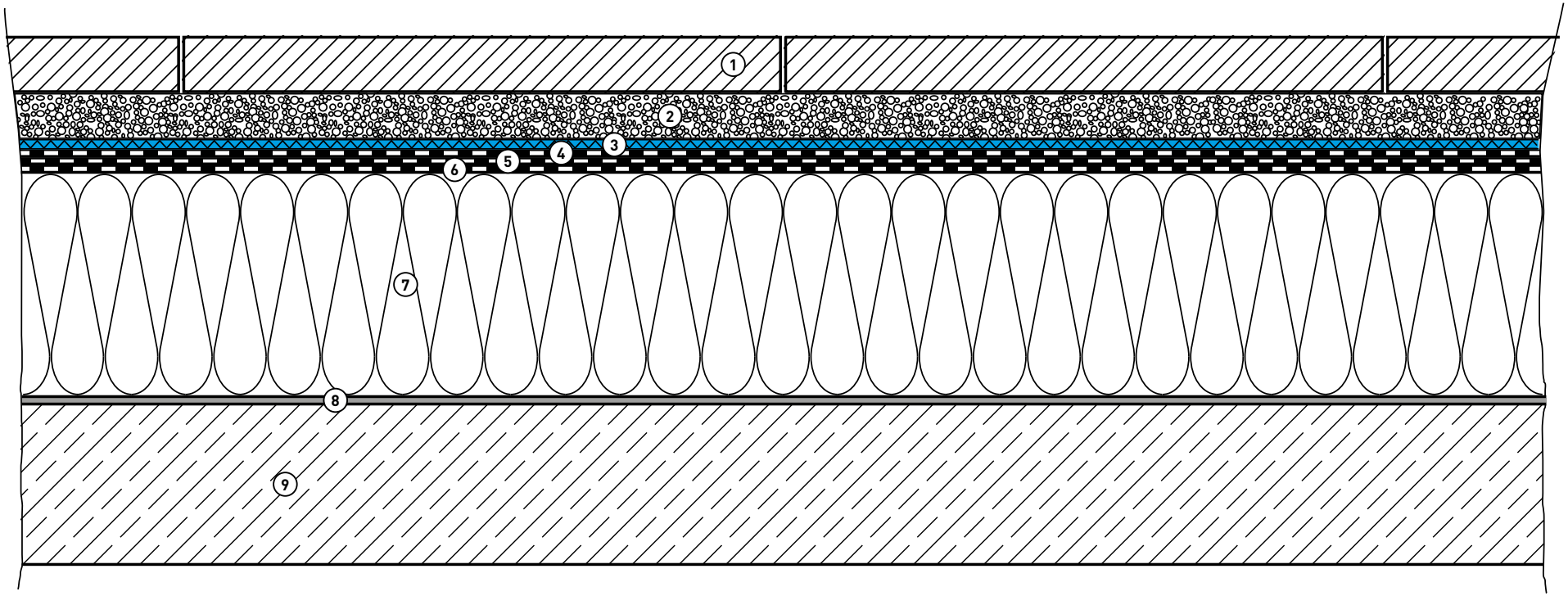
IMPACT SOUND IMPROVEMENT **ΔL_w = 32 dB**

KRAITEC®

1. Concrete sidewalk slabs, 500 x 500 x 50 mm
2. Gravel bed 2/8, d = 4 cm
3. **DAMTEC® sonic** 8 mm
4. Top layer PYE PV 200 S5, slate
5. 1st Waterproofing layer G200 S4, powder
6. Laminate layer G 200 DD, sand
7. Insulation EPS 035/200 KPA DAA DH, 200 mm
8. Bitumen vapour barrier V60 S4 +AL
9. Concrete ceiling, 140 mm

Frequenz / Hz	$L_{n,0}$ Terzband dB	ΔL Terzband dB
50		4,6
63		-0,7
80		3,5
100	61,0	10,2
125	61,4	15,9
160	64,8	14,7
200	63,7	15,7
250	65,4	17,5
315	65,6	22,2
400	66,1	23,8
500	66,0	24,4
630	66,4	31,8
800	66,3	32,4
1 000	66,2	34,8
1 250	66,6	36,7
1 600	67,2	48,0
2 000	67,1	47,4
2 500	67,0	47,8
3 150	66,4	44,3
4 000		--
5 000		--

Legende:
ΔL Trittschallminderung, in dB
f Frequenz in Hz



DAMTEC® sonic ROOF CONSTRUCTION 24

Test report number 1111/117 TS

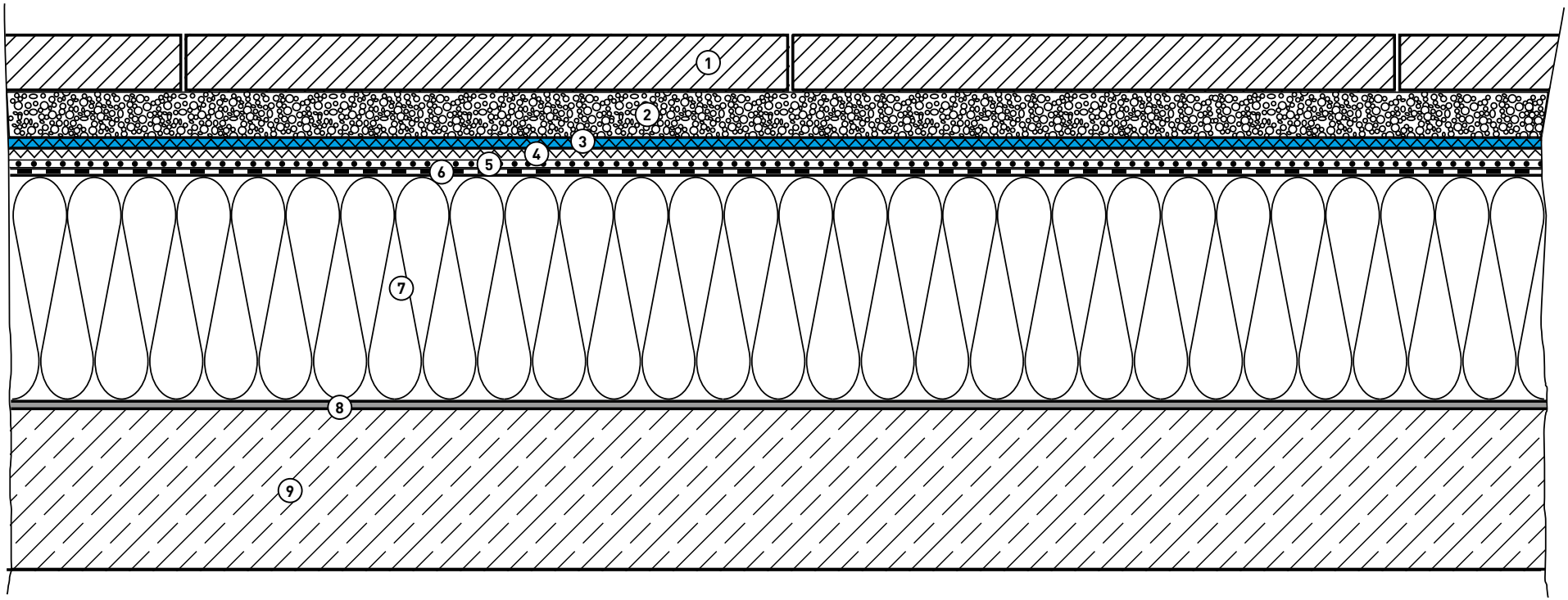
IMPACT SOUND IMPROVEMENT **ΔL_w = 37 dB**

KRAITEC®

1. Concrete sidewalk slabs, 500 x 500 x 50 mm
2. Gravel bed 2/8, d = 4 cm
3. **DAMTEC® sonic** 8 mm
4. Separating layer polyester fleece, 300 g/m²
5. Waterproofing Soprema Flagon SR 150
6. Rough glass fleece 120 g/m²
7. Insulation EPS 035/200 KPA DAA DH, 200 mm
8. Bitumen vapour barrier V60 S4 +AL
9. Concrete ceiling, 140 mm

Frequenz / Hz	$L_{n,0}$ Terzband dB	ΔL Terzband dB
50		7,0
63		10,2
80		12,4
100	61,0	16,5
125	61,4	21,6
160	64,8	20,9
200	63,7	22,4
250	65,4	24,2
315	65,6	26,7
400	66,1	28,4
500	66,0	24,3
630	66,4	33,8
800	66,3	34,6
1 000	66,2	41,1
1 250	66,6	40,6
1 600	67,2	42,9
2 000	67,1	47,0
2 500	67,0	50,8
3 150	66,4	55,7
4 000		--
5 000		--

Legende:
ΔL Trittschallminderung, in dB
/ Frequenz in Hz



DAMTEC® sonic ROOF CONSTRUCTION 25

Test report number 1111/118 TS

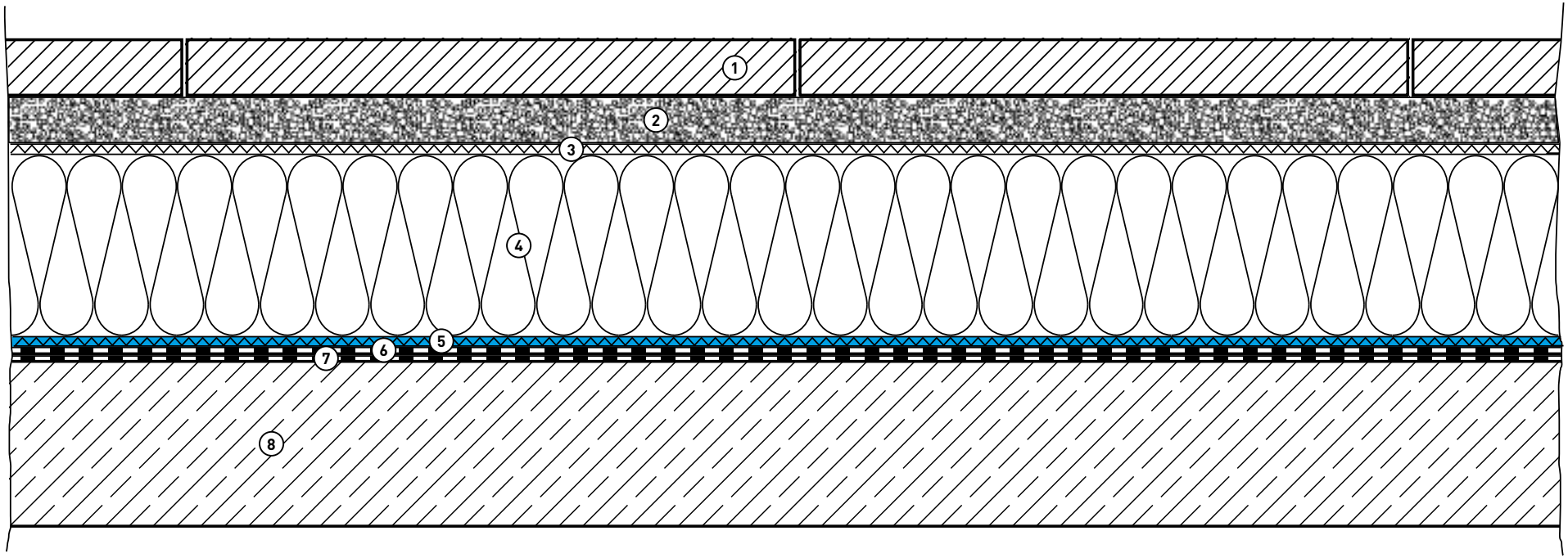
IMPACT SOUND IMPROVEMENT **ΔL_w = 35 dB**

KRAITEC®

1. Concrete sidewalk slabs, 500 x 500 x 50 mm
2. Gravel bed 2/8, d = 4 cm
3. Non-woven filter, 136 g/m²
4. XPS insulation (300 kPa) 160mm
5. **DAMTEC® sonic,** 8 mm
6. Upper layer PYE PV 200 S5, slate
7. 1st Waterproofing layer G200 S4, powder
8. Concrete ceiling, 140 mm

Frequenz / Hz	$L_{n,0}$ Terzband dB	ΔL Terzband dB
50		3,9
63		1,2
80		3,2
100	61,0	9,2
125	61,4	13,6
160	64,8	18,4
200	63,7	21,2
250	65,4	22,8
315	65,6	23,3
400	66,1	25,7
500	66,0	28,9
630	66,4	33,6
800	66,3	36,5
1 000	66,2	42,0
1 250	66,6	42,9
1 600	67,2	51,6
2 000	67,1	47,8
2 500	67,0	51,2
3 150	66,4	54,9
4 000		--
5 000		--

Legende:
ΔL Trittschallminderung, in dB
f Frequenz in Hz



DAMTEC® sonic ROOF CONSTRUCTION 26

Test report number 1111/119 TS

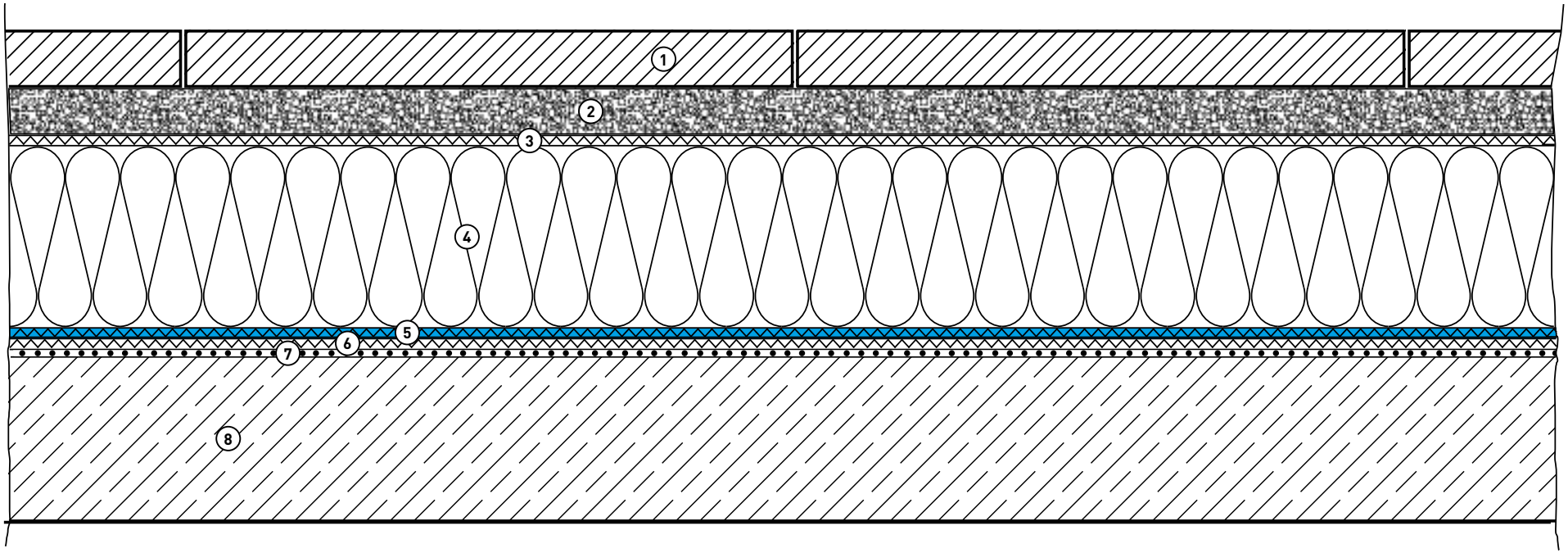
IMPACT SOUND IMPROVEMENT **ΔL_w = 30 dB**

KRAITEC®

1. Concrete sidewalk slabs, 500 x 500 x 50 mm
2. Gravel bed 2/8, d = 4 cm
3. Non-woven filter, 136 g/m²
4. XPS insulation (300 kPa) 160mm
5. **DAMTEC® sonic,** 8 mm
6. Separating layer polyester fleece, 300 g/m²
7. Waterproofing Soprema Flagon SR 150
8. Concrete ceiling, 140 mm

Frequenz / Hz	$L_{n,0}$ Terzband dB	ΔL Terzband dB
50		-1,1
63		-3,3
80		2,0
100	61,0	3,5
125	61,4	10,2
160	64,8	13,6
200	63,7	15,8
250	65,4	19,1
315	65,6	22,1
400	66,1	21,3
500	66,0	22,6
630	66,4	25,1
800	66,3	30,3
1 000	66,2	37,3
1 250	66,6	41,6
1 600	67,2	43,9
2 000	67,1	46,5
2 500	67,0	48,8
3 150	66,4	52,6
4 000		--
5 000		--

Legende:
ΔL Trittschallminderung, in dB
f Frequenz in Hz



DAMTEC® sonic ROOF CONSTRUCTION 27

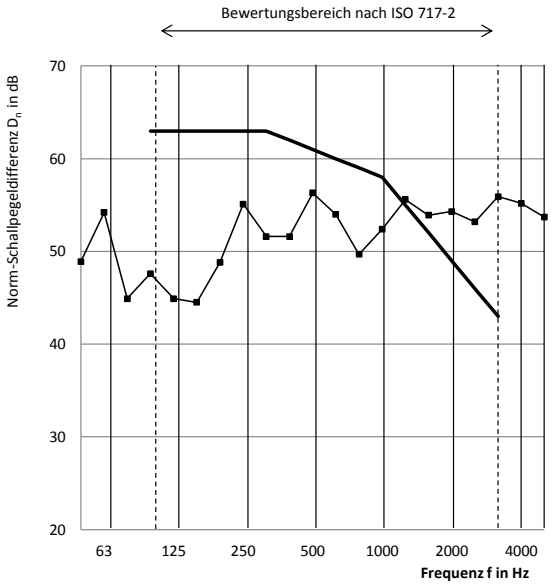
Test report number T-181212-A

IMPACT SOUND LEVEL **$L'_{n,w}$ = 61 dB**

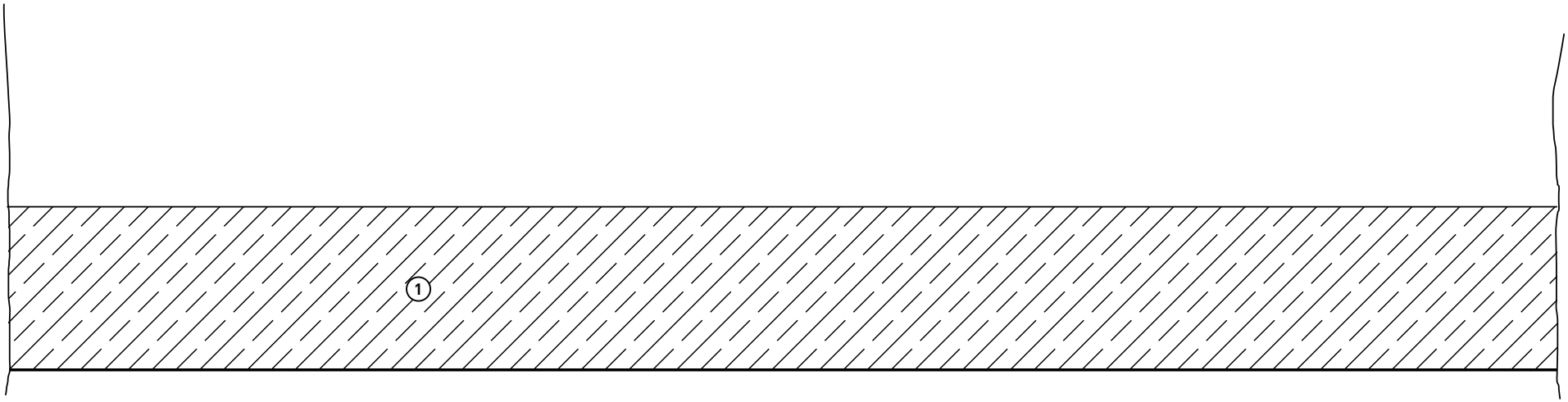
KRAITEC®

(1) Concrete ceiling, 140 mm

Frequenz f in Hz	L'_n in dB
50	48,9
63	54,2
80	44,9
100	47,6
125	44,9
160	44,5
200	48,8
250	55,1
315	51,6
400	51,6
500	56,3
630	54,0
800	49,7
1000	52,4
1250	55,6
1600	53,9
2000	54,3
2500	53,2
3150	55,9
4000	55,2
5000	53,7



Construction site measurement: Measured diagonally from the balcony into the living space



DAMTEC® sonic ROOF CONSTRUCTION 28

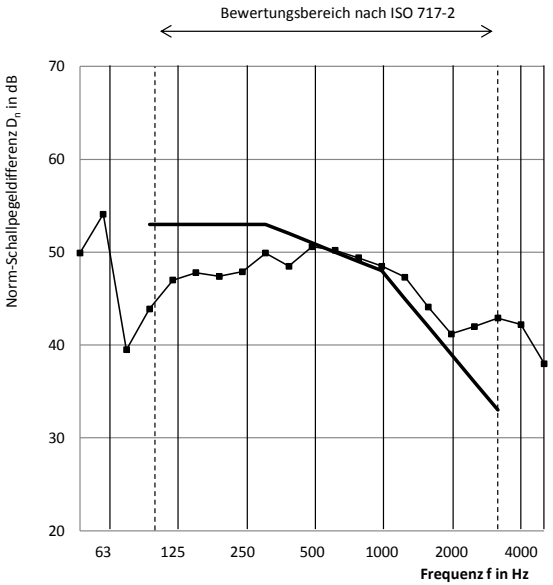
Test report number T-181212-B

IMPACT SOUND LEVEL **$L'_{n,w}$ = 51 dB**

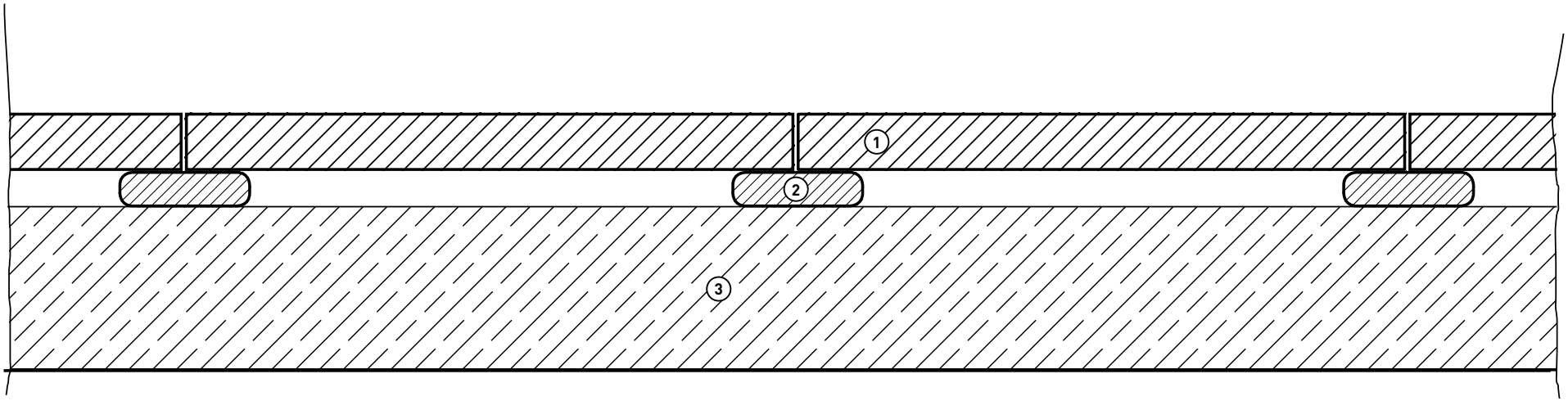
KRAITEC®

1. Concrete sidewalk slabs, 500 x 500 x 40 mm
2. Mortar sacks
3. Concrete ceiling, 140 mm

Frequenz f in Hz	L'_n in dB
50	49,9
63	54,1
80	39,5
100	43,9
125	47,0
160	47,8
200	47,4
250	47,9
315	49,9
400	48,5
500	50,6
630	50,2
800	49,4
1000	48,5
1250	47,3
1600	44,1
2000	41,2
2500	42,0
3150	42,9
4000	42,2
5000	38,0



Construction site measurement: Measured diagonally from the balcony into the living space



