

SOUND ABSORPTIONSOUND PET FELT, DEFELT

CONCLUSIONS

The sound absorption has been measured for different materials of Sound Pet Felt for DeFelt according to the reverberation room method SS-EN ISO 354:2003. The measurements have been evaluated according to SS-EN ISO 11654:1997.

Results are presented in table 1.

Measurement protocol	Test object	α_w	Absorption Class
M1	DF-09-1500, direct fixing	0.25(H)	E
M2	DF-09-1500, E-60	0.45(MH)	D
M3	DF-09-1500, E-100	0.60(MH)	C
M4	DF-09-1500, E-200	0.80	B
M5	DF-09-1900, direct fixing	0.25(H)	E
M6	DF-09-1900, E-60	0.50(MH)	D
M7	DF-09-1900, E-100	0.70(MH)	C
M8	DF-09-1900, E-200	0.85	B
M9	DF-12-2400, direct fixing	0.30(MH)	D
M10	DF-12-2400, E-60	0.55(MH)	D
M11	DF-12-2400, E-100	0.70(MH)	C
M12	DF-12-2400, E-200	0.90	A
M13	DF-24-4000, direct fixing	0.50(MH)	D
M14	DF-24-4000, E-75	0.70(MH)	C
M15	DF-24-4000, E-100	0.80(H)	B
M16	DF-24-4000, E-200	0.95	A

Table 1: Results evaluated according to SS-EN ISO 11654:1997. M and H are spectrum shape indications, which states where the sound absorption exceeds the shifted reference curve. For M it occurs at 500-1000 Hz and H occurs at 2000 – 4000 Hz.

Detailed results of sound absorption coefficient are presented in the separate measurement protocols 4358-M1 to M16.

1 CLIENT

DeFelt sp. z o.o. ul. Rakietowa 35, 54-615 Wrocław, Poland
Contact: Marek Pawlikowski, marek.pawlikowski@defelt.com

2 ASSIGNMENT

To measure the sound absorption coefficient for 4 different materials of Sound Pet Felt for DeFelt with 4 different mounting options according to SS-EN ISO 354:2003. The measurements shall be evaluated according to SS-EN ISO 11654:1997.

3 TEST OBJECTS

The test objects are sheets that consist of 100% polyester made from recycled water/soda bottles with different thickness and density. The tested objects are from sample batch no 45803/477. The weight of the products was measured and can be found in table 2.

Each sheet was delivered with the size 1220 x 1300 mm. Some sheets were cut to fit the test area 3850 x 2600 mm to form an area of 10,0 m².

Name	Measured area weight (kg/m ²)	Thickness
DF-09-1500	1.6 kg/m ²	9 mm
DF-09-1900	2.0 kg/m ²	9 mm
DF-12-2400	2.5 kg/m ²	12 mm
DF-24-4000	4.1 kg/m ²	24 mm

Table 2: Information about the test objects.

The test surface in the laboratory is a concrete slab that is possible to lower down into the floor. For the direct mounting test (M1, M5, M9 and M13) the sheets were placed directly on the test surface and lowered to seal off the edges in a Type A mounting (direct fixing).

For the different construction height measurements (E-60 to E-200) the sheets were placed in a grid for suspended ceiling. The test surface was then lowered to change the air gap.

Photos of the test setup are available in Appendix 5.

4 MEASUREMENT PROCEDURE

The absorption measurements were performed according to the standard SS-EN ISO 354:2003. The measurements were made with three speaker positions and four microphone positions. The results for sound absorption coefficient were evaluated according to SS-EN ISO 11654:1997.

The measurements were performed by Staffan Andersson 2025-06-09 in Akustikverkstan's reverberation room in Skulptorp, Skövde, Sweden. More information on the test facilities can be found in Appendix 2.

The equipment used is presented in Appendix 3.

5 RESULTS

Results for weighted sound absorption coefficients α_w are given in table 1 on the first page.

Detailed measurement results for all test objects are available in the measurement protocols 4358-M1 to M16 attached to this report. The results are only valid for the tested samples.

This report should always be used in its complete context, even though the measurement protocol may be used independently.