DAMTEC® sonic ROOF CONSTRUCTION 29

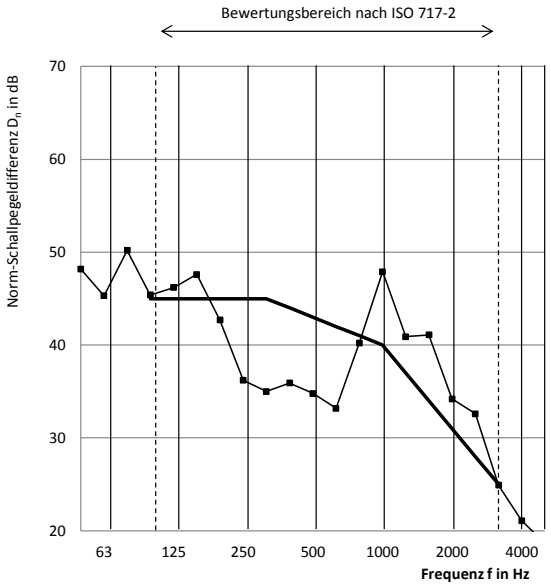
Test report number T-181212-C

IMPACT SOUND LEVEL **$L'_{n,w}$ = 43 dB**

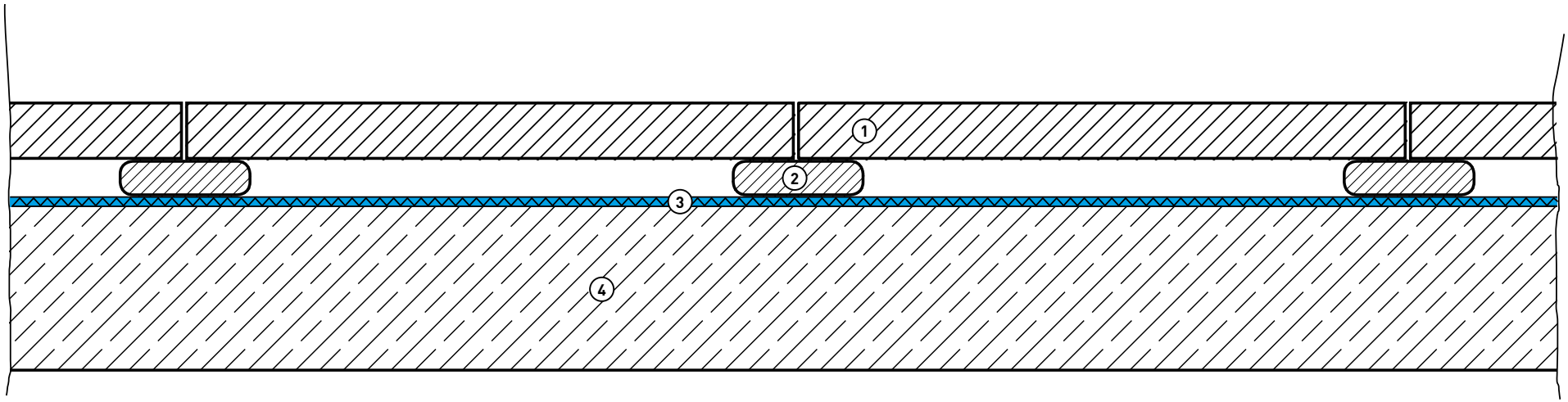
KRAITEC®

1. Concrete sidewalk slabs, 500 x 500 x 40 mm
2. Mortar sacks
3. **DAMTEC® sonic** 8 mm
4. Concrete ceiling, 140 mm

Frequenz f in Hz	L'_n in dB
50	48,2
63	45,3
80	50,2
100	45,4
125	46,2
160	47,6
200	42,7
250	36,2
315	35,0
400	35,9
500	34,8
630	33,2
800	40,2
1000	47,9
1250	40,9
1600	41,1
2000	34,2
2500	32,6
3150	24,9
4000	21,1
5000	18,6



Construction site measurement: Measured diagonally from the balcony into the living space



DAMTEC® sonic ROOF CONSTRUCTION 30

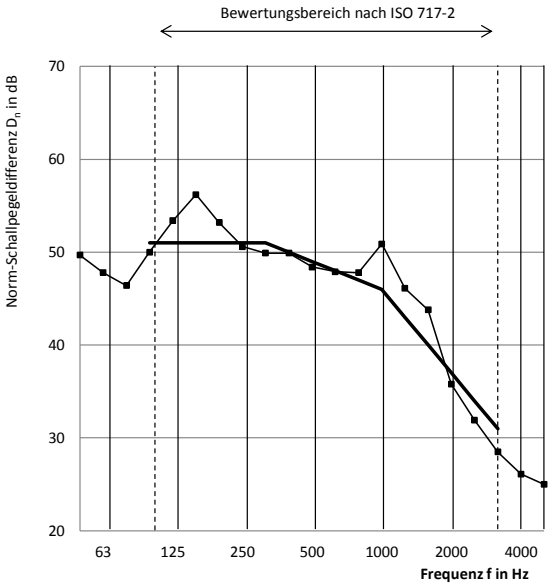
Test report number T-181212-D

IMPACT SOUND LEVEL **$L'_{n,w}$ = 49 dB**

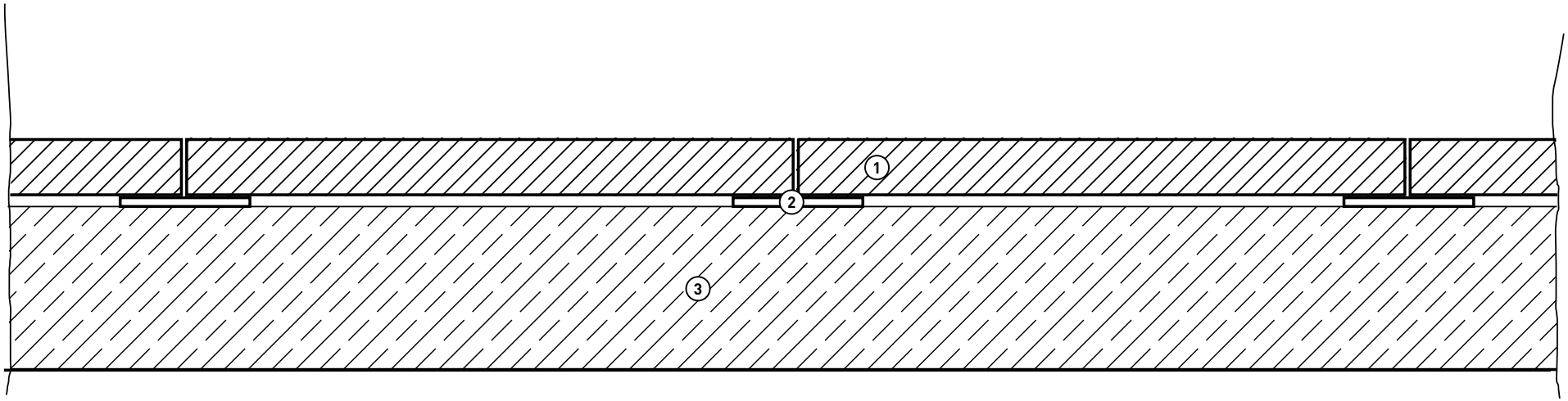
KRAITEC®

1. Concrete sidewalk slabs, 500 x 500 x 40 mm
2. Standard bearing 120 x 10 mm
3. Concrete ceiling, 140 mm

Frequenz f in Hz	L'_n in dB
50	49,7
63	47,8
80	46,4
100	50,0
125	53,4
160	56,2
200	53,2
250	50,6
315	49,9
400	49,9
500	48,4
630	47,9
800	47,8
1000	50,9
1250	46,1
1600	43,8
2000	35,8
2500	31,9
3150	28,5
4000	26,1
5000	25,0



Construction site measurement: Measured diagonally from the balcony into the living space



DAMTEC® sonic ROOF CONSTRUCTION 31

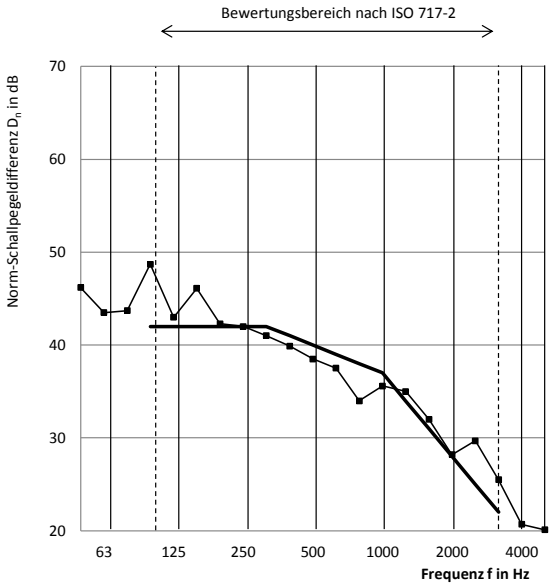
Test report number T-181212-E

IMPACT SOUND LEVEL **$L'_{n,w}$ = 40 dB**

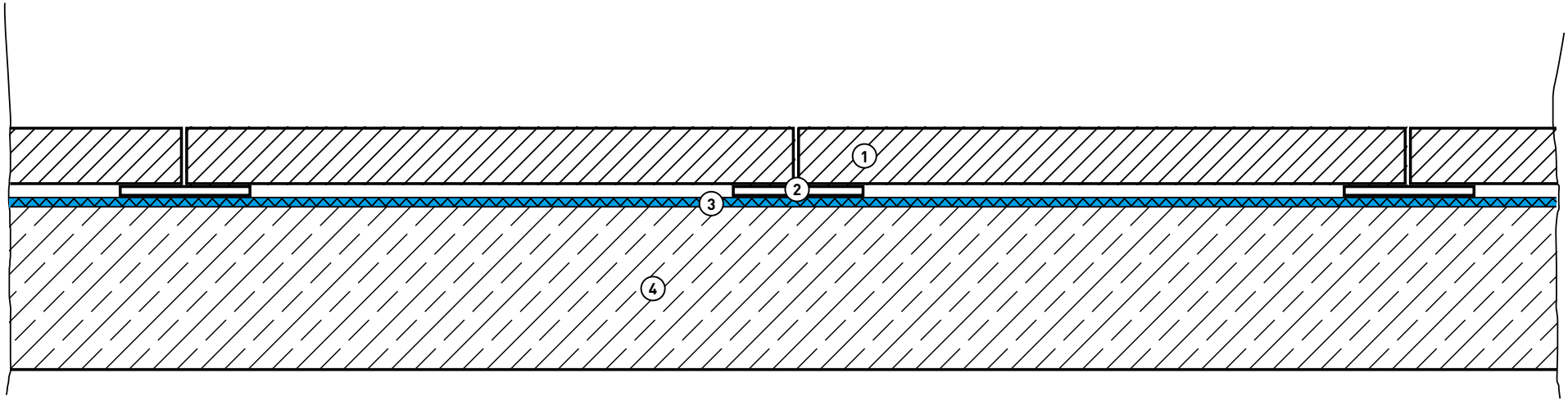
KRAITEC®

1. Concrete sidewalk slabs, 500 x 500 x 40 mm
2. Standard bearing 120 x 10 mm
3. **DAMTEC® sonic** 8 mm
4. Concrete ceiling, 140 mm

Frequenz f in Hz	L'_n in dB
50	46,2
63	43,5
80	43,7
100	48,7
125	43,0
160	46,1
200	42,3
250	42,0
315	41,0
400	39,9
500	38,5
630	37,5
800	34,0
1000	35,6
1250	35,0
1600	32,0
2000	28,2
2500	29,7
3150	25,5
4000	20,7
5000	20,1



Construction site measurement: Measured diagonally from the balcony into the living space



DAMTEC® sonic drain plus ROOF CONSTRUCTION 32

Test report number 450396-17

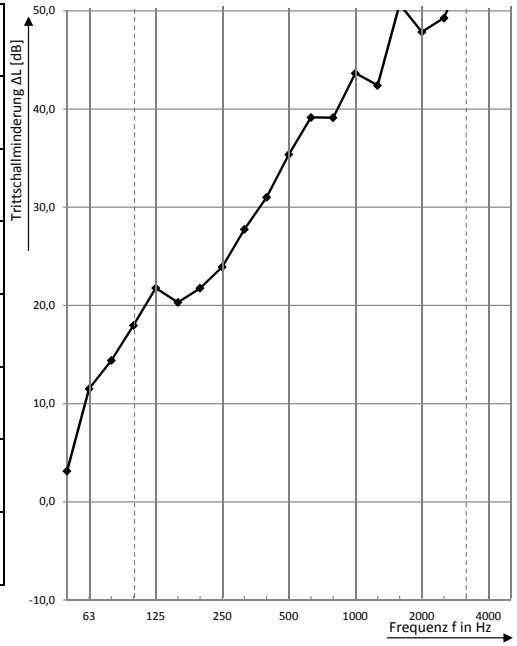
IMPACT SOUND IMPROVEMENT **ΔL_w = 39 dB**

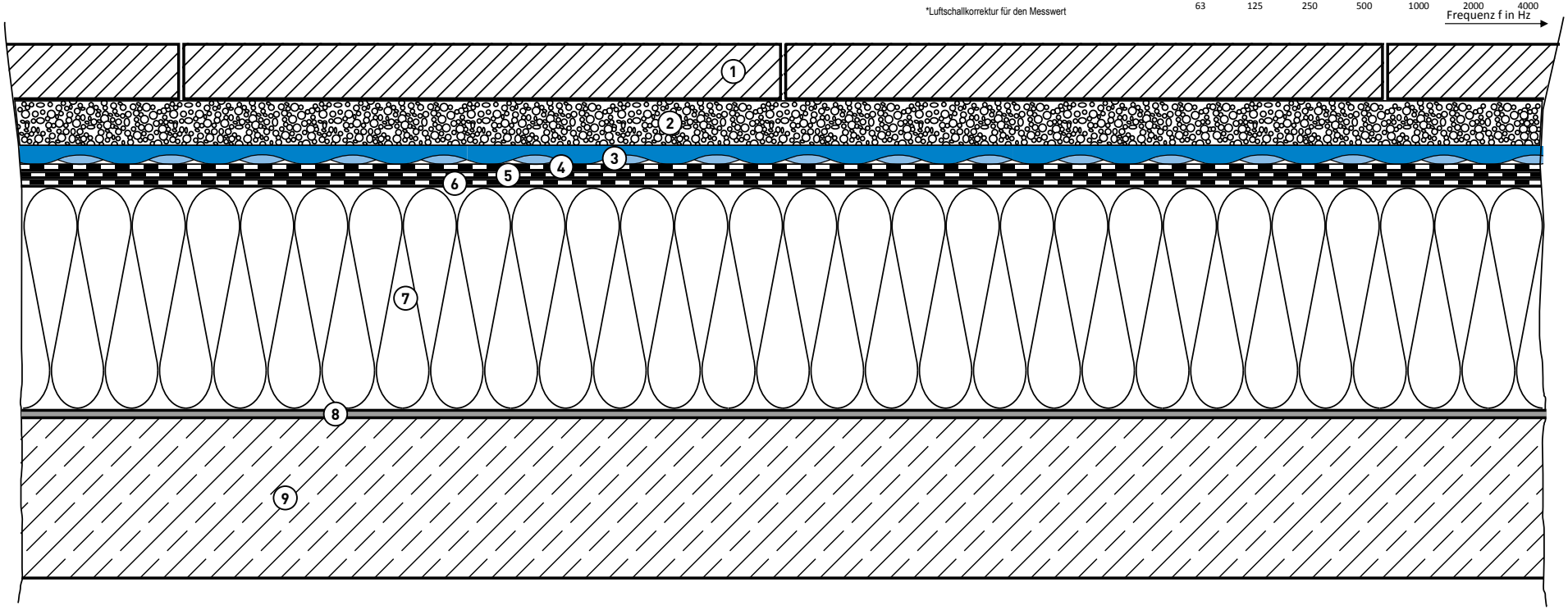
KRAITEC®

1. Concrete sidewalk slabs, 500 x 500 x 50 mm
2. Gravel bed 2/8, d = 4 cm
3. **DAMTEC® sonic drain plus, 15/6 mm**
4. Top layer PYE PV 200 S5, slate
5. 1st Waterproofing layer G200 S4, powder
6. Laminate layer G 200 DD, sand
7. Insulation EPS 035/200 KPA DAA DH, 200 mm
8. Bitumen vapour barrier V60 S4 +AL
9. Concrete ceiling, 140 mm

Frequenz f [Hz]	$L_{n,0}$ Terzband [dB]	ΔL Terzband [dB]
50	56,5	3,1
63	62,7	11,5
80	57,4	14,4
100	57,2	18,0
125	67,5	21,8
160	62,6	20,3
200	64,1	21,8
250	67,1	23,9
315	65,3	27,7
400	64,7	31,0
500	65	35,4
630	65,3	39,1
800	66,4	39,1
1000	67,8	43,7
1250	67,7	42,4
1600	68,2	50,7
2000	68,8	47,9
2500	68,6	49,3
3150	67,9	54,4
4000	66,9	
5000	64,4	

*Luftschallkorrektur für den Messwert





DAMTEC® sonic drain plus ROOF CONSTRUCTION 33

Test report number 450396-16

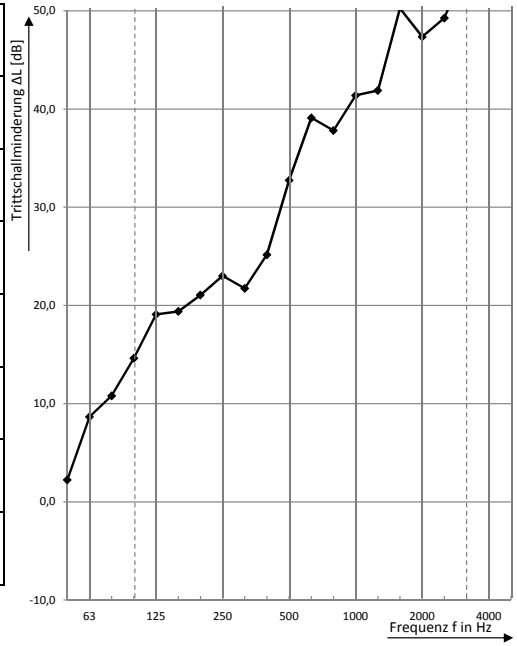
IMPACT SOUND IMPROVEMENT **ΔL_w = 36 dB**

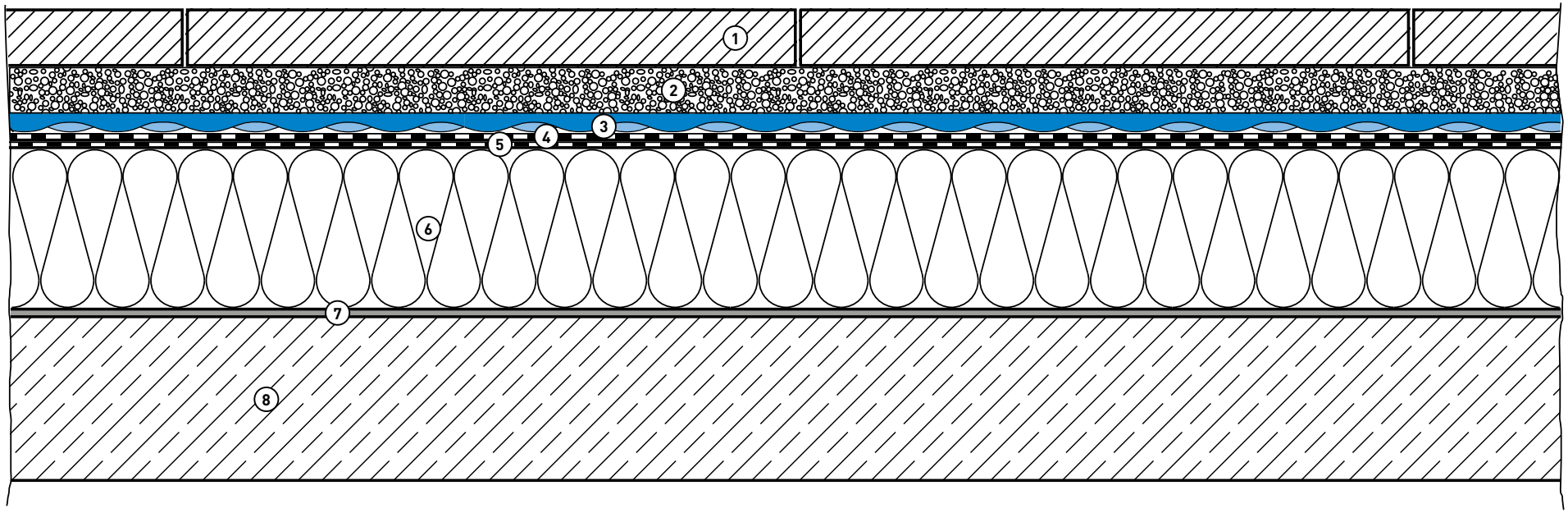
KRAITEC®

1. Concrete sidewalk slabs, 500 x 500 x 50 mm
2. Gravel bed 2/8, d = 40 mm
3. **DAMTEC® sonic drain plus,** 15/6 mm
4. Top layer PYE PV 200 S 5, slate
5. 1st Waterproofing layer G200 S4, powder
6. Insulation PIR FA WLS 024, 140 mm
7. Bitumen vapour barrier V60 S4 +AL
8. Concrete ceiling, 140 mm

Frequenz f [Hz]	$L_{n,0}$ Terzband [dB]	ΔL Terzband [dB]
50	56,5	2,2
63	62,7	8,7
80	57,4	10,8
100	57,2	14,6
125	67,5	19,1
160	62,6	19,4
200	64,1	21,1
250	67,1	23,0
315	65,3	21,7
400	64,7	25,2
500	65	32,8
630	65,3	39,1
800	66,4	37,8
1000	67,8	41,4
1250	67,7	41,9
1600	68,2	50,3
2000	68,8	47,4
2500	68,6	49,3
3150	67,9	54,5
4000	66,9	
5000	64,4	

*Luftschallkorrektur für den Messwert





DAMTEC® sonic drain plus ROOF CONSTRUCTION 34

Test report number 450396-13

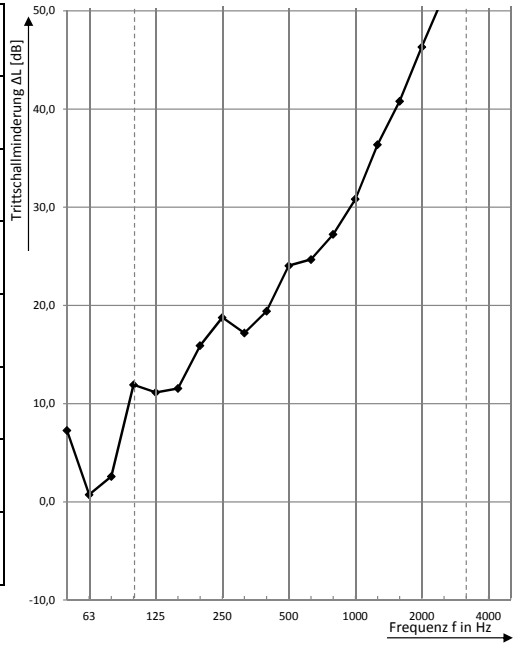
IMPACT SOUND IMPROVEMENT **ΔL_w = 31 dB**

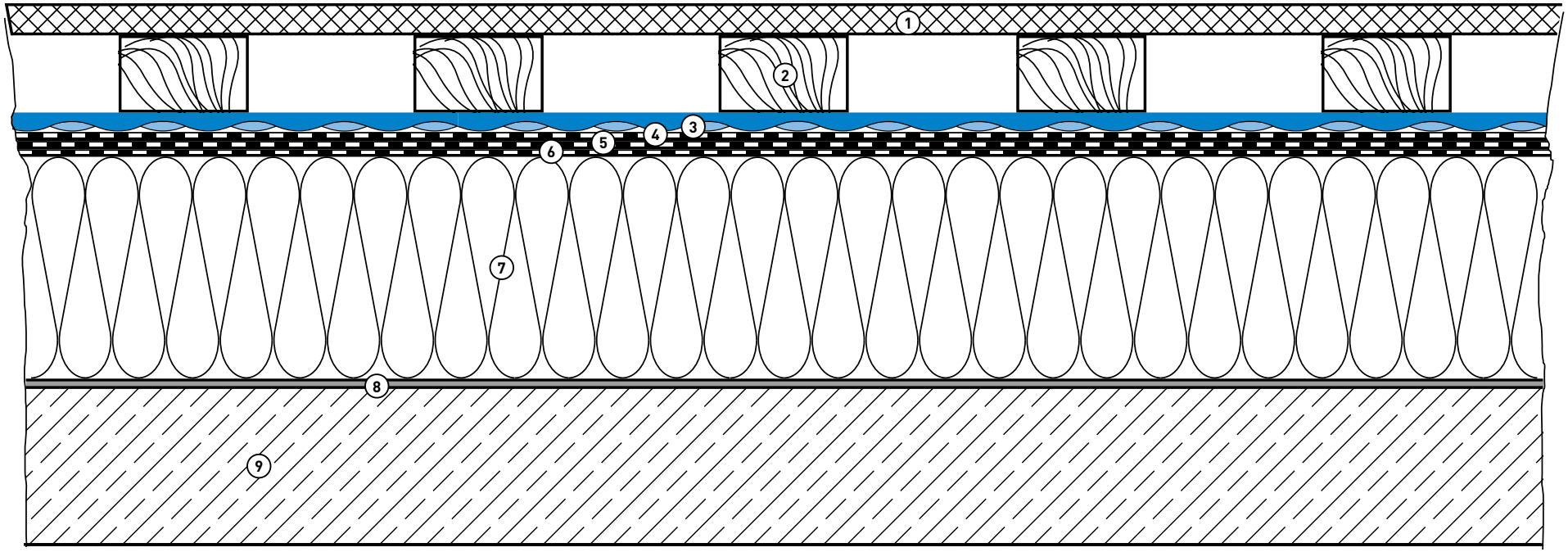
KRAITEC®

1. Wood planking, larch, 27 mm
2. Support laths 45 x 70 mm, center distance 600 mm
3. **DAMTEC® sonic drain plus**, 15/6 mm
4. Top layer PYE PV200 S5, slate
5. 1st Waterproofing layer G200 S4, powder
6. Laminate layer G 200 DD, sand
7. Insulation EPS 035/200 KPA DAA DH, 200 mm
8. Bitumen vapour barrier V60 S4 +AL
9. Concrete ceiling, 140 mm

Frequenz f [Hz]	$L_{n,0}$ Terzband [dB]	ΔL Terzband [dB]
50	56,5	7,3
63	62,7	0,7
80	57,4	2,6
100	57,2	11,9
125	67,5	11,1
160	62,6	11,5
200	64,1	15,9
250	67,1	18,8
315	65,3	17,2
400	64,7	19,4
500	65	24,1
630	65,3	24,7
800	66,4	27,2
1000	67,8	30,8
1250	67,7	36,4
1600	68,2	40,8
2000	68,8	46,3
2500	68,6	51,6
3150	67,9	55,0
4000	66,9	
5000	64,4	

*Luftschallkorrektur für den Messwert





DAMTEC® sonic drain plus ROOF CONSTRUCTION 35

Test report number 450396-03

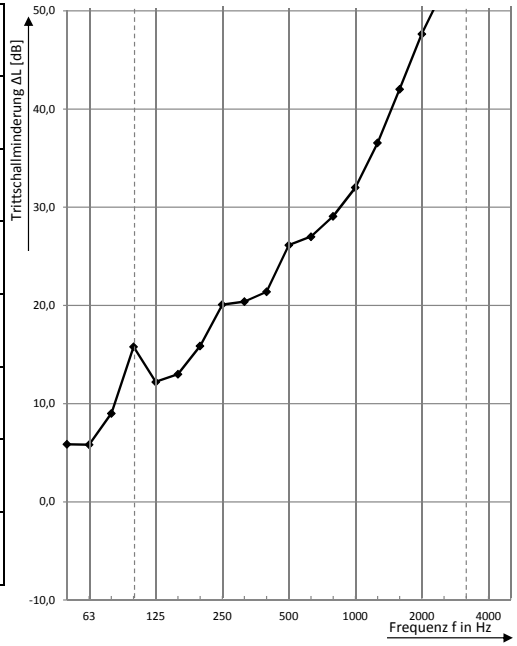
IMPACT SOUND IMPROVEMENT **ΔL_w = 32 dB**

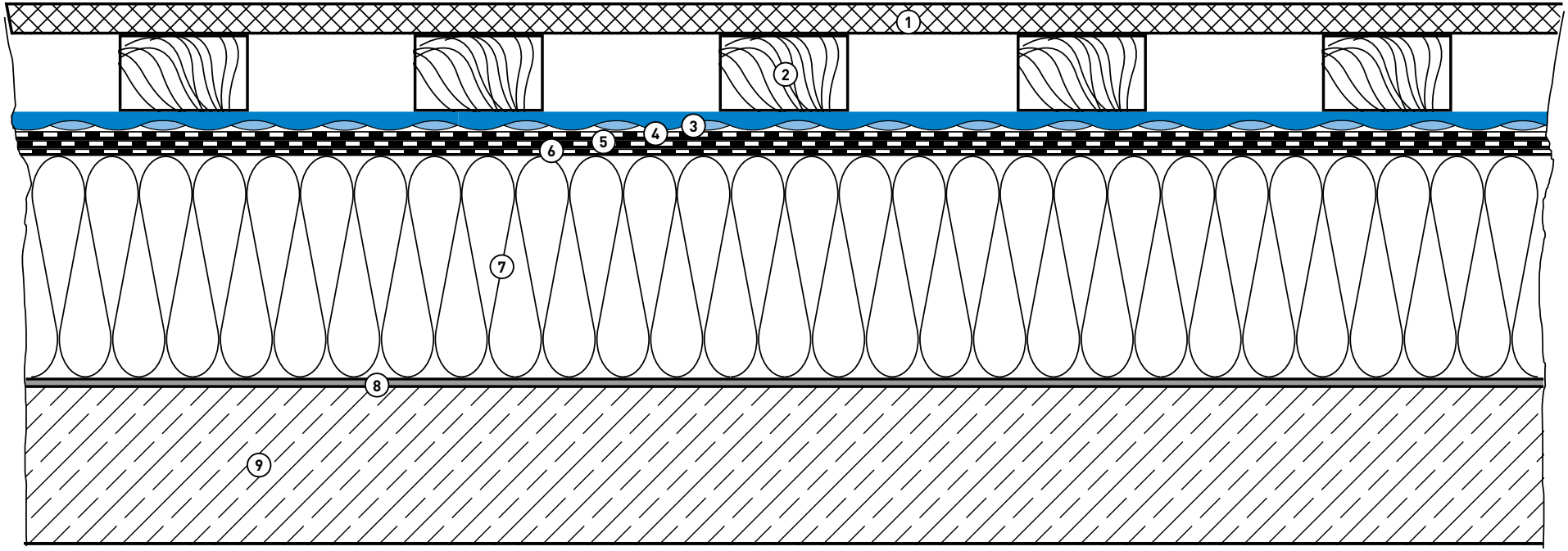
KRAITEC®

1. Wood planking, larch, 27 mm
2. Support laths 45 x 70 mm, center distance 600 mm
3. **DAMTEC® sonic drain plus**, 15/6 mm
4. Separating layer polyester fleece, 300 g/m²
5. PVC roofing felt 1.5 mm
6. Rough glass fleece
7. Insulation EPS 035/200 KPA DAA DH, 200 mm
8. Bitumen vapour barrier V60 S4 +AL
9. Concrete ceiling, 140 mm

Frequenz f [Hz]	$L_{n,0}$ Terzband [dB]	ΔL Terzband [dB]
50	56,5	5,9
63	62,7	5,8
80	57,4	9,0
100	57,2	15,8
125	67,5	12,2
160	62,6	13,0
200	64,1	15,9
250	67,1	20,1
315	65,3	20,4
400	64,7	21,4
500	65	26,1
630	65,3	27,0
800	66,4	29,1
1000	67,8	32,0
1250	67,7	36,6
1600	68,2	42,0
2000	68,8	47,7
2500	68,6	52,3
3150	67,9	55,2
4000	66,9	
5000	64,4	

*Luftschallkorrektur für den Messwert





DAMTEC® sonic drain plus ROOF CONSTRUCTION 36

Test report number 450396-05

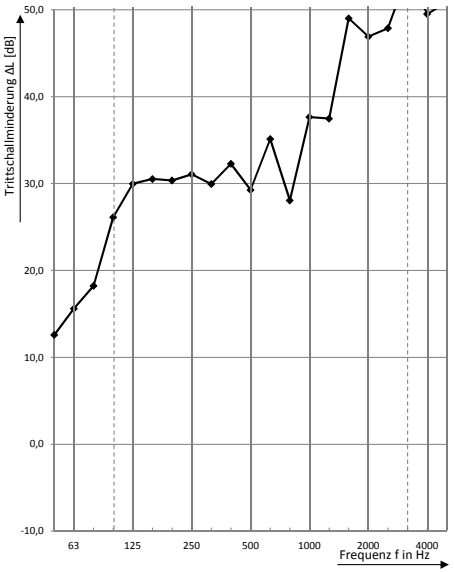
IMPACT SOUND IMPROVEMENT **ΔL_w = 42 dB**

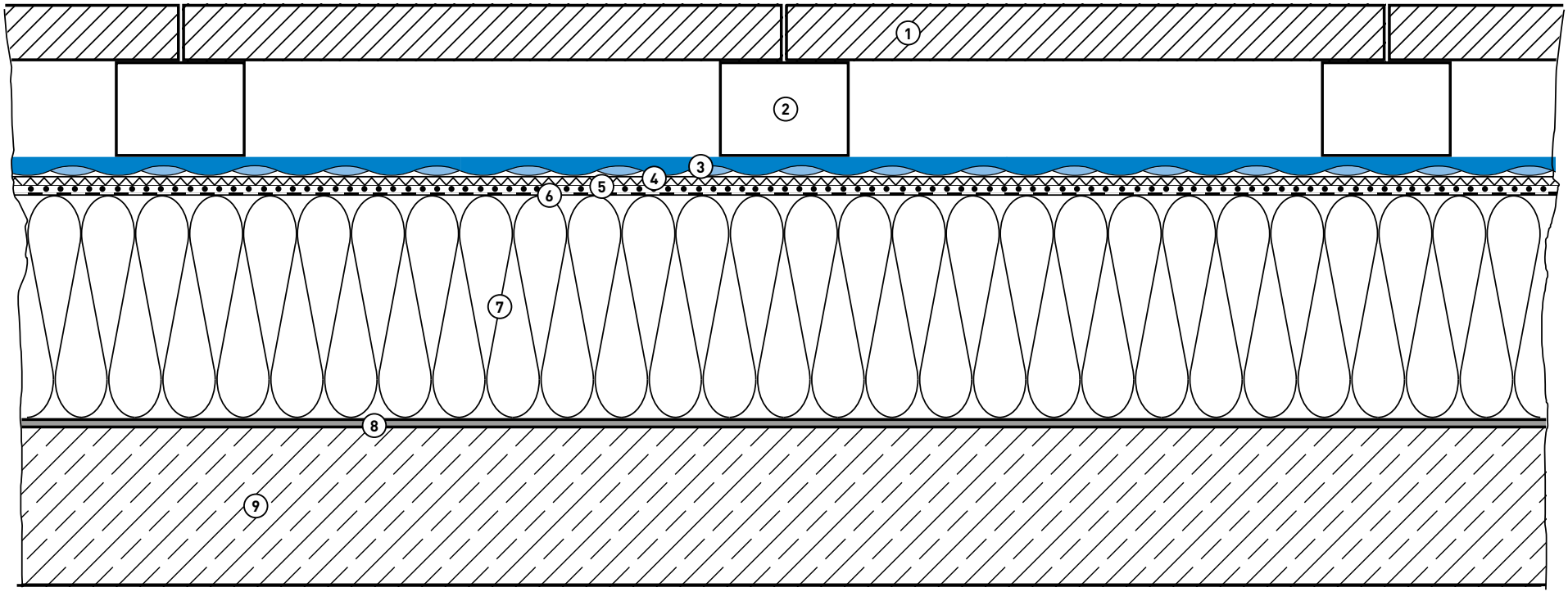
KRAITEC®

1. Concrete sidewalk slabs, smooth 500 x 500 x 50 mm
2. PA stilt bearing, adjustable
3. **DAMTEC® sonic drain plus**, 15/6 mm
4. Separating layer polyester fleece, 300 g/m²
5. PVC roofing felt 1.5 mm
6. Rough glass fleece 120 g/m²
7. Insulation EPS 035/200 KPA DAA DH, 200 mm
8. Bitumen vapour barrier V60 S4 +AL
9. Concrete ceiling, 140 mm

Frequenz f [Hz]	$L_{n,0}$ Terzband [dB]	ΔL Terzband [dB]
50	56,5	12,6
63	62,7	15,6
80	57,4	18,2
100	57,2	26,1
125	67,5	30,0
160	62,6	30,5
200	64,1	30,4
250	67,1	31,1
315	65,3	29,9
400	64,7	32,3
500	65	29,3
630	65,3	35,1
800	66,4	28,1
1000	67,8	37,7
1250	67,7	37,5
1600	68,2	49,0
2000	68,8	46,9
2500	68,6	47,9
3150	67,9	54,0
4000	66,9	
5000	64,4	

*Luftschallkorrektur für den Messwert





DAMTEC® sonic drain plus ROOF CONSTRUCTION 37

Test report number 450396-15

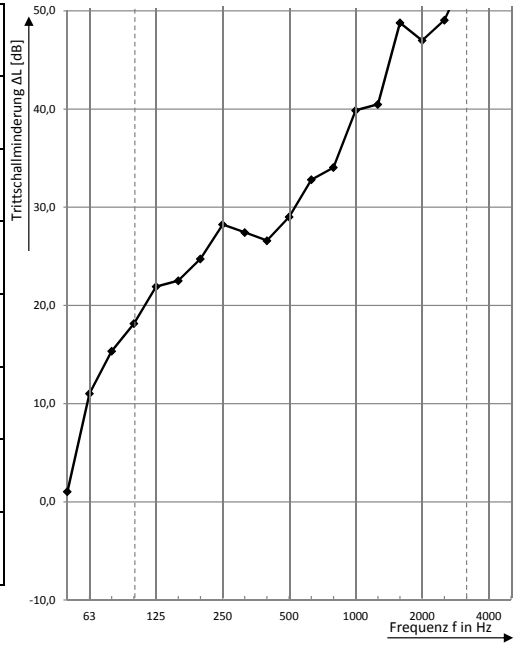
IMPACT SOUND IMPROVEMENT **ΔL_w = 41 dB**

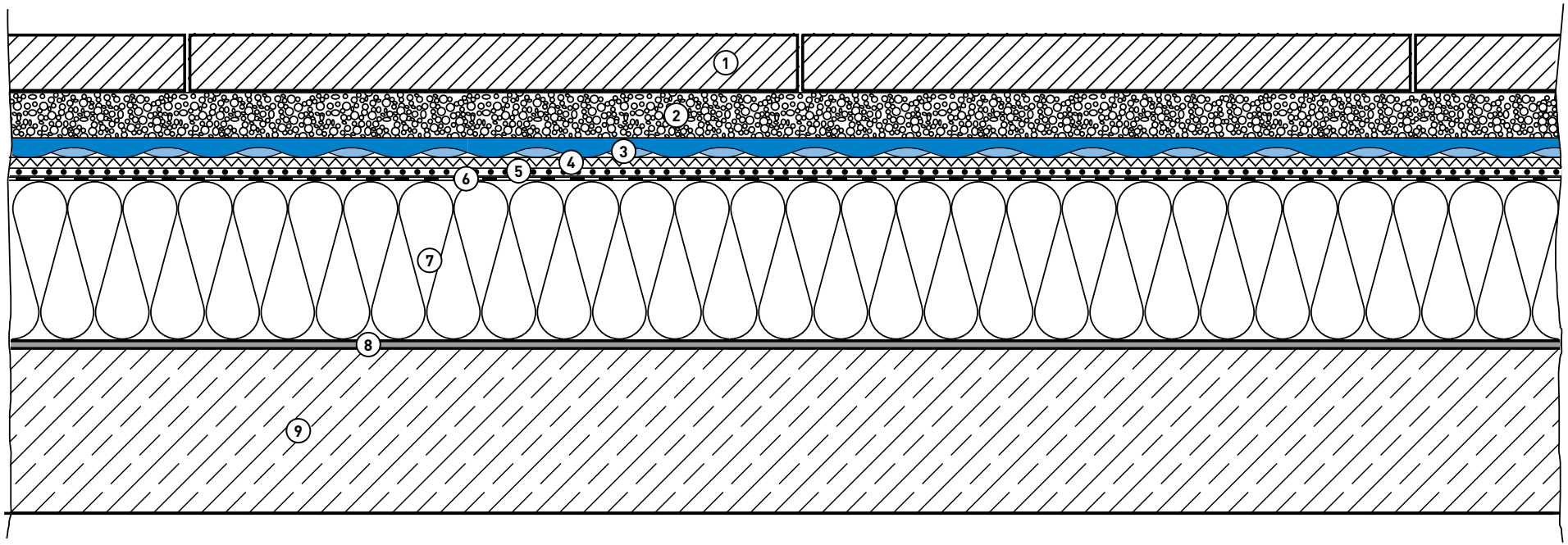
KRAITEC®

1. Concrete sidewalk slabs, 500 x 500 x 50 mm
2. Gravel bed 2/8, d = 4 cm
3. **DAMTEC® sonic drain plus,** 15/6 mm
4. Separating layer polyester fleece, 300 g/m²
5. PVC roofing felt 1.5 mm
6. Rough glass fleece 120 g/m²
7. Insulation PIR FA WLS 024, 140 mm
8. Bitumen vapour barrier V60 S4 +AL
9. Concrete ceiling, 140 mm

Frequenz f [Hz]	$L_{n,0}$ Terzband [dB]	ΔL Terzband [dB]
50	56,5	1,0
63	62,7	11,0
80	57,4	15,4
100	57,2	18,2
125	67,5	21,9
160	62,6	22,5
200	64,1	24,7
250	67,1	28,2
315	65,3	27,4
400	64,7	26,6
500	65	29,0
630	65,3	32,8
800	66,4	34,1
1000	67,8	39,9
1250	67,7	40,5
1600	68,2	48,8
2000	68,8	47,0
2500	68,6	49,1
3150	67,9	53,9
4000	66,9	
5000	64,4	

*Luftschallkorrektur für den Messwert





DAMTEC® sonic drain plus ROOF CONSTRUCTION 38

Test report number 450396-14

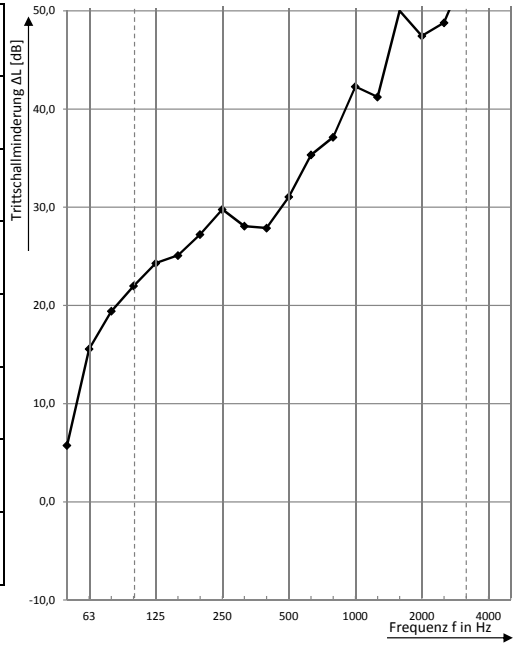
IMPACT SOUND IMPROVEMENT **ΔL_w = 41 dB**

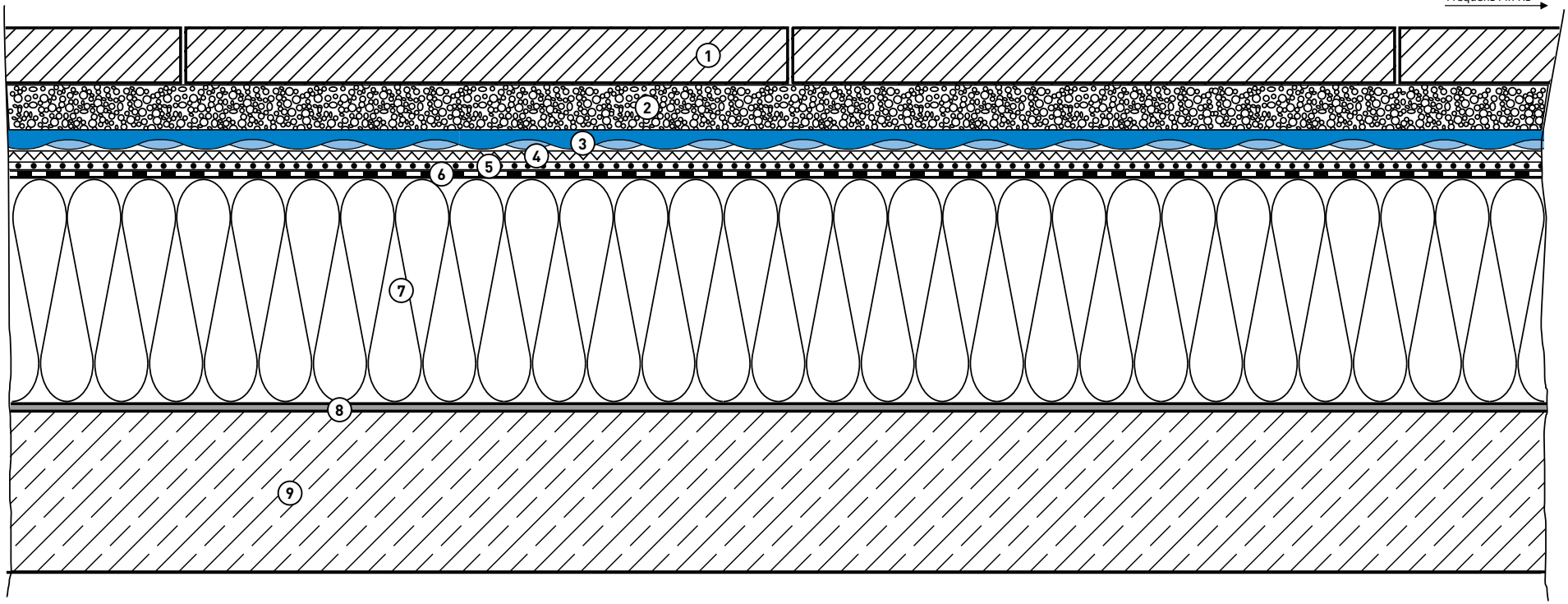
KRAITEC®

1. Concrete sidewalk slabs, 500 x 500 x 50 mm
2. Gravel bed 2/8, d = 4 cm
3. **DAMTEC® sonic drain plus,** 15/6 mm
4. Separating layer polyester fleece, 300 g/m²
5. PVC roofing felt 1.5 mm
6. Rough glass fleece 120 g/m²
7. Insulation EPS 035/200 KPA DAA DH, 200 mm
8. Bitumen vapour barrier V60 S4 +AL
9. Concrete ceiling, 140 mm

Frequenz f [Hz]	$L_{n,0}$ Terzband [dB]	ΔL Terzband [dB]
50	56,5	5,8
63	62,7	15,6
80	57,4	19,4
100	57,2	22,0
125	67,5	24,3
160	62,6	25,1
200	64,1	27,2
250	67,1	29,8
315	65,3	28,1
400	64,7	27,9
500	65	31,0
630	65,3	35,3
800	66,4	37,1
1000	67,8	42,3
1250	67,7	41,2
1600	68,2	50,0
2000	68,8	47,4
2500	68,6	48,8
3150	67,9	54,1
4000	66,9	
5000	64,4	

*Luftschallkorrektur für den Messwert





DAMTEC® sonic drain plus ROOF CONSTRUCTION 39

Test report number 450396-04

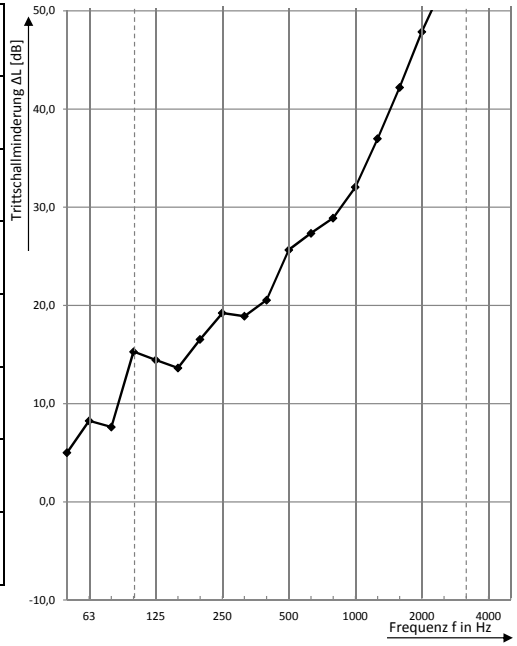
IMPACT SOUND IMPROVEMENT **ΔL_w = 32 dB**