Staffan Andersson

Reviewed by Johan Jernstedt, 2025-06-13

APPENDIX 1: MEASURED REVERBERATION TIMES

f(Hz)	Empty	DF-09-1500 direct fixing	DF-09-1500 E-60	DF-09-1500 E-100	DF-09-1500 E-200	DF-09-1900 direct fixing
50	7.99	8.75	8.33	8	7.39	8.45
63	8.57	8.6	8.57	8.39	7.09	8.55
80	8.03	7.86	7.57	7.19	6.26	7.81
100	7.6	7.58	6.93	6.01	4.73	7.61
125	6.88	6.61	6.25	5.46	3.89	6.6
160	5.44	5.3	4.74	4.22	3.49	5.33
200	5.69	5.48	4.96	4.18	3.15	5.42
250	5.17	4.91	4.13	3.47	2.58	4.93
315	5.38	4.81	3.7	3.05	2.31	4.84
400	5.2	4.52	3.19	2.68	2.12	4.53
500	4.81	3.8	2.71	2.33	1.98	3.81
630	4.24	3.21	2.27	1.99	1.83	3.24
800	4.64	3.1	2.21	1.92	2.06	3.13
1000	4.56	2.83	2.16	1.97	2.29	2.85
1250	4.05	2.54	1.97	1.87	2.16	2.54
1600	3.7	2.3	1.83	1.83	1.93	2.27
2000	3.33	2.04	1.71	1.83	1.81	2
2500	3.03	1.81	1.63	1.75	1.71	1.75
3150	2.55	1.57	1.54	1.53	1.55	1.52
4000	2.16	1.36	1.37	1.35	1.36	1.33
5000	1.75	1.16	1.19	1.18	1.18	1.12

Number of objects or test area (m ²)	0	10	10	10	10	10
Temperature (°C)	19.3	19.4	19.5	19.5	19.5	19.3
RH (%)	49	51	52	52	52	50

f(Hz)	DF-09-1900 E-60	DF-09-1900 E-100	DF-09-1900 E-200	DF-12-2400 direct fixing	DF-12-2400 E-60	DF-12-2400 E-100
50	8.61	8.05	7.25	8.89	8.65	8.12
63	8.52	8.22	7.14	8.55	8.55	8.29
80	7.59	7.18	6.15	7.91	7.55	7.07
100	6.83	5.84	4.64	7.55	6.79	5.68
125	6.02	5.12	3.68	6.61	5.89	4.79
160	4.7	4.02	3.32	5.27	4.57	3.89
200	4.84	3.95	2.97	5.41	4.67	3.83
250	4.02	3.22	2.5	4.72	3.83	3.08
315	3.65	2.85	2.26	4.48	3.4	2.75
400	3.18	2.57	2.08	4.13	2.99	2.47
500	2.73	2.28	2.01	3.42	2.54	2.2
630	2.31	1.98	1.82	2.82	2.15	1.93
800	2.22	1.94	2.02	2.7	2.08	1.93
1000	2.18	1.97	2.22	2.46	2.03	1.94
1250	2.02	1.89	2.14	2.19	1.93	1.86
1600	1.85	1.81	1.94	1.99	1.81	1.84
2000	1.71	1.81	1.79	1.79	1.7	1.78
2500	1.63	1.72	1.72	1.62	1.61	1.66
3150	1.51	1.52	1.53	1.44	1.49	1.49
4000	1.33	1.32	1.33	1.28	1.31	1.31
5000	1.15	1.15	1.15	1.12	1.15	1.14

Number of objects or test area (m ²)	10	10	10	10	10	10
Temperature (°C)	19.4	19.4	19.4	19.6	19.6	19.6
RH (%)	50	50	50	51	52	52

f(Hz)	DF-12-2400 E-200	DF-24-4000 direct fixing	DF-24-4000 E-75	DF-24-4000 E-100	DF-24-4000 E-200
50	7.1	8.72	8.59	8.28	6.72
63	7.19	8.37	8.29	8.19	6.85
80	6.07	7.62	7.25	7.03	5.78
100	4.65	7.04	6.18	5.5	4.39
125	3.46	5.94	5.16	4.47	3.27
160	3.19	4.8	3.91	3.62	3.1
200	2.91	4.56	3.84	3.44	2.85
250	2.45	3.95	3.22	2.93	2.39
315	2.23	3.63	2.78	2.57	2.21
400	2.1	3.18	2.38	2.2	2.02
500	2.03	2.56	2.13	2.05	1.96
630	1.83	2.09	1.8	1.76	1.78
800	2.01	2.06	1.84	1.82	1.9
1000	2.19	1.96	1.87	1.86	2.01
1250	2.05	1.86	1.81	1.82	1.91
1600	1.85	1.74	1.75	1.78	1.76
2000	1.76	1.59	1.67	1.7	1.68
2500	1.64	1.52	1.57	1.58	1.57
3150	1.49	1.39	1.41	1.41	1.42
4000	1.31	1.27	1.28	1.29	1.29
5000	1.15	1.12	1.13	1.13	1.13