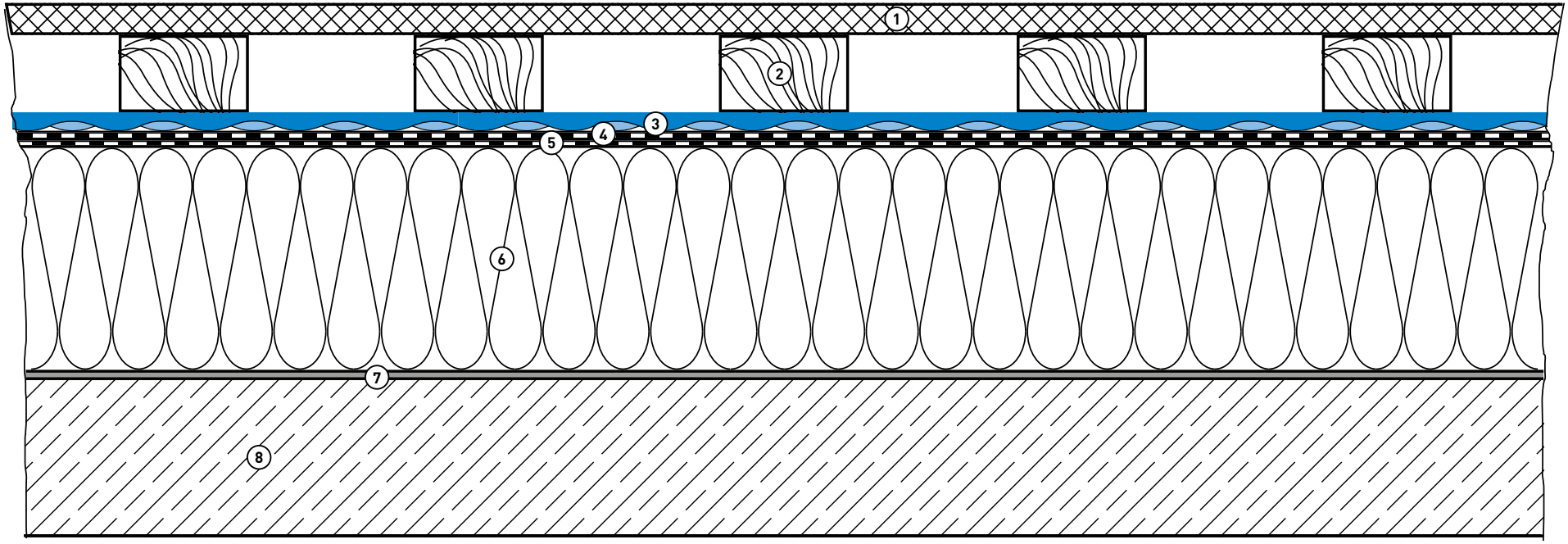
KRAITEC®

1. Wood planking, larch, 27 mm
2. Support laths 45 x 70 mm, center distance 600 mm
3. **DAMTEC® sonic drain plus**, 15/6 mm
4. FPO roofing felt 1,5 mm
5. Rough glass fleece 120 g/m²
6. Insulation EPS 035/200 KPA DAA DH, 200 mm
7. Bitumen vapour barrier V60 S4 +AL
8. Concrete ceiling, 140 mm

Frequenz f [Hz]	$L_{n,0}$ Terzband [dB]	ΔL Terzband [dB]
50	56,5	5,0
63	62,7	8,2
80	57,4	7,6
100	57,2	15,3
125	67,5	14,4
160	62,6	13,6
200	64,1	16,5
250	67,1	19,2
315	65,3	18,9
400	64,7	20,5
500	65	25,7
630	65,3	27,4
800	66,4	28,9
1000	67,8	32,0
1250	67,7	37,0
1600	68,2	42,2
2000	68,8	47,9
2500	68,6	52,8
3150	67,9	55,5
4000	66,9	
5000	64,4	

*Luftschallkorrektur für den Messwert





DAMTEC® sonic drain plus ROOF CONSTRUCTION 40

Test report number 450396-09

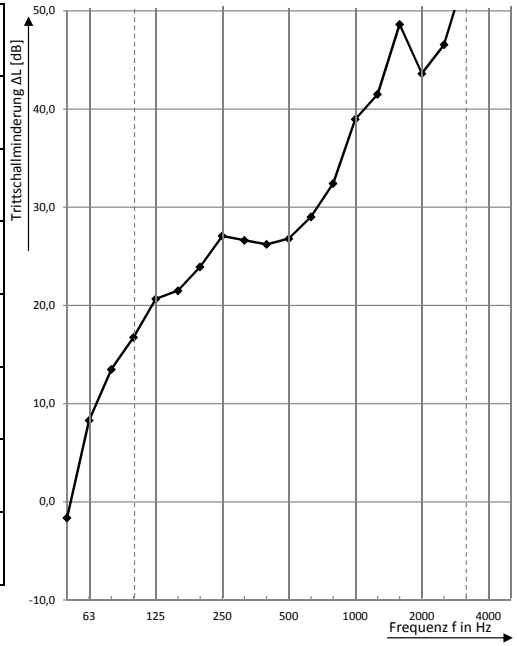
IMPACT SOUND IMPROVEMENT **ΔL_w = 37 dB**

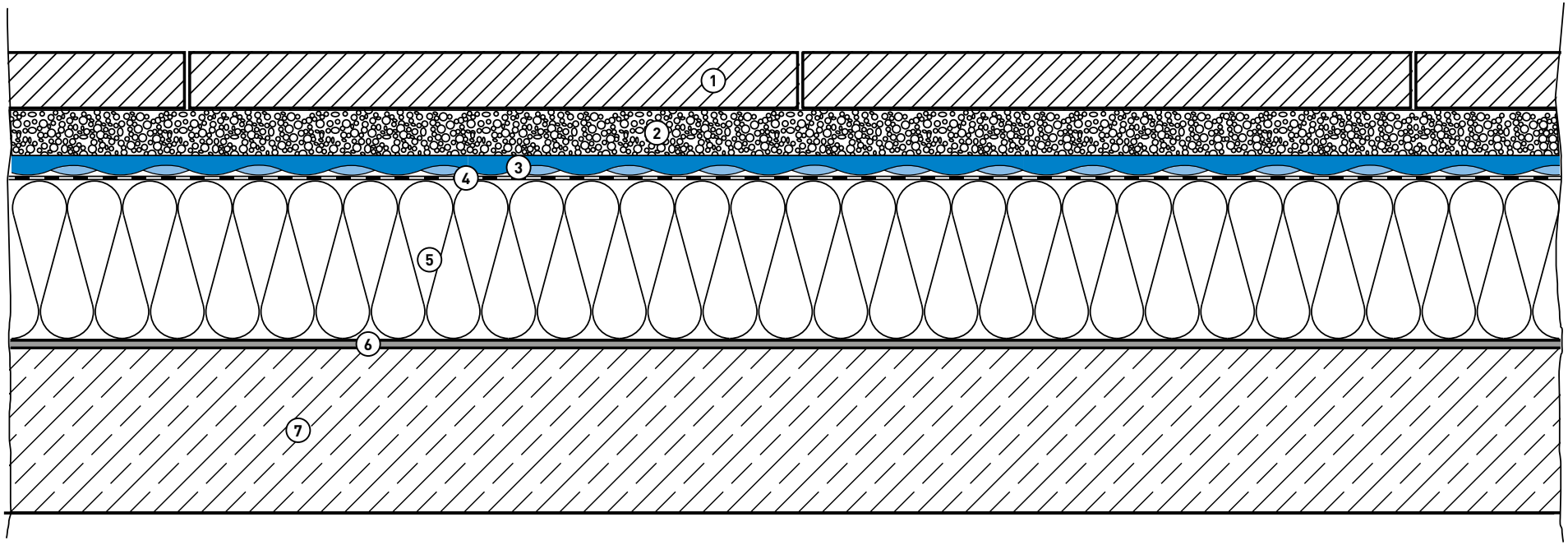
KRAITEC®

1. Concrete sidewalk slabs, 500 x 500 x 50 mm
2. Gravel bed 2/8, d = 4 cm
3. **DAMTEC® sonic drain plus,** 15/6 mm
4. FPO roofing felt 1,5 mm
5. Insulation PIR FA WLS 024, 140 mm
6. Bitumen vapour barrier V60 S4 +AL
7. Concrete ceiling, 140 mm

Frequenz f [Hz]	$L_{n,0}$ Terzband [dB]	ΔL Terzband [dB]
50	56,5	-1,6
63	62,7	8,3
80	57,4	13,5
100	57,2	16,7
125	67,5	20,7
160	62,6	21,5
200	64,1	23,9
250	67,1	27,1
315	65,3	26,6
400	64,7	26,2
500	65	26,8
630	65,3	29,0
800	66,4	32,4
1000	67,8	39,0
1250	67,7	41,5
1600	68,2	48,6
2000	68,8	43,6
2500	68,6	
3150	67,9	
4000	66,9	
5000	64,4	

*Luftschallkorrektur für den Messwert





DAMTEC® sonic drain plus ROOF CONSTRUCTION 41

Test report number 450396-19

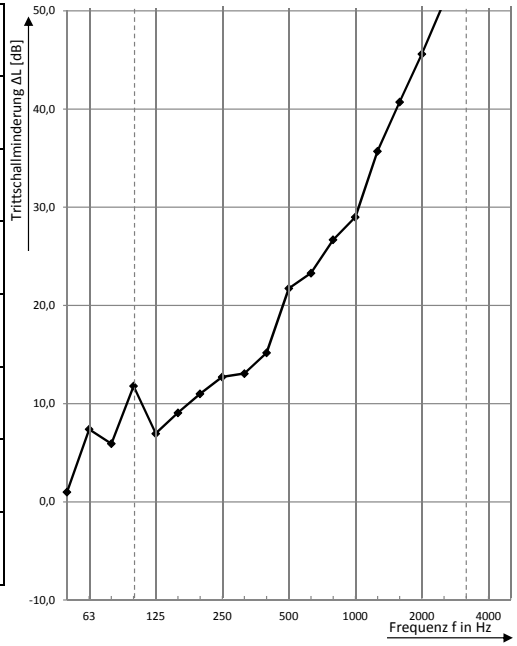
IMPACT SOUND IMPROVEMENT **ΔL_w = 27 dB**

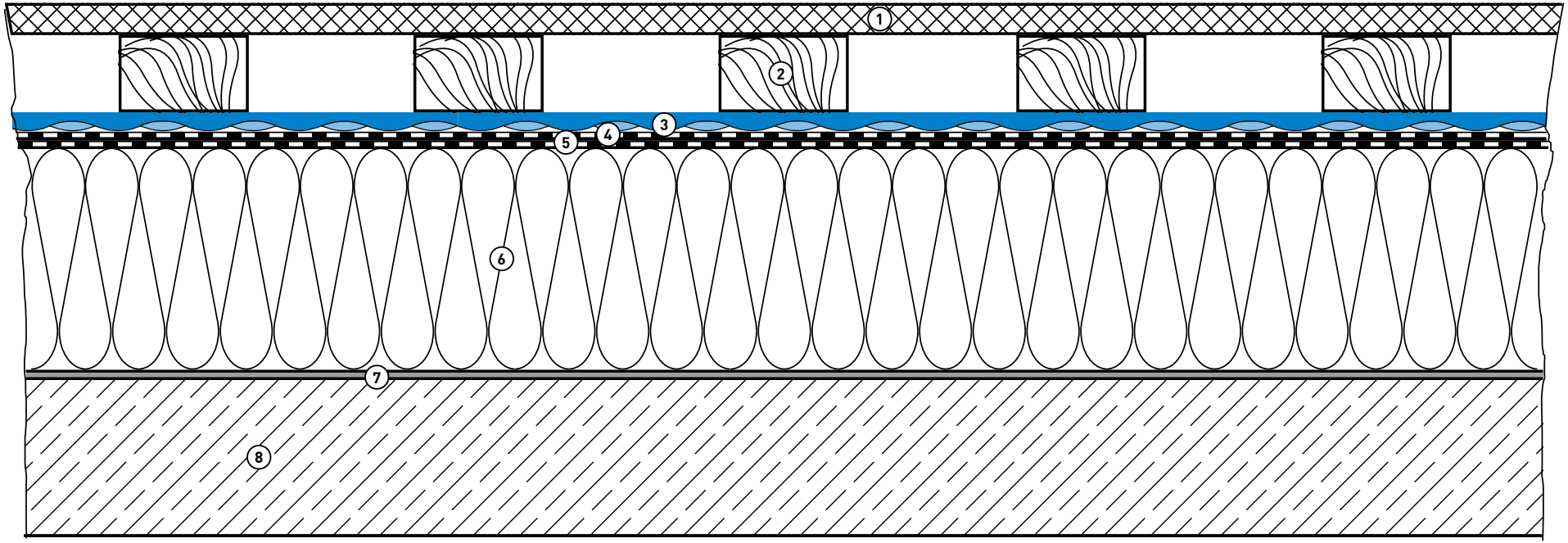
KRAITEC®

1. Wood planking, larch, 27 mm
2. Support laths 45 x 70 mm, center distance 600 mm
3. **DAMTEC® sonic drain plus**, 15/6 mm
4. Top layer PYE PV200 S5, slate
5. 1st Waterproofing layer G200 S4, powder
6. Foamglas T3+
7. Bitumen vapour barrier V60 S4 +AL
8. Concrete ceiling, 140 mm

Frequenz f [Hz]	$L_{n,0}$ Terzband [dB]	ΔL Terzband [dB]
50	56,5	1,0
63	62,7	7,4
80	57,4	5,9
100	57,2	11,8
125	67,5	7,0
160	62,6	9,1
200	64,1	11,0
250	67,1	12,7
315	65,3	13,1
400	64,7	15,2
500	65	21,7
630	65,3	23,3
800	66,4	26,7
1000	67,8	29,0
1250	67,7	35,7
1600	68,2	40,7
2000	68,8	45,6
2500	68,6	50,9
3150	67,9	54,4
4000	66,9	
5000	64,4	

*Luftschallkorrektur für den Messwert





Notes

WOOD-BEAM CEILINGS
SYSTEM STRUCTURES

The 3 in 1 solution for systems used in wooden-beam ceilings

Recycling, sustainability, resource efficiency and ideally even climate neutrality are the most important challenges facing today's construction industry. For years, all these issues have caused more and more use of wood as a natural material in industrial as well as private building construction. The advantages are obvious:
- Very good ecological balance thanks to regionally renewable raw material
- Very good insulating properties, thus saving fossil fuels for heating
- High degree of prefabrication enables serial, rapid construction

In addition, outdoor living areas such as roof terraces, balconies and loggias are created. Of course, noise protection is also a prerequisite for untroubled use of these areas. Noisy footsteps, moving chairs or children playing must not be transmitted to the neighbouring flat.

Impact sound and airborne sound insulation in and on the building is regulated by DIN 4109. It is to be ensured that disturbance effects do not occur. The requirements for minimum sound insulation are clearly defined.

With the help of the building protection mats DAMTEC® sonic and DAMTEC® sonic drain plus, these requirements can be met without any problems. The 3 in 1 solution for impact sound reduction, building protection and drainage on exterior wooden beam ceilings combines the DIN 18531 and DIN 4109.

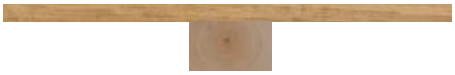
Below you will find the system-tested structures for wood ceilings.

Tested structures

Concrete walkway slab +
PA stilt bearing

Concrete walkway slab +
Chippings bed

Wooden planking + supporting battens



DAMTEC® sonic

DAMTEC® sonic drain plus

Top layer / waterproofing layer / lamination layer

Insulation PIR

Bitumen vapour barrier & wooden-beam ceiling system

DAMTEC® sonic ROOF CONSTRUCTION 42

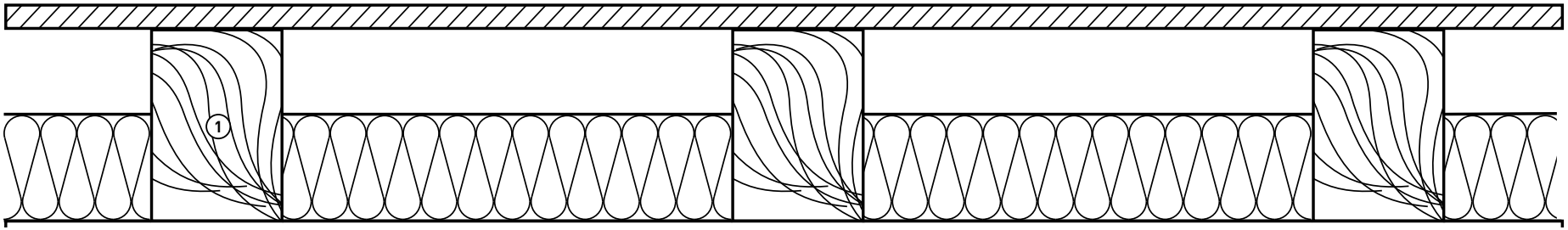
Test report number A-2022-179

IMPACT SOUND LEVEL $L_{n,w}$ (c_I) = 72 (0) dB

KRAITEC®

(1) **Wooden-beam ceiling system**:
Floor underlay, 22 mm
Wooden beams, 120 x 180 mm
Mineral wool 100 mm
Wooden planking 48 mm
Plasterboard ceiling 12,5 mm

Frequenz f [Hz]	L_n Terz [dB]	U Terz [dB]
50	65,8	± 3,2
63	74,9	± 2,8
80	81,1	± 2,4
100	76,3	± 2,0
125	80,8	± 1,6
160	80,0	± 1,4
200	79,2	± 1,3
250	77,0	± 1,2
315	74,9	± 1,2
400	73,0	± 1,2
500	72,1	± 1,2
630	68,2	± 1,2
800	66,7	± 1,2
1000	62,6	± 1,2
1250	60,0	± 1,3
1600	57,8	± 1,4
2000	55,3	± 1,5
2500	57,5	± 1,7
3150	53,9	± 1,9
4000	45,3	± 2,1
5000	36,0	± 2,3



DAMTEC® sonic ROOF CONSTRUCTION 43

Test report number A-2022-128

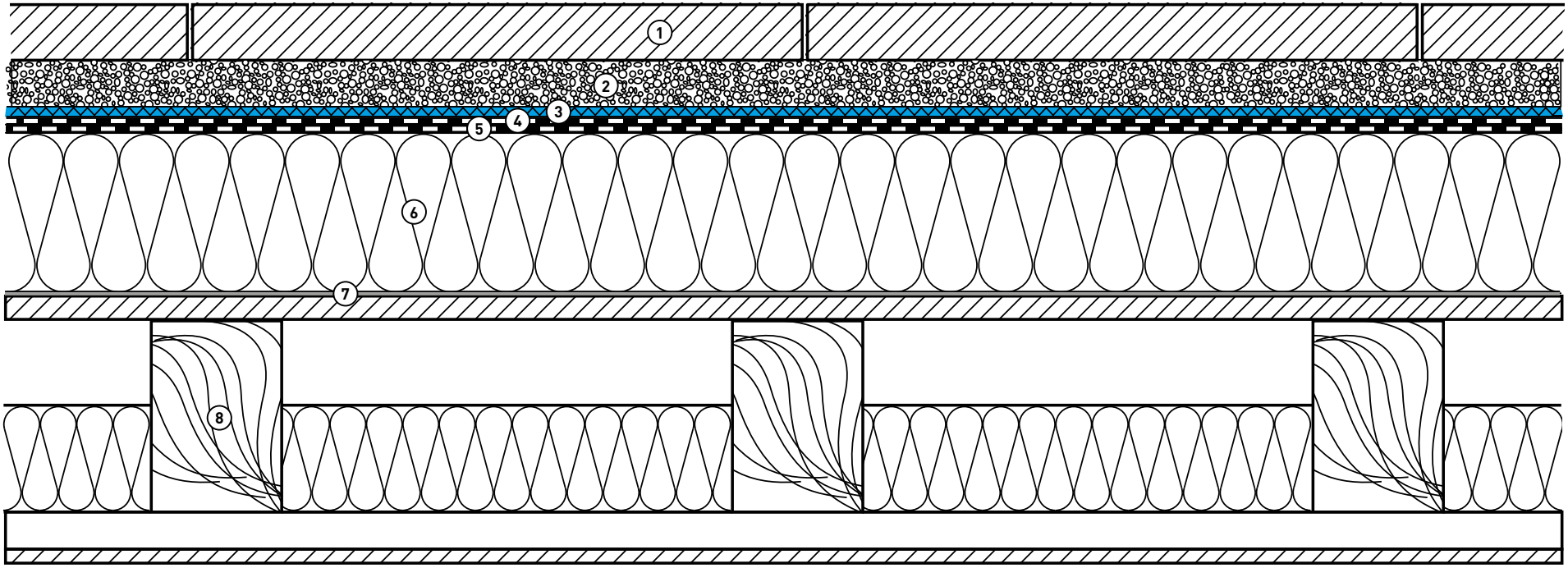
IMPACT SOUND IMPROVEMENT $\Delta L_{t1,w}$ = **20 dB** | IMPACT SOUND LEVEL $L_{n,w}$ (c_I) = **53 (0) dB**

KRAITEC®

1. Concrete sidewalk slabs, 400 x 400 x 50 mm
2. Gravel bed 2/8, d = 40 mm
3. **DAMTEC® sonic** 8 mm
4. Top layer PYE PV 200 S 5, slate
5. 1. Waterproofing layer G 200 S4, talk.
6. Insulation PIR FA WLS 024, 140 mm
7. Bitumen vapour barrier V60 S4 +AL
8. **Wooden-beam ceiling system**:
   Floor underlay, 22 mm
   Wooden beams, 120 x 180 mm
   Mineral wool 100 mm
   Wooden planking 48 mm
   Plasterboard ceiling 12,5 mm

Frequenz f [Hz]	L_n Terz [dB]	U Terz [dB]
50	56,8	± 3,2
63	61,7	± 2,8
80	64,4	± 2,4
100	59,4	± 2,0
125	63,1	± 1,6
160	61,8	± 1,4
200	61,8	± 1,3
250	56,8	± 1,2
315	53,0	± 1,2
400	49,5	± 1,2
500	46,2	± 1,2
630	41,5	± 1,2
800	36,1	± 1,2
1000	< 29,3 [3]	± 1,2
1250	< 29,6 [3]	± 1,3
1600	25,8 [1]	± 1,4
2000	< 20,4 [13]	± 1,5
2500	17,1 [1]	± 1,7
3150	< 18,1 [2]	± 1,9
4000	< 14,2 [2]	± 2,1
5000	< 11,7 [2]	± 2,3

[1] Fremdgeräuschkorrektur
[2] Messgrenze erreicht
[3] Luftschallkorrektur



DAMTEC® sonic ROOF CONSTRUCTION 44

Test report number A-2022-130

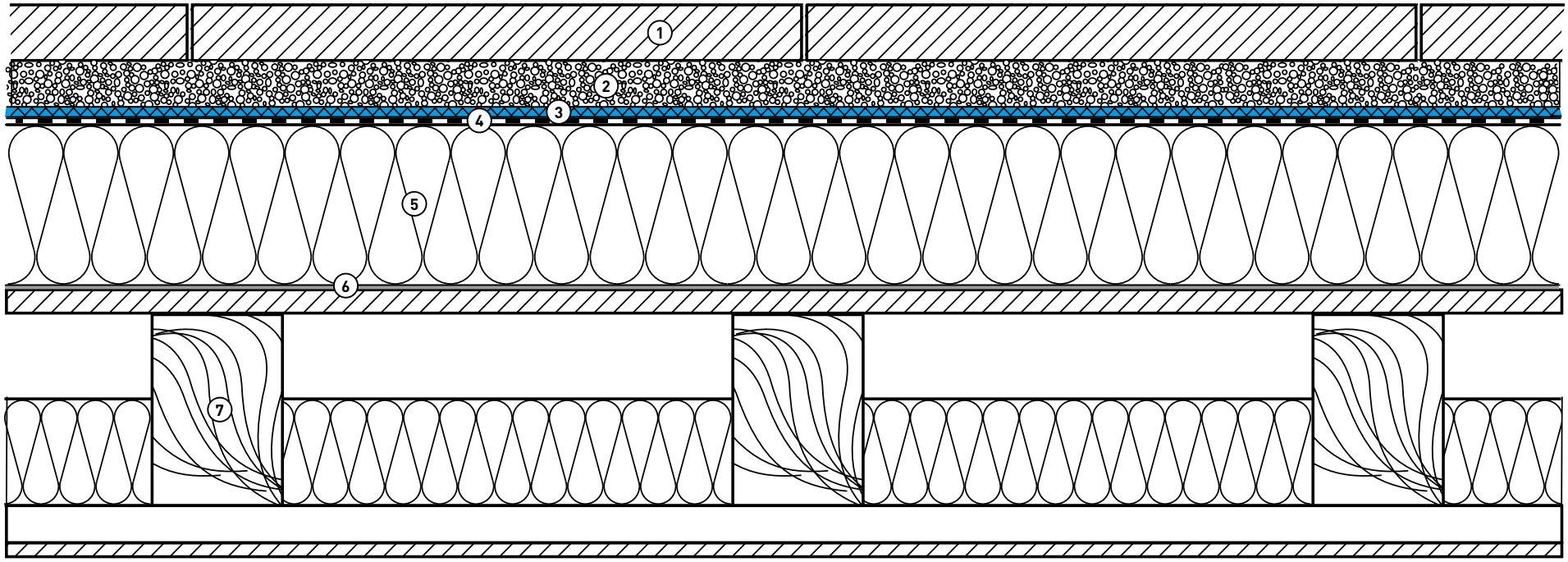
IMPACT SOUND IMPROVEMENT **$\Delta L_{t1,w}$ = 21 dB** | IMPACT SOUND LEVEL **$L_{n,w}$ (c_I) = 51 (1) dB**

KRAITEC®

1. Concrete sidewalk slabs, 400 x 400 x 50 mm
2. Gravel bed 2/8, d = 4 cm
3. **DAMTEC® sonic,** 8 mm
4. FPO roofing felt 1,5 mm
5. Insulation PIR FA WLS 024, 140 mm
6. Bitumen vapour barrier V60 S4 +AL
7. **Wooden-beam ceiling system**:
   Floor underlay, 22 mm
   Wooden beams, 120 x 180 mm
   Mineral wool 100 mm
   Wooden planking 48 mm
   Plasterboard ceiling 12,5 mm

Frequenz f [Hz]	L_n Terz [dB]	U Terz [dB]
50	57,2	± 3,2
63	63,8	± 2,8
80	65,3	± 2,4
100	58,1	± 2,0
125	61,7	± 1,6
160	59,3	± 1,4
200	60,6	± 1,3
250	54,8	± 1,2
315	50,2	± 1,2
400	47,6	± 1,2
500	45,0	± 1,2
630	39,5	± 1,2
800	37,9	± 1,2
1000	31,7	± 1,2
1250	36,9	± 1,3
1600	30,9	± 1,4
2000	< 26,3 [13]	± 1,5
2500	23,4 [1]	± 1,7
3150	25,4 [1]	± 1,9
4000	19,3 [1]	± 2,1
5000	< 14,6 [2]	± 2,3

[1] Fremdgeräuschkorrektur
[2] Messgrenze erreicht
[3] Luftschallkorrektur



DAMTEC® sonic ROOF CONSTRUCTION 45

Test report number A-2022-132

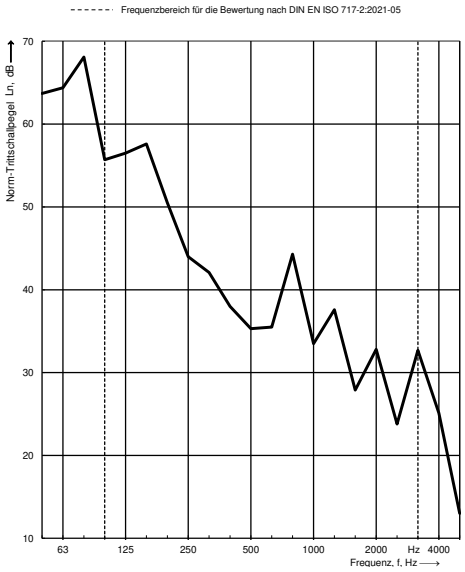
IMPACT SOUND IMPROVEMENT **$\Delta L_{t1,w}$ = 26 dB** | IMPACT SOUND LEVEL **$L_{n,w}$ (c_I) = 47 (0) dB**

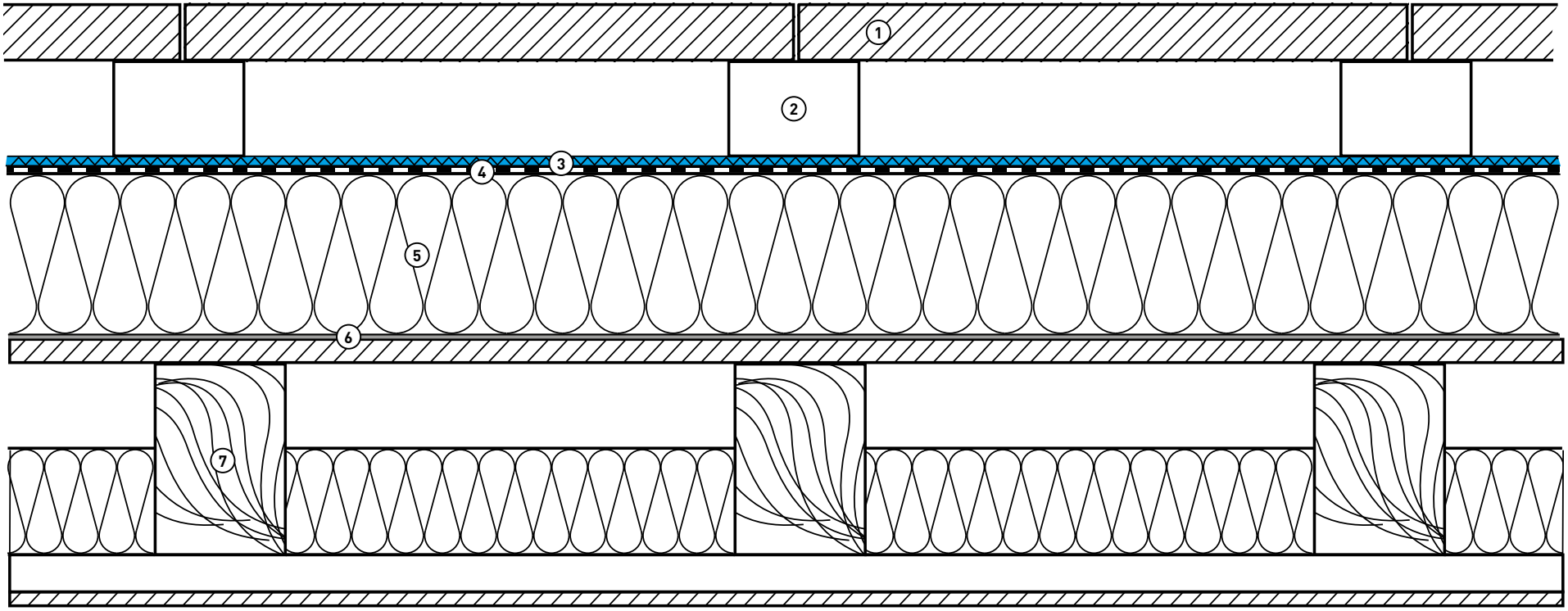
KRAITEC®

1. Concrete sidewalk slabs, 400 x 400 x 50 mm
2. PA stilt bearing, adjustable
3. **DAMTEC® sonic,** 8 mm
4. FPO roofing felt 1,5 mm
5. Insulation PIR FA WLS 024, 140 mm
6. Bitumen vapour barrier V60 S4 +AL
7. **Wooden-beam ceiling system**:
   Floor underlay, 22 mm
   Wooden beams, 120 x 180 mm
   Mineral wool 100 mm
   Wooden planking 48 mm
   Plasterboard ceiling 12,5 mm

Frequenz f [Hz]	L_n Terz [dB]	U Terz [dB]
50	63,7	± 3,2
63	64,4	± 2,8
80	68,1	± 2,4
100	55,7	± 2,0
125	56,5	± 1,6
160	57,6	± 1,4
200	50,5	± 1,3
250	< 44,0 [3]	± 1,2
315	< 42,1 [3]	± 1,2
400	38,0	± 1,2
500	35,3	± 1,2
630	35,5	± 1,2
800	44,3	± 1,2
1000	33,5	± 1,2
1250	< 37,6 [3]	± 1,3
1600	27,9 [1]	± 1,4
2000	32,8	± 1,5
2500	23,8 [1]	± 1,7
3150	32,7	± 1,9
4000	25,1 [1]	± 2,1
5000	< 13,0 [2]	± 2,3

[1] Fremdgeräuschkorrektur
[2] Messgrenze erreicht
[3] Luftschallkorrektur





DAMTEC® sonic ROOF CONSTRUCTION 46

Test report number A-2022-134

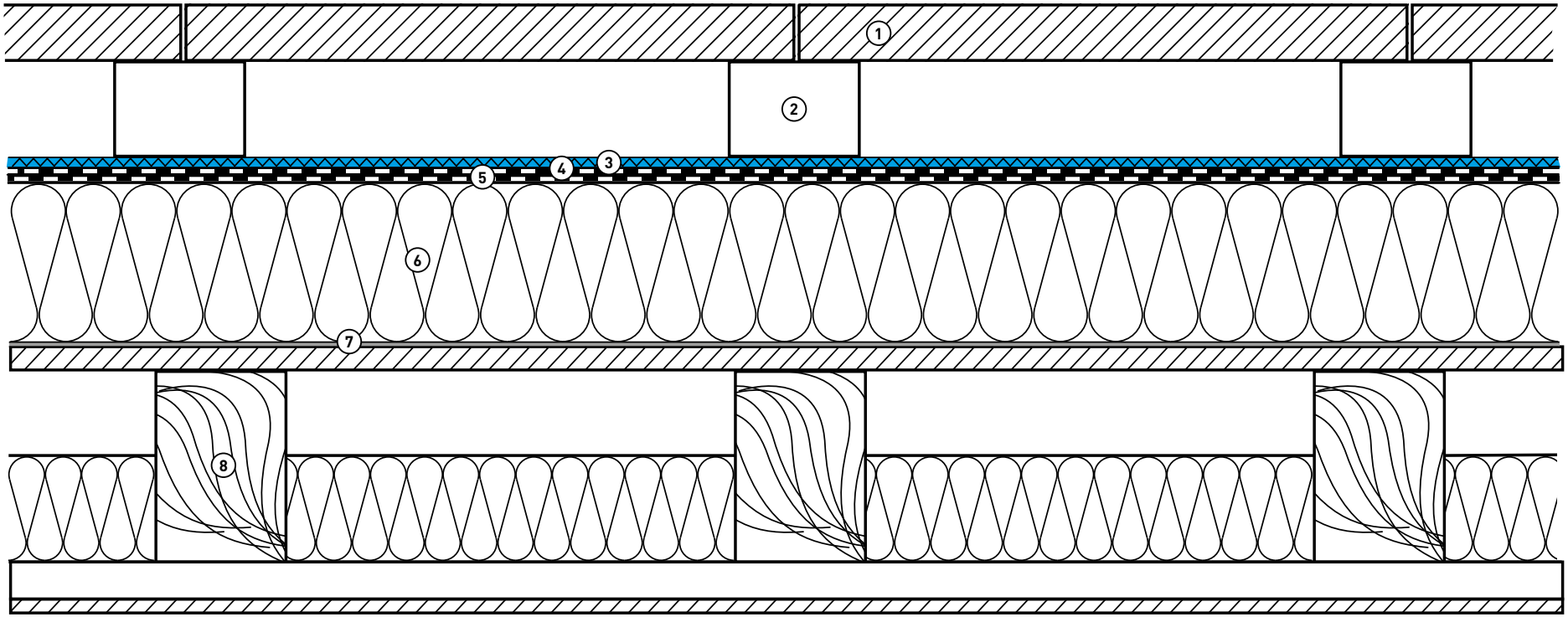
IMPACT SOUND IMPROVEMENT **$\Delta L_{t1,w}$ = 28 dB** | IMPACT SOUND LEVEL **$L_{n,w}$ (c_I) = 45 (2) dB**

KRAITEC®

1. Concrete sidewalk slab, smooth 400 x 400 x 50 mm
2. PA stilt bearing adjustable
3. **DAMTEC® sonic**, 8 mm
4. Top layer PYE PV200 S5, slate
5. 1. Waterproofing layer G200 S4, talk.
6. Insulation PIR FA WLS 024, 140 mm
7. Bitumen vapour barrier V60 S4 +AL
8. **Wooden-beam ceiling system**:
   Floor underlay, 22 mm
   Wooden beams, 120 x 180 mm
   Mineral wool 100 mm
   Wooden planking 48 mm
   Plasterboard ceiling 12,5 mm

Frequenz f [Hz]	L_n Terz [dB]	U Terz [dB]
50	63,9	± 3,2
63	68,2	± 2,8
80	67,7	± 2,4
100	58,3	± 2,0
125	58,6	± 1,6
160	51,9	± 1,4
200	50,0	± 1,3
250	< 44,6 [3]	± 1,2
315	< 40,6 [3]	± 1,2
400	< 37,3 [3]	± 1,2
500	33,1	± 1,2
630	< 28,6 [3]	± 1,2
800	< 34,5 [3]	± 1,2
1000	< 30,3 [3]	± 1,2
1250	< 33,4 [3]	± 1,3
1600	< 26,2 [13]	± 1,4
2000	29,8	± 1,5
2500	19,9 [1]	± 1,7
3150	25,6 [1]	± 1,9
4000	19,8 [1]	± 2,1
5000	< 14,8 [2]	± 2,3

[1] Fremdgeräuschkorrektur
[2] Messgrenze erreicht
[3] Luftschallkorrektur



DAMTEC® sonic ROOF CONSTRUCTION 47

Test report number A-2022-136

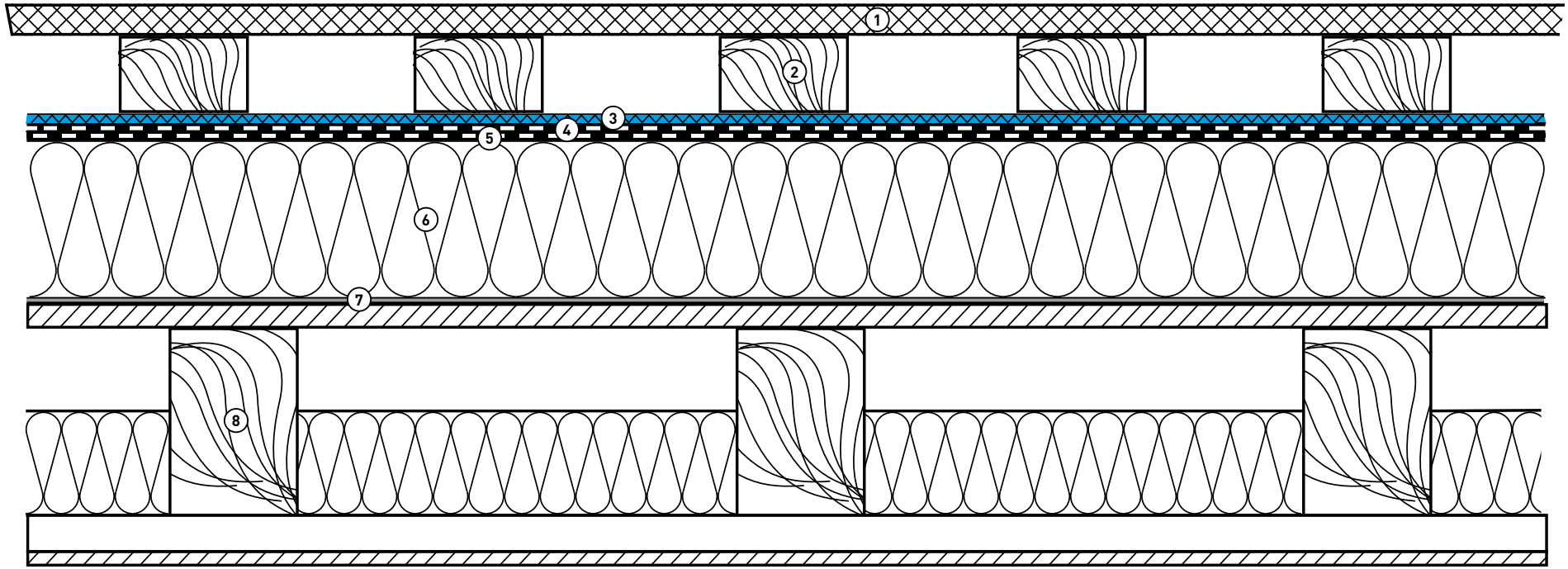
IMPACT SOUND IMPROVEMENT $\Delta L_{t1,w}$ = **17 dB** | IMPACT SOUND LEVEL $L_{n,w}$ (c_I) = **55 (1) dB**

KRAITEC®

1. Wood planking larch, 20 mm, center distance 60 cm
2. Support laths 45 x 70 mm
3. **DAMTEC® sonic**, 8 mm
4. Top layer PYE PV200 S5, slate
5. 1. Waterproofing layer G200 S4, talk.
6. Insulation PIR FA WLS 024, 140 mm
7. Bitumen vapour barrier V60 S4 +AL
8. **Wooden-beam ceiling system**:
   Floor underlay, 22 mm
   Wooden beams, 120 x 180 mm
   Mineral wool 100 mm
   Wooden planking 48 mm
   Plasterboard ceiling 12,5 mm

Frequenz f [Hz]	L_n Terz [dB]	U Terz [dB]
50	65,3	± 3,2
63	73,0	± 2,8
80	71,5	± 2,4
100	64,2	± 2,0
125	66,8	± 1,6
160	63,5	± 1,4
200	63,1	± 1,3
250	< 58,5 [3]	± 1,2
315	< 53,1 [3]	± 1,2
400	< 48,5 [3]	± 1,2
500	< 44,5 [3]	± 1,2
630	< 39,5 [3]	± 1,2
800	< 30,9 [2]	± 1,2
1000	< 30,2 [2]	± 1,2
1250	< 23,2 [2]	± 1,3
1600	12,7 [12]	± 1,4
2000	13,0 [12]	± 1,5
2500	< 15,5 [13]	± 1,7
3150	22,5 [1]	± 1,9
4000	18,6 [1]	± 2,1
5000	< 14,6 [2]	± 2,3

[1] Fremdgeräuschkorrektur
[2] Messgrenze erreicht
[3] Luftschallkorrektur



DAMTEC® sonic ROOF CONSTRUCTION 48

Test report number A-2022-138

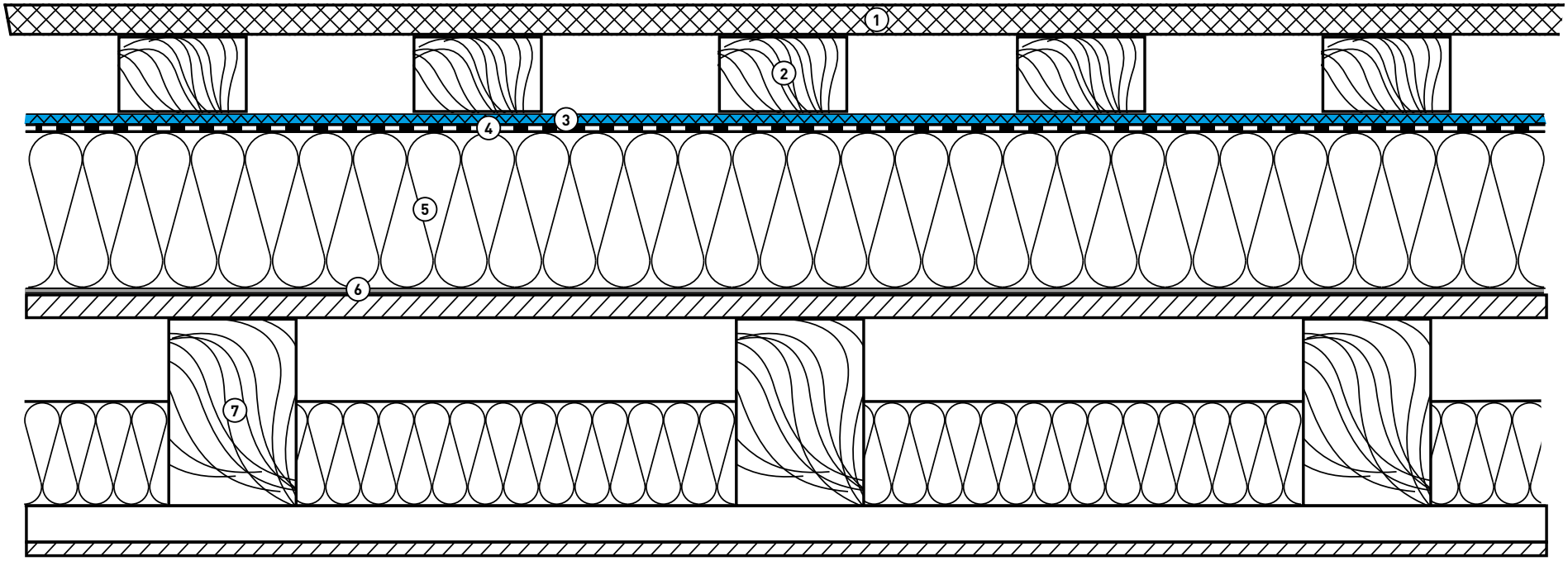
IMPACT SOUND IMPROVEMENT **$\Delta L_{t1,w}$ = 18 dB** | IMPACT SOUND LEVEL **$L_{n,w}$ (c_I) = 54 (2) dB**

KRAITEC®

1. Wood planking larch, 20 mm, center distance 60 cm
2. Support laths 45 x 70 mm
3. **DAMTEC® sonic**, 8 mm
4. FPO roofing felt 1,5 mm
5. Insulation PIR FA WLS 024, 140 mm
6. Bitumen vapour barrier V60 S4 +AL
7. **Wooden-beam ceiling system**:
   Floor underlay, 22 mm
   Wooden beams, 120 x 180 mm
   Mineral wool 100 mm
   Wooden planking 48 mm
   Plasterboard ceiling 12,5 mm

Frequenz f [Hz]	L_n Terz [dB]	U Terz [dB]
50	65,3	± 3,2
63	70,7	± 2,8
80	68,8	± 2,4
100	63,9	± 2,0
125	67,9	± 1,6
160	62,7	± 1,4
200	59,4	± 1,3
250	57,3	± 1,2
315	< 52,6 [3]	± 1,2
400	< 48,7 [3]	± 1,2
500	< 46,9 [3]	± 1,2
630	< 44,0 [3]	± 1,2
800	< 39,9 [3]	± 1,2
1000	< 32,5 [2]	± 1,2
1250	< 28,8 [2]	± 1,3
1600	22,2 [12]	± 1,4
2000	< 20,3 [13]	± 1,5
2500	< 23,2 [13]	± 1,7
3150	< 23,5 [13]	± 1,9
4000	18,5 [1]	± 2,1
5000	< 14,2 [2]	± 2,3

[1] Fremdgeräuschkorrektur
[2] Messgrenze erreicht
[3] Luftschallkorrektur



DAMTEC® sonic ROOF CONSTRUCTION 49

Test report number A-2022-140

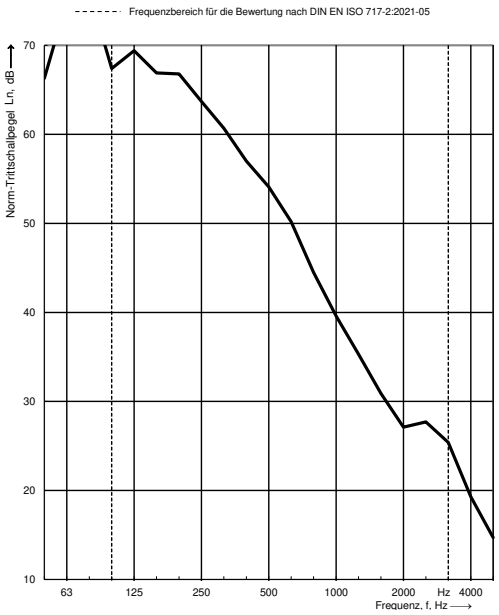
IMPACT SOUND IMPROVEMENT **$\Delta L_{t1,w}$ = 13 dB** | IMPACT SOUND LEVEL **$L_{n,w}$ (c_I) = 59 (1) dB**

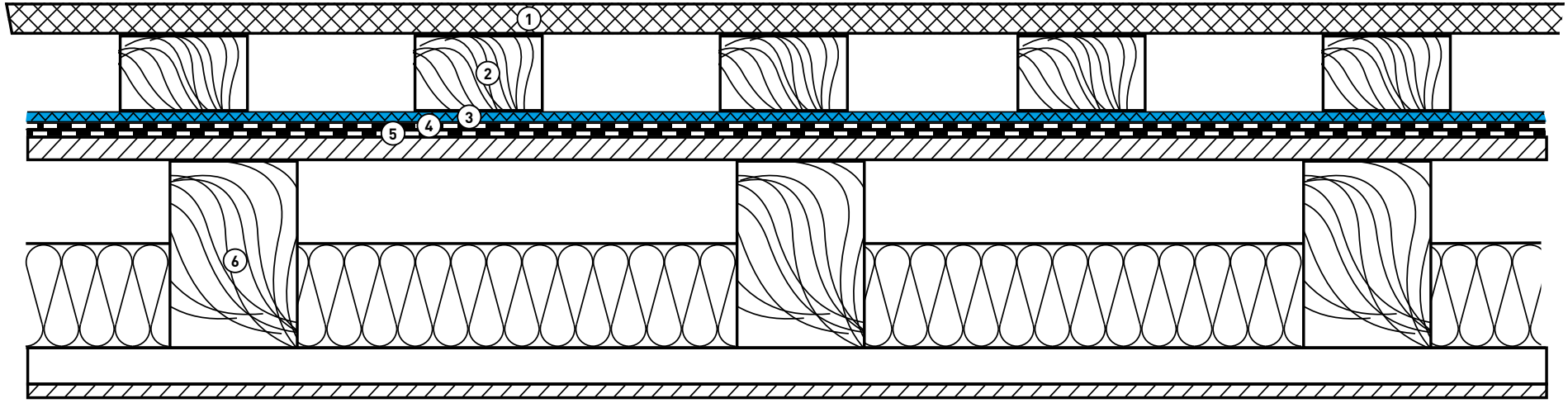
KRAITEC®

1. Wood planking larch, 20 mm, center distance 60 cm
2. Support laths 45 x 70 mm
3. **DAMTEC® sonic**, 8 mm
4. Top layer PYE PV200 S5 slate
5. 1.Waterproofing layer G200 S4 talkumiert
6. **Wooden-beam ceiling system**:
   Floor underlay, 22 mm
   Wooden beams, 120 x 180 mm
   Mineral wool 100 mm
   Wooden planking 48 mm
   Plasterboard ceiling 12,5 mm

Frequenz f [Hz]	L_n Terz [dB]	U Terz [dB]
50	66,3	± 3,2
63	75,0	± 2,8
80	76,0	± 2,4
100	67,4	± 2,0
125	69,4	± 1,6
160	66,9	± 1,4
200	66,8	± 1,3
250	63,7	± 1,2
315	60,7	± 1,2
400	57,0	± 1,2
500	54,1	± 1,2
630	< 50,2 [3]	± 1,2
800	< 44,5 [3]	± 1,2
1000	< 39,6 [3]	± 1,2
1250	< 35,3 [3]	± 1,3
1600	< 30,9 [3]	± 1,4
2000	< 27,1 [3]	± 1,5
2500	< 27,7 [3]	± 1,7
3150	< 25,4 [13]	± 1,9
4000	19,3 [1]	± 2,1
5000	< 14,7 [2]	± 2,3

[1] Fremdgeräuschkorrektur
[2] Messgrenze erreicht
[3] Luftschallkorrektur





DAMTEC® sonic ROOF CONSTRUCTION 50

Test report number A-2022-142

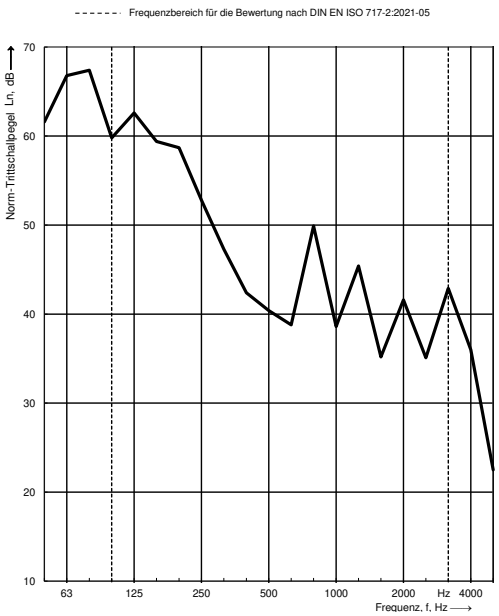
IMPACT SOUND IMPROVEMENT **$\Delta L_{t1,w}$ = 19 dB** | IMPACT SOUND LEVEL **$L_{n,w}$ (c_I) = 53 (-1) dB**

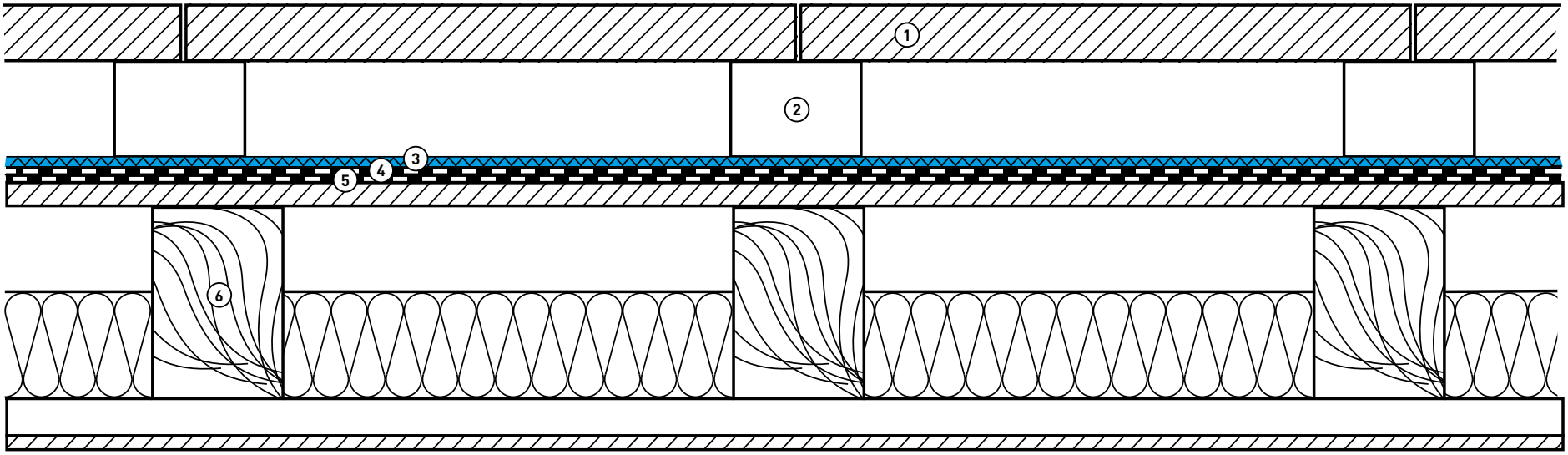
KRAITEC®

1. Concrete sidewalk slabs 400 x 400 x 50 mm
2. PA stilt bearing adjustable
3. **DAMTEC® sonic**, 8 mm
4. Top layer PYE PV200 S5 slate
5. 1.Waterproofing layer G200 S4 talkumiert
6. **Wooden-beam ceiling system**:
   Floor underlay, 22 mm
   Wooden beams, 120 x 180 mm
   Mineral wool 100 mm
   Wooden planking 48 mm
   Plasterboard ceiling 12,5 mm

Frequenz f [Hz]	L_n Terz [dB]	U Terz [dB]
50	61,6	± 3,2
63	66,8	± 2,8
80	67,4	± 2,4
100	59,8	± 2,0
125	62,6	± 1,6
160	59,4	± 1,4
200	58,7	± 1,3
250	52,8	± 1,2
315	47,3	± 1,2
400	42,4	± 1,2
500	40,4	± 1,2
630	38,8	± 1,2
800	49,9	± 1,2
1000	38,6	± 1,2
1250	45,4	± 1,3
1600	35,2	± 1,4
2000	41,6	± 1,5
2500	35,1	± 1,7
3150	42,9	± 1,9
4000	36,0	± 2,1
5000	22,5 [1]	± 2,3

[1] Fremdgeräuschkorrektur





DAMTEC® sonic ROOF CONSTRUCTION 51

Test report number A-2022-144

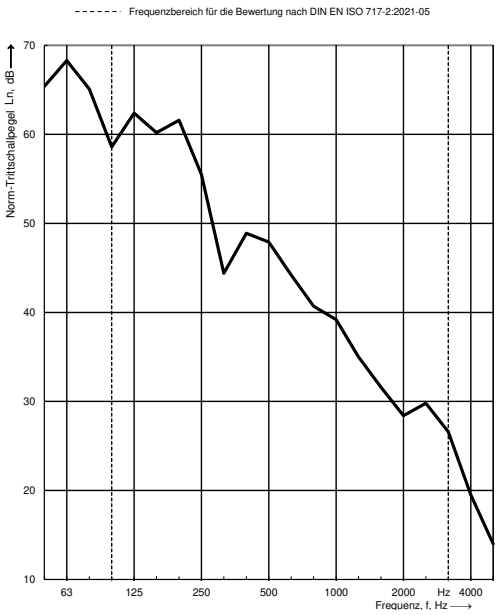
IMPACT SOUND IMPROVEMENT **$\Delta L_{t1,w}$ = 21 dB** | IMPACT SOUND LEVEL **$L_{n,w}$ (c_I) = 52 (0) dB**

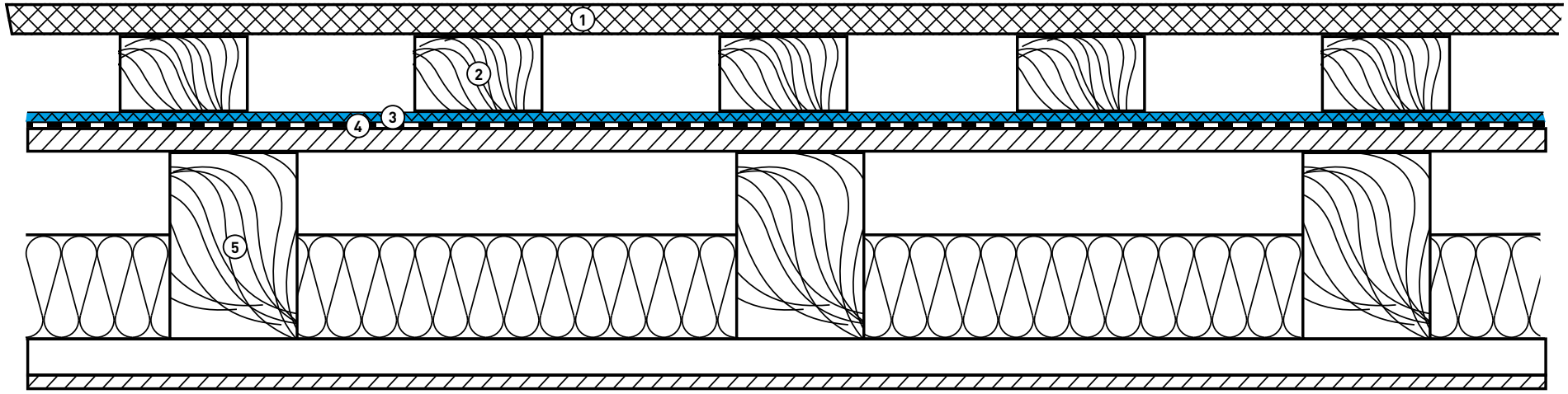
KRAITEC®

1. Wood planking larch, 20 mm, center distance 60 cm
2. Support laths 45 x 70 mm
3. **DAMTEC® sonic**, 8 mm
4. FPO Dachbahn 1,5mm
5. **Wooden-beam ceiling system**:
   Floor underlay, 22 mm
   Wooden beams, 120 x 180 mm
   Mineral wool 100 mm
   Wooden planking 48 mm
   Plasterboard ceiling 12,5 mm

Frequenz f [Hz]	L_n Terz [dB]	U Terz [dB]
50	65,4	± 3,2
63	68,3	± 2,8
80	65,1	± 2,4
100	58,6	± 2,0
125	62,4	± 1,6
160	60,2	± 1,4
200	61,6	± 1,3
250	< 55,5 [3]	± 1,2
315	< 44,4 [2]	± 1,2
400	< 48,9 [3]	± 1,2
500	< 47,9 [3]	± 1,2
630	< 44,2 [3]	± 1,2
800	< 40,7 [3]	± 1,2
1000	< 39,2 [3]	± 1,2
1250	< 35,0 [3]	± 1,3
1600	< 31,6 [2]	± 1,4
2000	< 28,4 [2]	± 1,5
2500	< 29,8 [3]	± 1,7
3150	< 26,6 [13]	± 1,9
4000	< 19,5 [13]	± 2,1
5000	< 14,0 [2]	± 2,3

[1] Fremdgeräuschkorrektur
[2] Messgrenze erreicht
[3] Luftschallkorrektur





DAMTEC® sonic drain plus ROOF CONSTRUCTION 52

Test report number A-2022-129

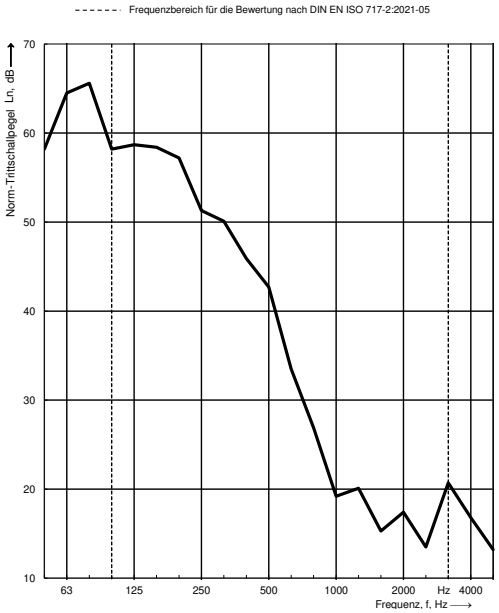
IMPACT SOUND IMPROVEMENT **$\Delta L_{t1,w}$ = 23 dB** | IMPACT SOUND LEVEL **$L_{n,w}$ (c_I) = 49 (1) dB**

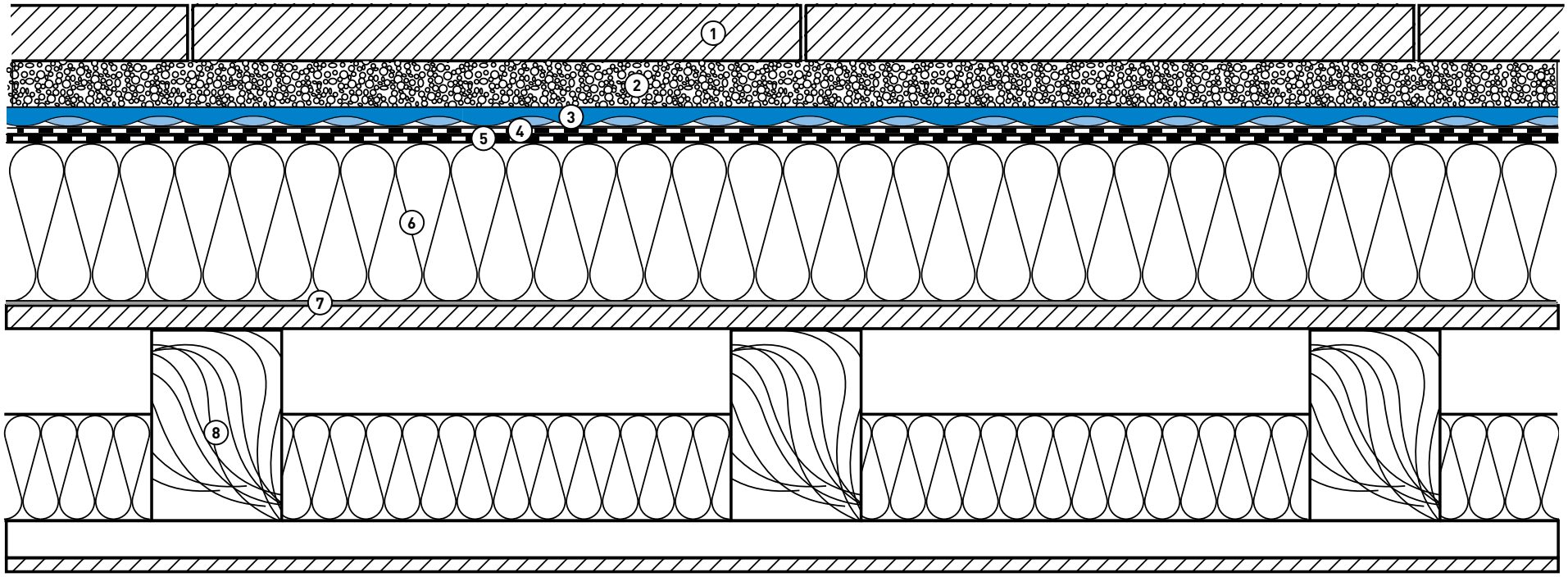
KRAITEC®

1. Concrete sidewalk slabs, 400 x 400 x 50 mm
2. Gravel bed 2/8, d = 40 mm
3. **DAMTEC® sonic drain plus**, 15/6 mm
4. Top layer PYE PV 200 S 5, slate
5. 1. Waterproofing layer G 200 S4, talk.
6. Insulation PIR FA WLS 024, 140 mm
7. Bitumen vapour barrier V60 S4 +AL
8. **Wooden-beam ceiling system**:
   Floor underlay, 22 mm
   Wooden beams, 120 x 180 mm
   Mineral wool 100 mm
   Wooden planking 48 mm
   Plasterboard ceiling 12,5 mm

Frequenz f [Hz]	L_n Terz [dB]	U Terz [dB]
50	58,2	± 3,2
63	64,5	± 2,8
80	65,6	± 2,4
100	58,2	± 2,0
125	58,7	± 1,6
160	58,4	± 1,4
200	57,2	± 1,3
250	51,3	± 1,2
315	50,1	± 1,2
400	45,9	± 1,2
500	42,7	± 1,2
630	33,5	± 1,2
800	< 26,9 [2]	± 1,2
1000	< 19,2 [2]	± 1,2
1250	< 20,1 [2]	± 1,3
1600	15,3 [12]	± 1,4
2000	17,4 [12]	± 1,5
2500	< 13,5 [2]	± 1,7
3150	< 20,7 [2]	± 1,9
4000	< 16,8 [2]	± 2,1
5000	< 13,2 [2]	± 2,3

[2] Messgrenze erreicht





DAMTEC® sonic drain plus ROOF CONSTRUCTION 53

Test report number A-2022-131

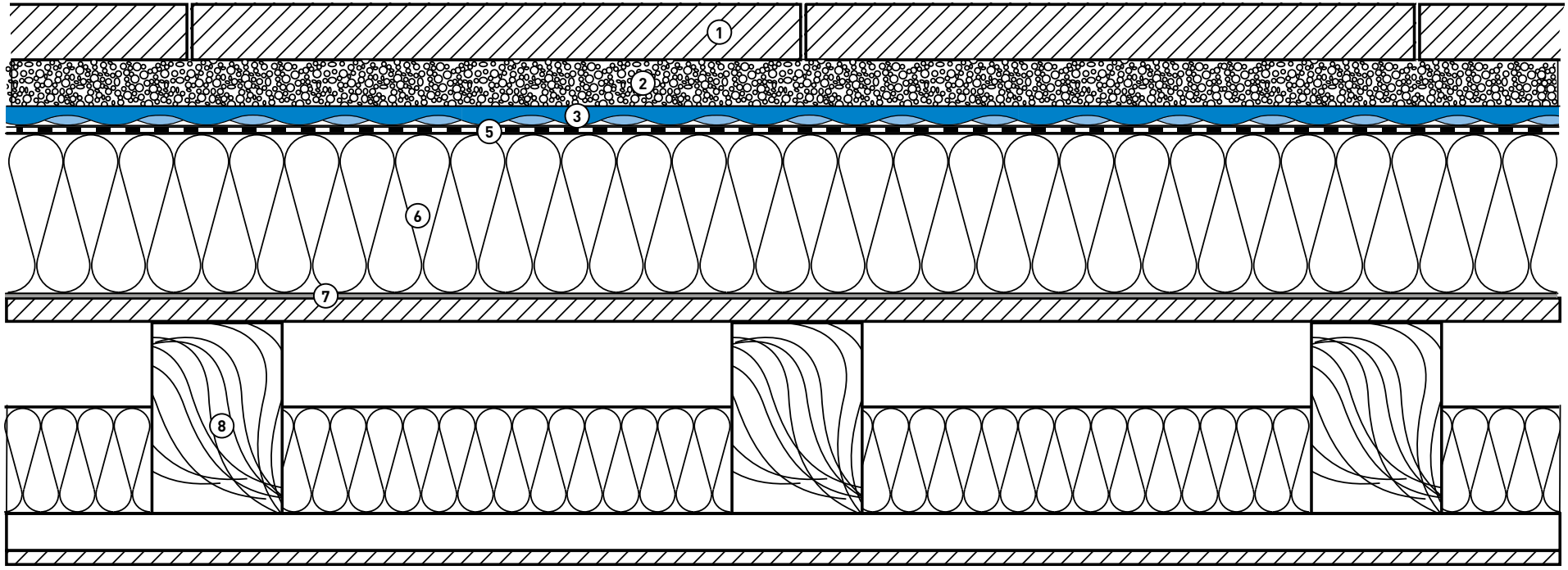
IMPACT SOUND IMPROVEMENT **$\Delta L_{t1,w}$ = 26 dB** | IMPACT SOUND LEVEL **$L_{n,w}$ (c_I) = 47 (1) dB**

KRAITEC®

1. Concrete sidewalk slabs, 400 x 400 x 50 mm
2. Gravel bed 2/8, d = 4 cm
3. **DAMTEC® sonic drain plus**, 15/6 mm
4. FPO roofing felt 1,5 mm
5. Insulation PIR FA WLS 024, 140 mm
6. Bitumen vapour barrier V60 S4 +AL
7. **Wooden-beam ceiling system**:
   Floor underlay, 22 mm
   Wooden beams, 120 x 180 mm
   Mineral wool 100 mm
   Wooden planking 48 mm
   Plasterboard ceiling 12,5 mm

Frequenz f [Hz]	L_n Terz [dB]	U Terz [dB]
50	58,8	± 3,2
63	64,7	± 2,8
80	62,6	± 2,4
100	56,1	± 2,0
125	56,9	± 1,6
160	56,6	± 1,4
200	56,0	± 1,3
250	47,7	± 1,2
315	45,9	± 1,2
400	43,5	± 1,2
500	40,9	± 1,2
630	36,3	± 1,2
800	< 34,4 [3]	± 1,2
1000	< 25,4 [3]	± 1,2
1250	< 26,1 [2]	± 1,3
1600	< 18,9 [13]	± 1,4
2000	< 25,0 [13]	± 1,5
2500	16,4 [1]	± 1,7
3150	< 23,6 [13]	± 1,9
4000	18,5 [1]	± 2,1
5000	< 13,8 [2]	± 2,3

[1] Fremdgeräuschkorrektur
[2] Messgrenze erreicht
[3] Luftschallkorrektur



DAMTEC® sonic drain plus ROOF CONSTRUCTION 54

Test report number A-2022-133

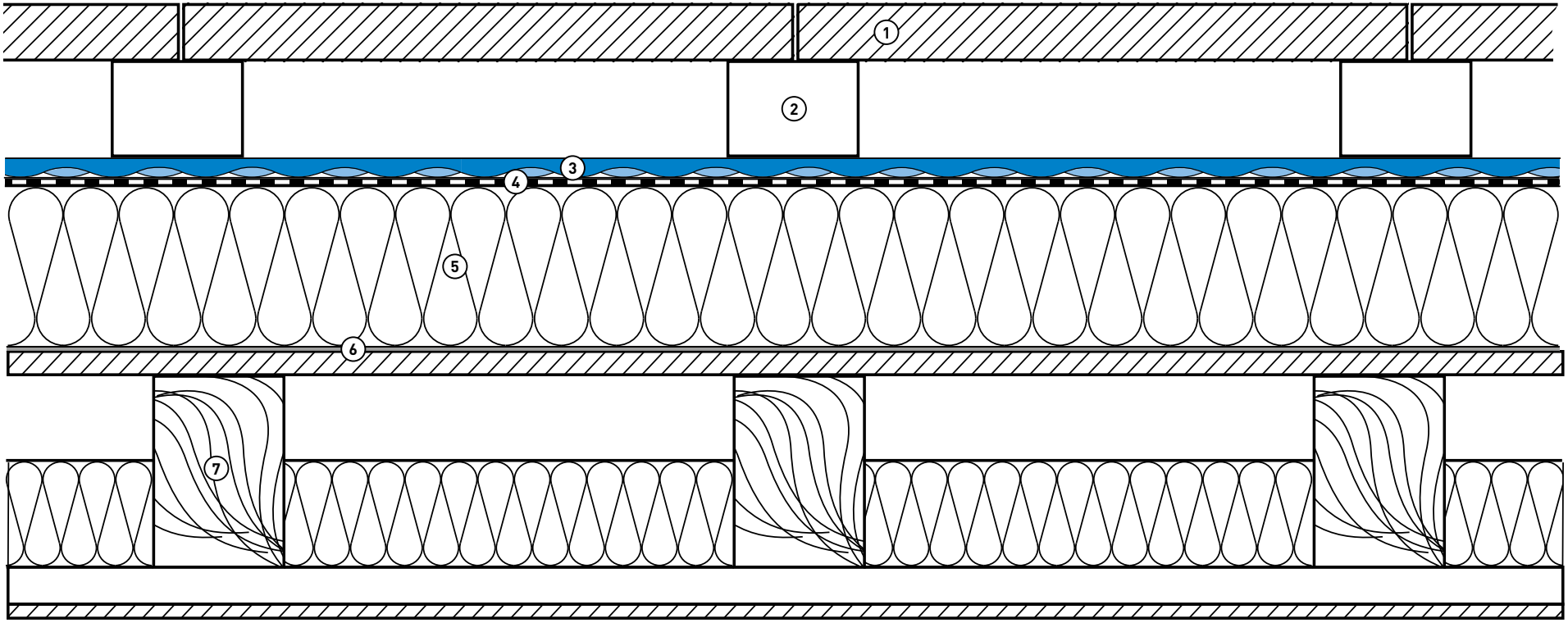
IMPACT SOUND IMPROVEMENT **$\Delta L_{t1,w}$ = 33 dB** | IMPACT SOUND LEVEL **$L_{n,w}$ (c_I) = 40 (0) dB**

KRAITEC®

1. Concrete sidewalk slabs, 400 x 400 x 50 mm
2. PA stilt bearing, adjustable
3. **DAMTEC® sonic drain plus**, 15/6 mm
4. FPO roofing felt 1,5 mm
5. Insulation PIR FA WLS 024, 140 mm
6. Bitumen vapour barrier V60 S4 +AL
7. **Wooden-beam ceiling system**:
   Floor underlay, 22 mm
   Wooden beams, 120 x 180 mm
   Mineral wool 100 mm
   Wooden planking 48 mm
   Plasterboard ceiling 12,5 mm

Frequenz f [Hz]	L_n Terz [dB]	U Terz [dB]
50	57,6	± 3,2
63	59,0	± 2,8
80	57,6	± 2,4
100	48,9 [1]	± 2,0
125	50,0	± 1,6
160	46,7	± 1,4
200	< 47,7 [3]	± 1,3
250	< 40,6 [3]	± 1,2
315	< 37,0 [3]	± 1,2
400	< 36,0 [3]	± 1,2
500	34,0	± 1,2
630	< 31,7 [3]	± 1,2
800	39,0	± 1,2
1000	< 29,5 [3]	± 1,2
1250	< 30,4 [2]	± 1,3
1600	< 20,1 [13]	± 1,4
2000	< 22,8 [13]	± 1,5
2500	< 17,0 [13]	± 1,7
3150	< 23,7 [13]	± 1,9
4000	< 18,7 [13]	± 2,1
5000	< 14,9 [2]	± 2,3

[1] Fremdgeräuschkorrektur
[2] Messgrenze erreicht
[3] Luftschallkorrektur



DAMTEC® sonic drain plus ROOF CONSTRUCTION 55

Test report number A-2022-135

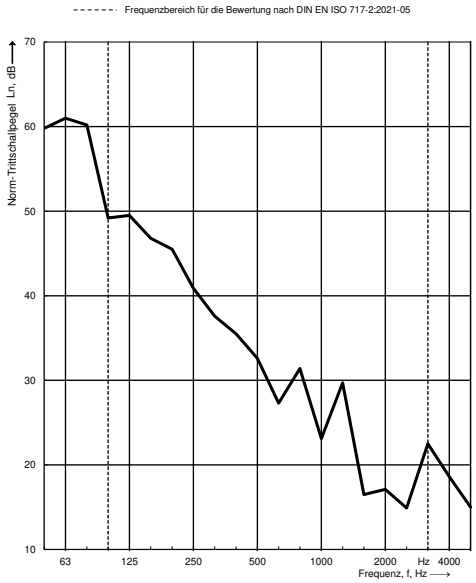
IMPACT SOUND IMPROVEMENT $\Delta L_{t1,w}$ = **34 dB** | IMPACT SOUND LEVEL $L_{n,w}$ (c_I) = **39 (1) dB**

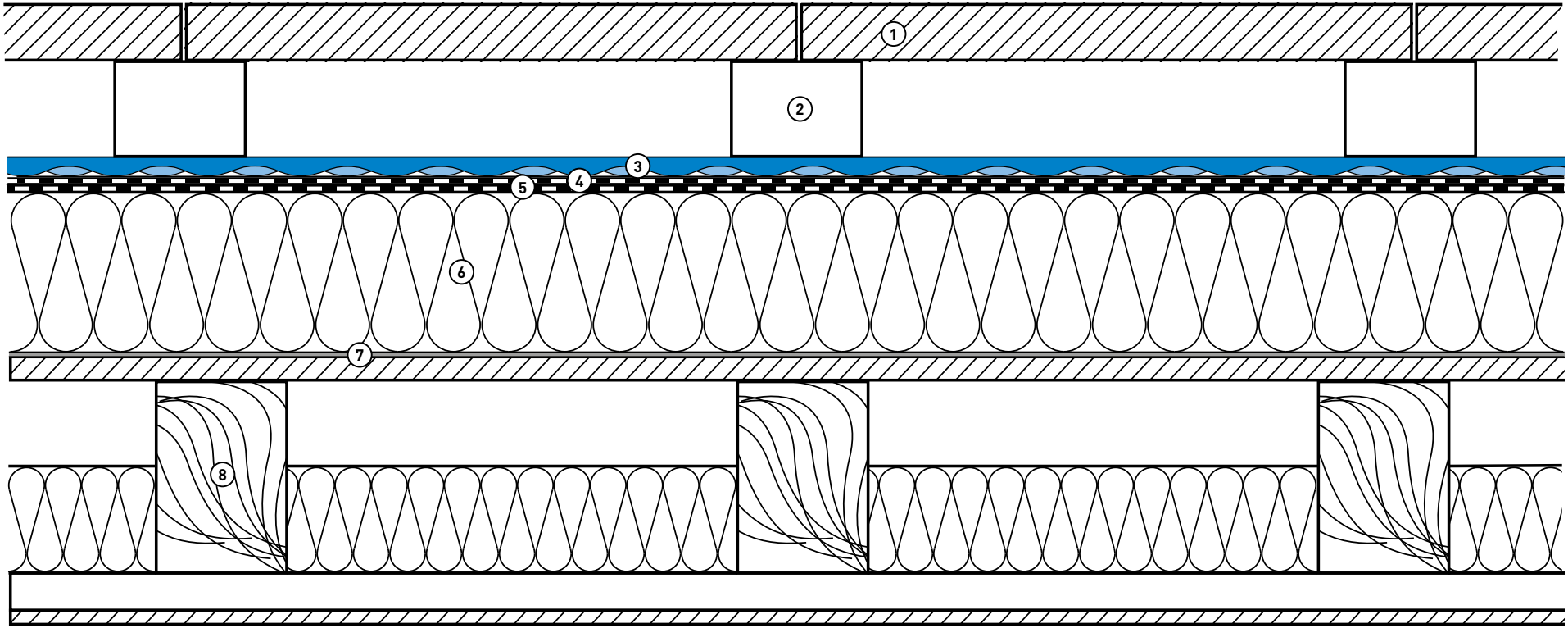
KRAITEC®

1. Concrete sidewalk slab, smooth 400 x 400 x 50 mm
2. PA stilt bearing adjustable
3. **DAMTEC® sonic drain plus**, 15/6 mm
4. Top layer PYE PV200 S5, slate
5. 1. Waterproofing layer G200 S4, talk.
6. Insulation PIR FA WLS 024, 140 mm
7. Bitumen vapour barrier V60 S4 +AL
8. **Wooden-beam ceiling system**:
   Floor underlay, 22 mm
   Wooden beams, 120 x 180 mm
   Mineral wool 100 mm
   Wooden planking 48 mm
   Plasterboard ceiling 12,5 mm

Frequenz f [Hz]	L_n Terz [dB]	U Terz [dB]
50	59,8	± 3,2
63	61,0	± 2,8
80	60,2	± 2,4
100	49,2 [1]	± 2,0
125	49,5	± 1,6
160	46,8	± 1,4
200	< 45,5 [3]	± 1,3
250	< 40,9 [3]	± 1,2
315	< 37,6 [3]	± 1,2
400	< 35,5 [3]	± 1,2
500	< 32,6 [3]	± 1,2
630	< 27,3 [3]	± 1,2
800	< 31,4 [3]	± 1,2
1000	< 23,1 [2]	± 1,2
1250	< 29,7 [2]	± 1,3
1600	< 16,5 [13]	± 1,4
2000	< 17,1 [13]	± 1,5
2500	< 14,9 [2]	± 1,7
3150	< 22,5 [13]	± 1,9
4000	18,6 [1]	± 2,1
5000	< 15,0 [2]	± 2,3

[1] Fremdgeräuschkorrektur
[2] Messgrenze erreicht
[3] Luftschallkorrektur





DAMTEC® sonic drain plus ROOF CONSTRUCTION 56

Test report number A-2022-137

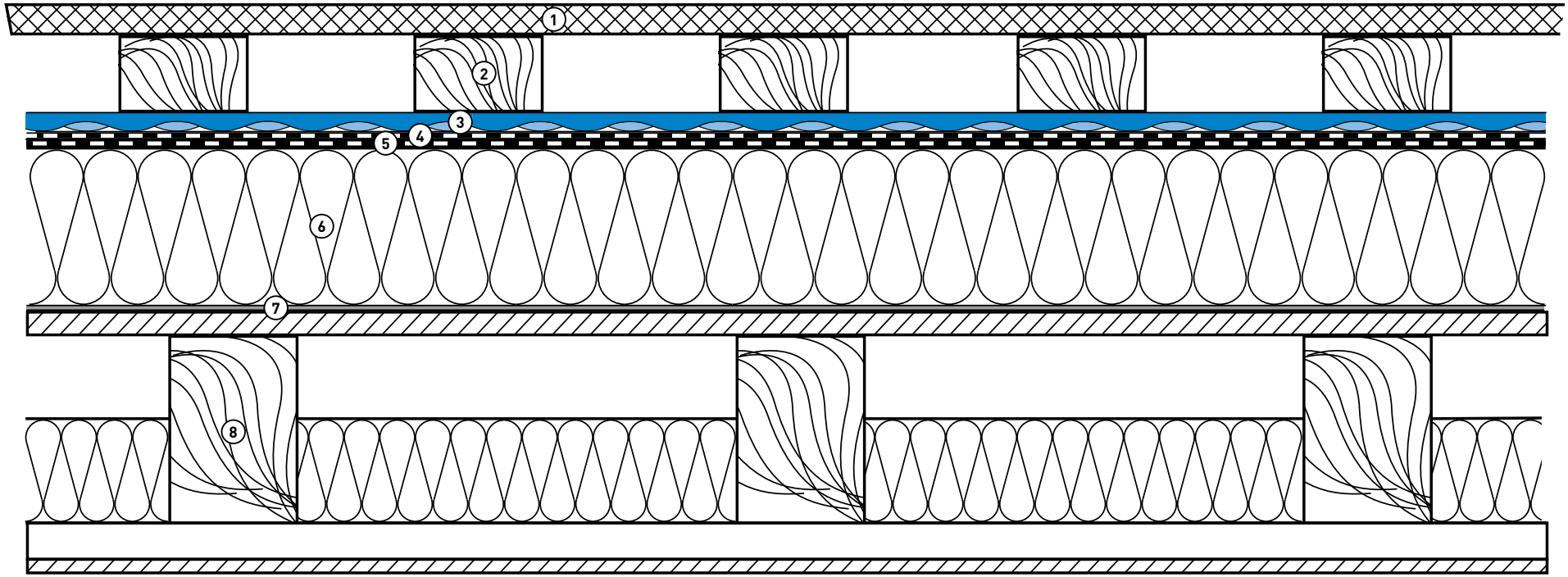
IMPACT SOUND IMPROVEMENT **$\Delta L_{t1,w}$ = 24 dB** | IMPACT SOUND LEVEL **$L_{n,w}$ (c_I) = 49 (0) dB**

KRAITEC®

1. Wood planking larch, 20 mm, center distance 60 cm
2. Support laths 45 x 70 mm
3. **DAMTEC® sonic drain plus**, 15/6 mm
4. Top layer PYE PV200 S5, slate
5. 1. Waterproofing layer G200 S4, talk.
6. Insulation PIR FA WLS 024, 140 mm
7. Bitumen vapour barrier V60 S4 +AL
8. **Wooden-beam ceiling system**:
   Floor underlay, 22 mm
   Wooden beams, 120 x 180 mm
   Mineral wool 100 mm
   Wooden planking 48 mm
   Plasterboard ceiling 12,5 mm

Frequenz f [Hz]	L_n Terz [dB]	U Terz [dB]
50	65,0	± 3,2
63	68,9	± 2,8
80	64,3	± 2,4
100	55,4	± 2,0
125	59,9	± 1,6
160	56,5	± 1,4
200	56,8	± 1,3
250	< 54,1 [3]	± 1,2
315	< 46,6 [2]	± 1,2
400	< 45,8 [3]	± 1,2
500	< 42,2 [3]	± 1,2
630	< 35,5 [2]	± 1,2
800	< 27,9 [2]	± 1,2
1000	< 24,1 [2]	± 1,2
1250	< 25,0 [2]	± 1,3
1600	16,6 [12]	± 1,4
2000	12,0 [12]	± 1,5
2500	< 13,5 [13]	± 1,7
3150	22,2 [1]	± 1,9
4000	18,3 [1]	± 2,1
5000	< 14,3 [2]	± 2,3

[1] Fremdgeräuschkorrektur
[2] Messgrenze erreicht
[3] Luftschallkorrektur



DAMTEC® sonic drain plus ROOF CONSTRUCTION 57

Test report number A-2022-139

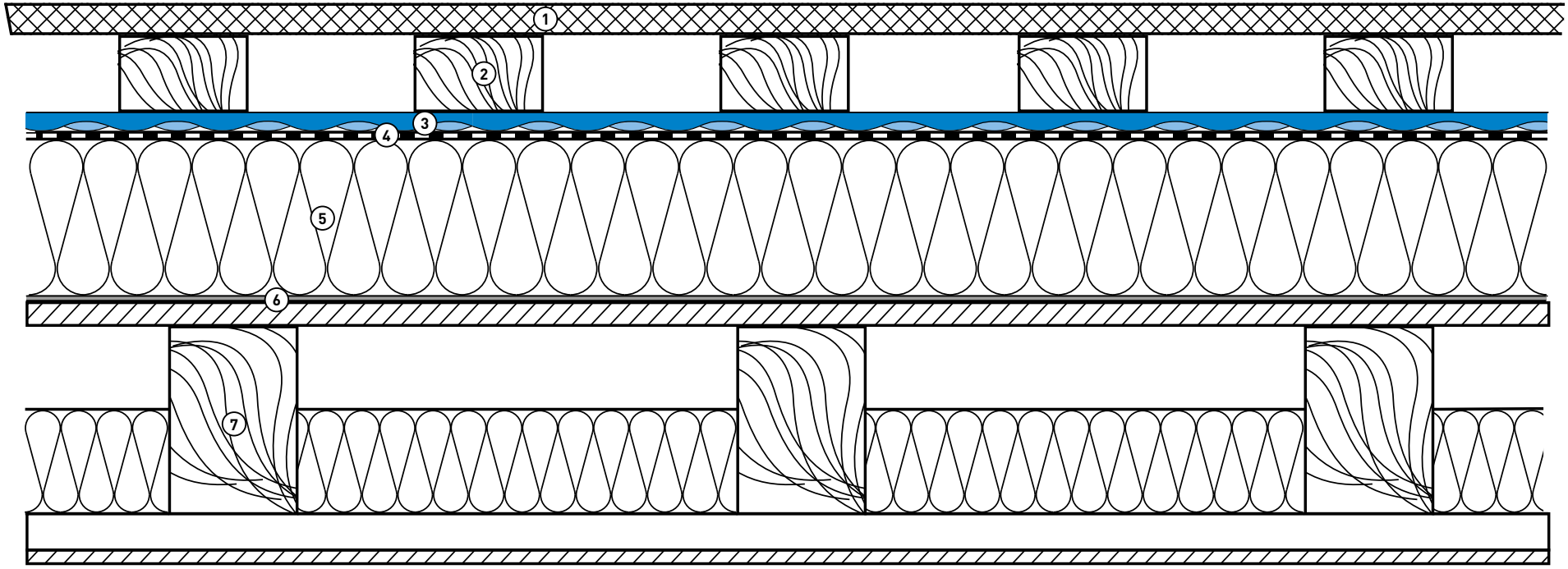
IMPACT SOUND IMPROVEMENT **$\Delta L_{t1,w}$ = 24 dB** | IMPACT SOUND LEVEL **$L_{n,w}$ (c_I) = 49 (1) dB**

KRAITEC®

1. Wood planking larch, 20 mm, center distance 60 cm
2. Support laths 45 x 70 mm
3. **DAMTEC® sonic drain plus**, 15/6 mm
4. FPO roofing felt 1,5 mm
5. Insulation PIR FA WLS 024, 140 mm
6. Bitumen vapour barrier V60 S4 +AL
7. **Wooden-beam ceiling system**:
   Floor underlay, 22 mm
   Wooden beams, 120 x 180 mm
   Mineral wool 100 mm
   Wooden planking 48 mm
   Plasterboard ceiling 12,5 mm

Frequenz f [Hz]	L_n Terz [dB]	U Terz [dB]
50	63,9	± 3,2
63	66,7	± 2,8
80	62,0	± 2,4
100	56,6	± 2,0
125	61,4	± 1,6
160	58,0	± 1,4
200	< 55,9 [3]	± 1,3
250	< 52,6 [3]	± 1,2
315	< 44,1 [2]	± 1,2
400	< 46,4 [3]	± 1,2
500	< 45,1 [3]	± 1,2
630	< 39,9 [2]	± 1,2
800	< 38,8 [3]	± 1,2
1000	< 32,0 [2]	± 1,2
1250	< 25,4 [2]	± 1,3
1600	20,1 [12]	± 1,4
2000	13,6 [12]	± 1,5
2500	< 17,2 [13]	± 1,7
3150	22,7 [1]	± 1,9
4000	18,4 [1]	± 2,1
5000	< 14,4 [2]	± 2,3

[1] Fremdgeräuschkorrektur
[2] Messgrenze erreicht
[3] Luftschallkorrektur



DAMTEC® sonic drain plus ROOF CONSTRUCTION 58

Test report number A-2022-141

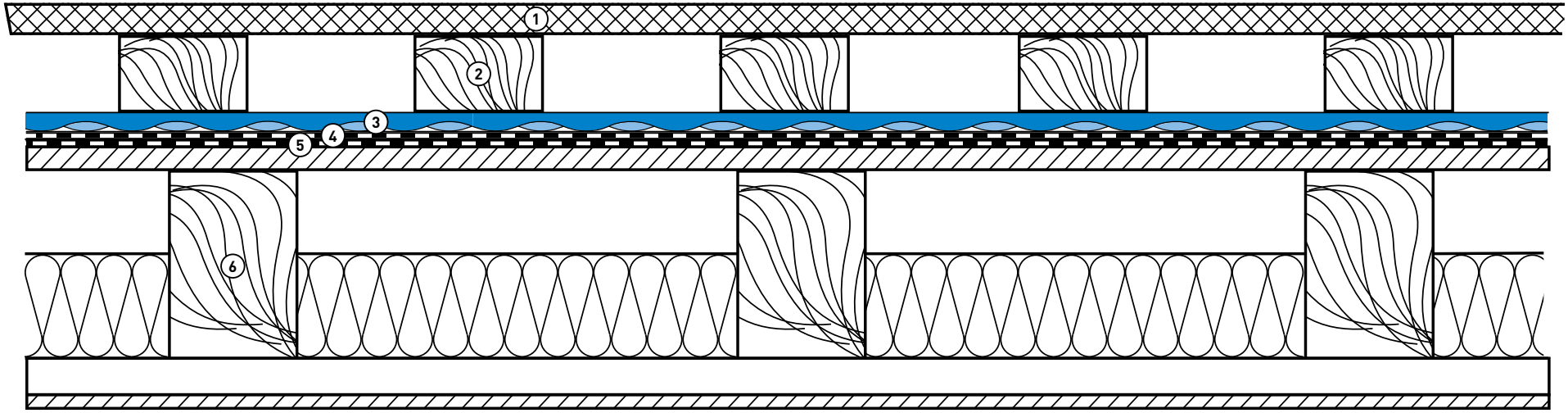
IMPACT SOUND IMPROVEMENT **$\Delta L_{t1,w}$ = 23 dB** | IMPACT SOUND LEVEL **$L_{n,w}$ (c_I) = 49 (1) dB**

KRAITEC®

1. Wood planking larch, 20 mm, center distance 60 cm
2. Support laths 45 x 70 mm
3. **DAMTEC® sonic drain plus**, 15/6 mm
4. Top layer PYE PV200 S5 slate
5. 1.Waterproofing layer G200 S4 talkumiert
6. **Wooden-beam ceiling system**:
   Floor underlay, 22 mm
   Wooden beams, 120 x 180 mm
   Mineral wool 100 mm
   Wooden planking 48 mm
   Plasterboard ceiling 12,5 mm

Frequenz f [Hz]	L_n Terz [dB]	U Terz [dB]
50	63,6	± 3,2
63	69,8	± 2,8
80	65,2	± 2,4
100	55,6	± 2,0
125	59,1	± 1,6
160	58,1	± 1,4
200	58,2	± 1,3
250	< 53,8 [3]	± 1,2
315	< 49,3 [3]	± 1,2
400	< 43,7 [2]	± 1,2
500	< 43,4 [3]	± 1,2
630	< 38,8 [2]	± 1,2
800	< 36,9 [3]	± 1,2
1000	< 30,9 [2]	± 1,2
1250	< 28,8 [2]	± 1,3
1600	19,0 [12]	± 1,4
2000	18,6 [12]	± 1,5
2500	20,1 [12]	± 1,7
3150	< 23,2 [13]	± 1,9
4000	18,7 [1]	± 2,1
5000	< 13,9 [2]	± 2,3

[1] Fremdgeräuschkorrektur
[2] Messgrenze erreicht
[3] Luftschallkorrektur



DAMTEC® sonic drain plus

DAMTEC® sonic drain plus ROOF CONSTRUCTION 59

Test report number A-2022-143

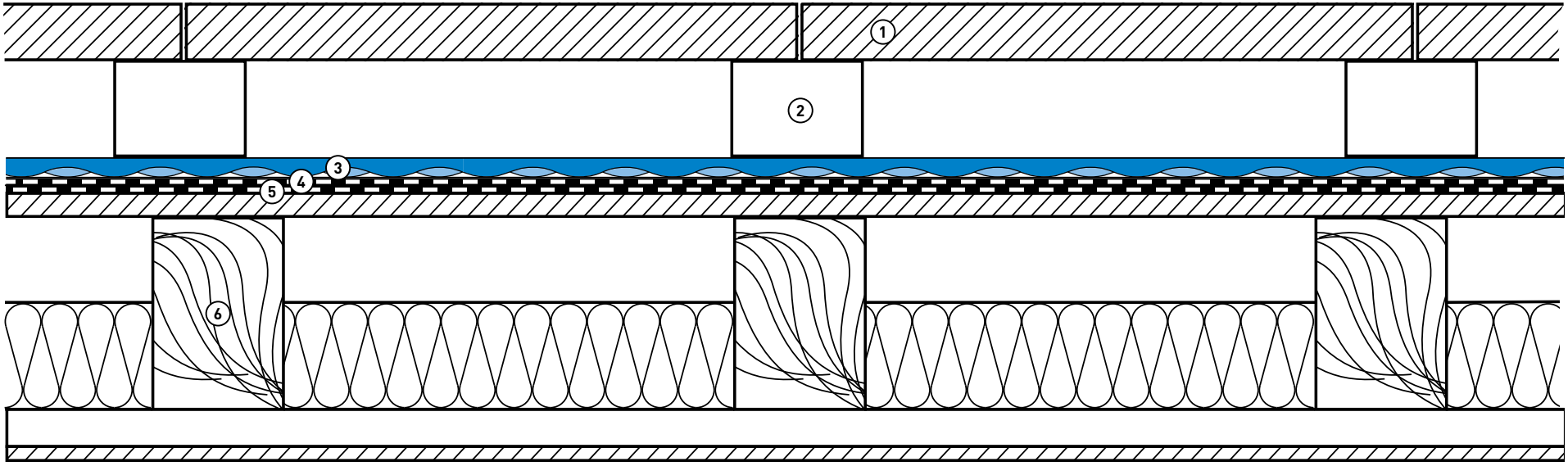
IMPACT SOUND IMPROVEMENT **$\Delta L_{t1,w}$ = 30 dB** | IMPACT SOUND LEVEL **$L_{n,w}$ (c_I) = 42 (0) dB**

KRAITEC®

1. Concrete sidewalk slabs 400 x 400 x 50 mm
2. PA stilt bearing adjustable
3. **DAMTEC® sonic drain plus**, 15/6 mm
4. Top layer PYE PV200 S5 slate
5. 1.Waterproofing layer G200 S4 talkumiert
6. **Wooden-beam ceiling system**:
   Floor underlay, 22 mm
   Wooden beams, 120 x 180 mm
   Mineral wool 100 mm
   Wooden planking 48 mm
   Plasterboard ceiling 12,5 mm

Frequenz f [Hz]	L_n Terz [dB]	U Terz [dB]
50	61,4	± 3,2
63	65,1	± 2,8
80	62,3	± 2,4
100	51,0	± 2,0
125	53,3	± 1,6
160	50,0	± 1,4
200	< 46,9 [3]	± 1,3
250	< 42,8 [3]	± 1,2
315	< 40,8 [3]	± 1,2
400	< 37,4 [3]	± 1,2
500	35,0	± 1,2
630	33,1	± 1,2
800	40,4	± 1,2
1000	< 33,1 [3]	± 1,2
1250	< 35,4 [3]	± 1,3
1600	< 20,9 [13]	± 1,4
2000	< 22,0 [13]	± 1,5
2500	< 18,5 [13]	± 1,7
3150	< 25,3 [13]	± 1,9
4000	< 20,3 [13]	± 2,1
5000	< 14,3 [2]	± 2,3

[1] Fremdgeräuschkorrektur
[2] Messgrenze erreicht
[3] Luftschallkorrektur



DAMTEC® sonic drain plus ROOF CONSTRUCTION 60

Test report number A-2022-145

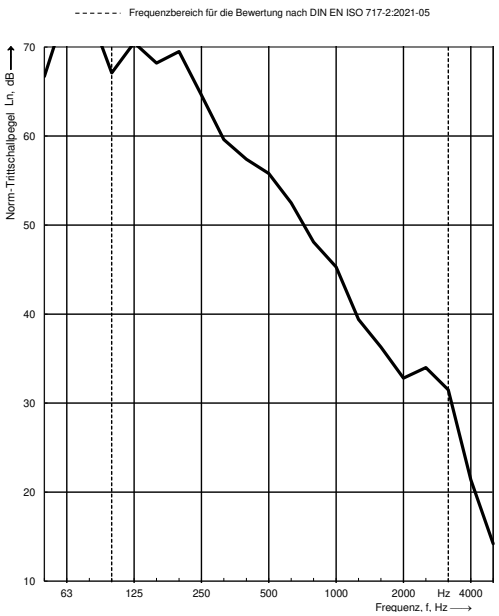
IMPACT SOUND IMPROVEMENT **$\Delta L_{t1,w}$ = 12 dB** | IMPACT SOUND LEVEL **$L_{n,w}$ (c_I) = 60 (0) dB**

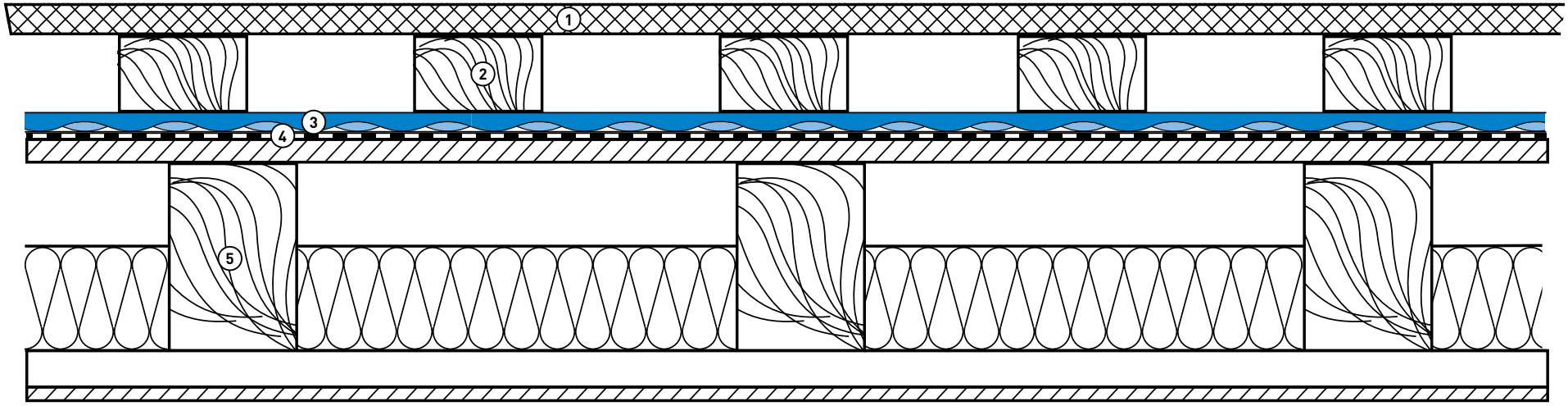
KRAITEC®

1. Wood planking larch, 20 mm, center distance 60 cm
2. Support laths 45 x 70 mm
3. **DAMTEC® sonic drain plus**, 15/6 mm
4. FPO Dachbahn 1,5mm
5. **Wooden-beam ceiling system**:
   Floor underlay, 22 mm
   Wooden beams, 120 x 180 mm
   Mineral wool 100 mm
   Wooden planking 48 mm
   Plasterboard ceiling 12,5 mm

Frequenz f [Hz]	L_n Terz [dB]	U Terz [dB]
50	66,7	± 3,2
63	74,5	± 2,8
80	73,9	± 2,4
100	67,1	± 2,0
125	70,5	± 1,6
160	68,2	± 1,4
200	69,5	± 1,3
250	64,6	± 1,2
315	< 59,6 [3]	± 1,2
400	57,4	± 1,2
500	55,8	± 1,2
630	< 52,5 [3]	± 1,2
800	< 48,1 [3]	± 1,2
1000	< 45,3 [3]	± 1,2
1250	< 39,4 [3]	± 1,3
1600	< 36,3 [3]	± 1,4
2000	< 32,8 [3]	± 1,5
2500	< 34,0 [3]	± 1,7
3150	< 31,5 [3]	± 1,9
4000	< 21,4 [13]	± 2,1
5000	< 14,2 [2]	± 2,3

[1] Fremdgeräuschkorrektur
[2] Messgrenze erreicht
[3] Luftschallkorrektur





DAMTEC® sonic drain plus

Notes

Water drainage capacity in the plane

DAMTEC® sonic drain plus is used in outdoor areas, for example under sidewalk slabs and gravel beds. Here, larger water quantities are required to be drained off. Standing water must be prevented by a sufficient inclination in the supporting construction. Standing water could negatively affect the efficiency of the acoustic insulation. The material properties of **DAMTEC® sonic drain plus** ensure drainage of large quantities of water on a horizontal plane, even under load.

Test direction: MD hard/hard	Hydraulic gradient i = 0.010	Hydraulic gradient i = 0.020
2 kPa	0.143 l/(m·s)	0.228 l/(m·s)
15 kPa	0.078 l/(m·s)	0.129 l/(m·s)
50 kPa	0.008 l/(m·s)	0.018 l/(m·s)

(according to DIN EN ISO 12958* 08.2010)
The table shows that with an applied load of about 200 kg/m² and an inclination of 2 %, 0.228 liters of water are drained per second for each running meter width of **DAMTEC® sonic drain plus.**

Water permeability

Due to the specifically developed material structure of **DAMTEC® sonic drain plus** it is highly water permeable. This ensures good vertical drainage of water by **DAMTEC® sonic drain plus** under load.

	Water permeability coefficient k_v, const. at 20 °C	Permittivity at 20 °C
2 kPa	0.0049 m/s	0.29 1/s
20 kPa	0.0036 m/s	0.25 1/s
200 kPa	0.0010 m/s	0.11 1/s

(according to DIN 60500-4)
The table shows that with a load of about 200 kg/m² and a constant water level of 15 mm on the mat, about 4.9 liters of water per m² are drained vertically through the **DAMTEC® sonic drain plus** per second**.**

Notes

IMPACT SOUND IMPROVEMENT ON THERMALLY INSULATED CONCRETE CEILINGS IN OUTDOOR AREAS

(10/12/2013) The requirements for increased impact sound insulation in construction have continuously increased in recent years. These regulations apply to private homes, rental property, office buildings, public buildings and religious structure – including structural modifications to existing buildings. In Germany, these requirements are described in the DIN 4109 standard. According to this standard, the required minimum impact sound insulation value for residential buildings is ≤ 53 dB and for increased sound impact insulation it is ≤ 46 dB according to companion sheet 2. The requirement for increased impact sound insulation which already serves as a standard in general residential construction, is considered as generally valid in administration of justice and reflects the commonly recognized codes of practice. Enhanced construction materials and and augmenting know-how concernend acoustic behaviours have initiated a sudden rise in materials developed specifically for this purpose. The increasingly stringent laws concerning improved acoustic insulation and the fact, that the potential is by far untapped, result in continued growth in this field. Parallels to the increasing requirements for thermal insulation and increased energy savings in recent years are unmistakable.

Sound/impact sound measures must be planned and implemented for building components that have ceilings that can be walked on and that adjoin other building components. This also includes ceilings in outdoor areas, such as terraces, loggias, balconies or arbors. On insulated ceilings, generally balconies and loggias, the required measures are relatively easy to implement, since sound-absorbing materials such as thermal insulation, foils or separating layers are already installed. In this respect the requirement for increased sound impact insulation with additionally installed sound-absorbing mats, such as DAMTEC® sonic from KRAIBURG Relastec, for example, would be relatively easy to comply with – if planned and installed in accordance with the manufacturer's specifications – see report "2 in 1: Structural protection and impact sound insulation for roof terraces and loggias" of 2/16/2012. Uninsulated terraces and arbors represent a special case.

Although these areas are often thermally insulated from the building shell, they are not sound insulated – this applies both to new and renovated buildings. Precautions improving e.g. thermal behavior might - in a worst case scenario - cause a catastrophe in terms of acoustic engineering.

In view of this, KRAIBURG Relastec, in cooperation with Dr.-Ing. Alexander Siebel of the engineering firm SWA, conducted impact sound measurements in a pilot building in Düsseldorf which represented exactly the situation described above. The goal of the examination was to determine the impact sound insulation in relation to

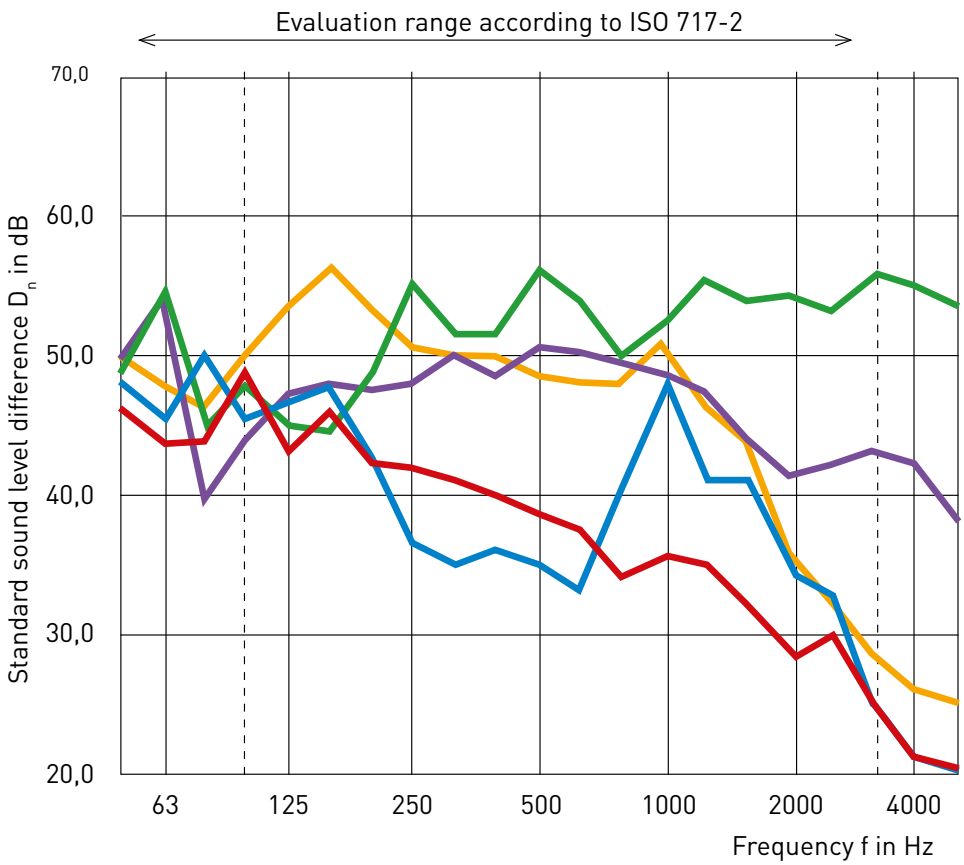
the structural sound insulation. In addition to the existing situation, different coverings were examined aiming to achieve a safe construction with respect to the minimum impact sound insulation according to DIN 4109 and the increased impact sound protection according to DIN 4109, companion sheet 2.

The floor of the arbors, which is not insulated, was tested under the following conditions (substructure/supporting structure/reinforced concrete):

1. Construction without additional structure – i.e. without paving slab (green)
2. 40 mm paving slab on mortar sacks (violet)
3. 40 mm paving slab on mortar sacks on impact sound insulation sheet DAMTEC® sonic 8 mm (blue)
4. 40 mm paving slab on slab bearing 120 x 100 mm (orange)
5. 40 mm paving slab on slab bearing 120 x 100 mm on impact sound insulation sheet DAMTEC® sonic 8 mm (red)

Conclusions: The results of the impact sound measurements show that arbors – as in this case – or similar structural situations are to be subject to critical evaluation. Without additional impact sound insulating measures it is not even possible to comply with the minimum level of ≤ 53 dB according to DIN 4109, not to mention the increased sound insulation in DIN 4109, companion sheet 2. With the DAMTEC® sonic sound insulation mat, on the other hand, an impact sound improvement of up to 21 dB is possible, depending on the construction used.

The following lab measurements under similar conditions confirmed the construction site measurements. In this connection, other typical paving types/structures were simulated in the lab and measured on insulated and uninsulated terraces, loggias and balconies. Here again the results are clear: **Without impact sound insulation mats, it is not possible to achieve increased impact sound insulation**.



$L'_{n,w1}$ =	61 dB	C_{I1} =	-11 dB	$C_{I,50\text{-}2500}$ =	-11 dB
$L'_{n,w2}$ =	51 dB		-6 dB		-5 dB
$L'_{n,w3}$ =	43 dB		-4 dB		-1 dB
$L'_{n,w4}$ =	49 dB		-2 dB		-1 dB
$L'_{n,w5}$ =	40 dB		-2 dB		0 dB

SUSTAINABILITY

Corporate Carbon Footprint, Product Carbon Footprint, Energy Management, Social and economic sustainability at KRAIBURG Relastec

Recycling of up to 60,000 t material

Every year, we process and recycle up to 60,000 tons of old tyres, closed-cell rubber and rubber production scrap.

Reduction of CO_2 emissions

By using recycled rubber granulate, we save more than 130,000 tonnes of CO_2 emissions per year compared to virgin rubber.

Corporate Carbon Footprint

The CCF was developed in accordance with the Greenhouse Gas Protocol audited.

Coming soon: Product Carbon Footprint

The PCF is measured in accordance with ISO 14067 and ISO 14040/44 audited.

Energy management according to ISO 50001

Our energy management system is identified according to ISO 50001. Energy-relevant topics are taken into account in all processes of the organisation.

Coming soon: Certification by ecovadis

The ecovadis rating covers numerous management systems, including environmental impact and sustainable procurement.

Member of NEW LIFE initiative

The declared aim of NEW LIFE is to demonstrate the advantages of recycled products from End-of-Life Tires (ELT) to the media, politicians and the general public and to motivate them to act sustainably.
More information:
www.initiative-new-life.de/en

Social sustainability

Acting in accordance with our values such as equal opportunities, social responsibility, respectful treatment and transparency are the foundations for social sustainability in practice.

Economic sustainability

As a family business, KRAIBURG Holding pursues a long-term strategy. Profits generated are used to a significant extent to make our holistic business model ever more efficient and future-proof.

CORPORATE CULTURE

Defined values, social norms and guidelines, for common action and cooperation inside and outside KRAIBURG Relastec.

Equal opportunities
We stand for equal opportunity, diversity, inclusion and religious diversity.

Social responsibility
Fair pay, collective bargaining, further training, career development, work-life integration.

Respect
We are honest, reliable, respectful and trustworthy towards our colleagues and partners.

Strong decision-making powers
We ensure speed in process handling, faster technology optimisationsand lean processes.

Responsible for our actions
We take responsibility for all decisions and results. Error acceptance and the strong will to correct and learn from them are firmly anchored in our culture.

Transparency
We practice open, transparent cooperation both inside and outside the company.

WHAT SETS US APART

Personal contact persons
We do not hide behind support hotlines and contact forms. With us, you have personal, competent contact persons.

Product quality
Our products meet the highest quality standards. They are durable, a perfect fit and made from high-quality raw materials.

Innovation and product design
We continuously develop new products according to the requirements of our customers and the market.

Internationality
With an export quota of ca. 80%, we have already exported our products to over 100 countries.

Easy complaint management
Transparent and optimised processes ensure rapid processing.

Flexibility with customer requirements
We offer our partners customised options for packaging, labelling and delivery, packaging, labelling and delivery.

Long-term relationships
We maintain long-term relationships with our customers and suppliers based on mutual respect and fairness.

Marketing support
We provide you with the best possible support in the form of images or in the design of your documents.

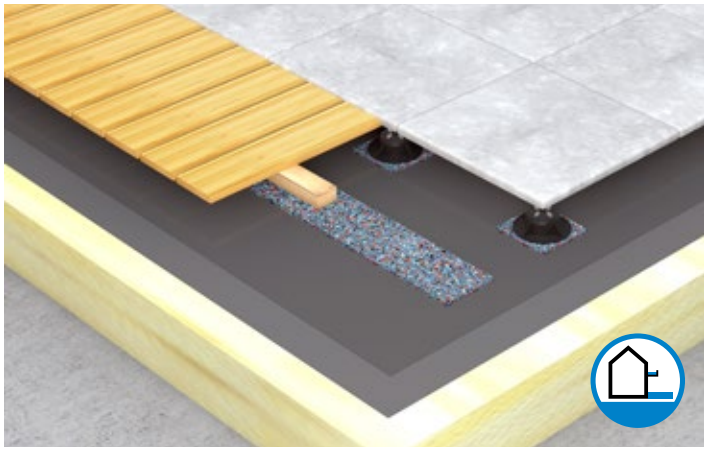
All KRAITEC® applications at a glance

Classic flat roofs and building structures
KRAITEC® top

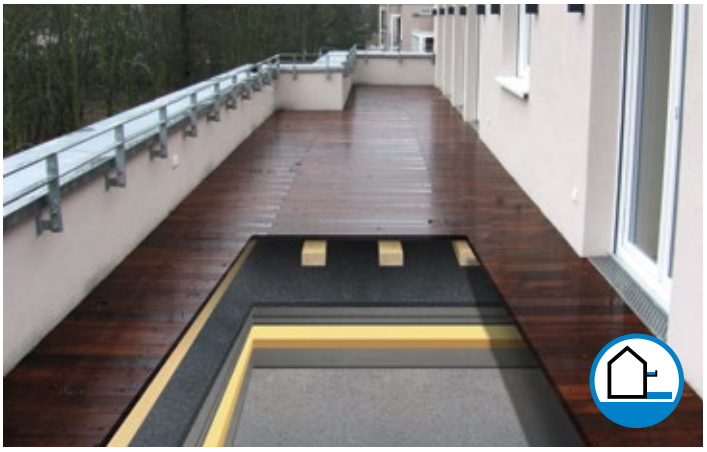
Protective layer under photovoltaic systems
KRAITEC® top PV, KRAITEC® top plus

Green roofs (high load-bearing capacity)
KRAITEC® top drain plus, KRAITEC® protect

Open joint coverings
KRAITEC® protect



Structural protection & impact sound insulation on terraces, roof terraces and balconies
DAMTEC® sonic or DAMTEC® sonic drain plus (Drainage through profiling)



Service & other brochures

Sales service

If you require general information, offers, product samples or printed brochures: Please fill out this form to get in contact with us:

kraiburg-relastec.com/kraitec/en/contact-form

Production Plant/ Loading address:
KRAIBURG Relastec GmbH & Co. KG
Fuchsberger Straße 4
D-29410 Salzwedel

Sales Office & Marketing:
KRAIBURG Relastec GmbH & Co. KG
Kehlsteinstraße 2
D-84529 Tittmoning

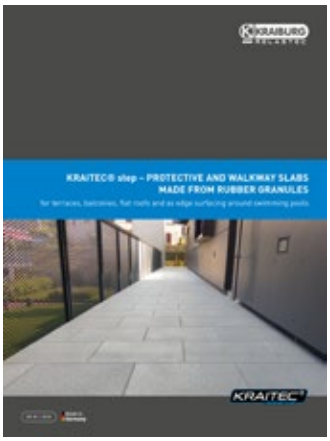
Technical service

No matter whether by phone or on-site, our KRAITEC® technical service will give you professional advice every time during the whole planning and execution of your projects.

Fon: +49 (0) 3901 8304-63
Mobile: +49 (0) 151-42 65 60 57
technik-kraitec@kraiburg-relastec.com

Save technical service as a contact

Other KRAITEC® brochures



KRAITEC® step

KRAITEC® structural protection

KRAITEC® flat roof applications

KRAITEC® references

KRAITEC®

PROTECTIVE MATS FOR STRUCTURAL PROTECTION
made from recycled rubber granules

KRAIBURG Relastec GmbH & Co.KG
Fuchsberger Straße 4 · D-29410 Salzwedel

Sales Germany:
Tel. +49 (0) 8683 701 -167
Fax +49 (0) 8683 701 -4167
kraitec@kraiburg-relastec.de

Sales International:
Tel. +49 (0) 8683 701 -285
Fax +49 (0) 8683 701 -4285
kraitec@kraiburg-relastec.com

www.kraiburg-relastec.com/kraitec

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