Number of objects or test area (m ²)	10	10	10	10	10
Temperature (°C)	19.6	20	19.8	19.8	19.8
RH (%)	52	50	51	51	51

APPENDIX 2: INFORMATION ABOUT THE REVERBERATION ROOM

The reverberation room is rectangular, measuring Length x Width x Height = 5.85 x 4.65 x 7.35 m. The room volume is 200 m³ and the total area of the walls, ceiling and floor is 209 m². There are 22 diffusors (size 0.775 x 1.25 m) randomly installed in the room. The reverberation time between 50 and 200 Hz is controlled with membrane absorbers on the walls.

The test specimen is put on the floor on the mounting area (10 m², 2.6 x 3.85 m) according to figure B2.1. The mounting area consists of a concrete slab that can be lowered up to 700 mm below the floor.

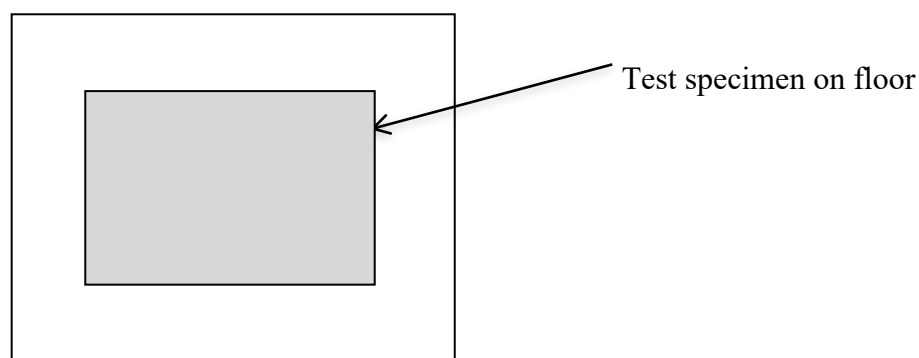


Figure A2.1: Plane drawing of the reverberation room with the positions of the test specimens.

APPENDIX 3: MEASUREMENT EQUIPMENT

Table A3.1 lists the equipment used during the measurements. The equipment fulfils class 1 according to SS-EN 61672-1, 60942 and 61260. Date for the latest calibration is available in the instrument journal of Akustikverkstan.

Instrument	Manufacture and type	Serial number	Internal designation
Measurement computer	HP Zbook		DA02
Front end	National Instruments NI 9234	1918620/190DB0B	AN05
Microphone	Roga MI-17	592	MI04
Microphone	Roga MI-17	3186	MI31
Microphone	Roga MI-17	594	MI06
Microphone	Roga MI-17	595	MI07
Speaker	IMA Kub 1	8	HÖ7
Speaker	IMA Kub 1	9	HÖ8
Speaker	IMA Kub 1	10	HÖ9
Equalizer	Monacor MEQ-2152	-	Lab
Amplifier	Denon POA-2200	-	Lab

Table A3.1: Equipment used during the measurements.

APPENDIX 4: MEASUREMENT UNCERTAINTY

The uncertainties in the measured sound absorption coefficients have been estimated to the values in table A4.1. The uncertainty corresponds to one standard deviation. The uncertainty in measured sound absorption area is calculated from the actual test sample area multiplied by the uncertainty below.

50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz
± 0.10	± 0.08	± 0.07	± 0.06	± 0.05	± 0.04	± 0.03
250 Hz	315 Hz	400 Hz	500 Hz	630 Hz	800 Hz	1 kHz
± 0.03	± 0.03	± 0.03	± 0.03	± 0.03	± 0.03	± 0.03
1.25 kHz	1.6 kHz	2 kHz	2.5 kHz	3.15 kHz	4 kHz	5 kHz
± 0.03	± 0.03	± 0.03	± 0.03	± 0.03	± 0.03	± 0.03

Table A4.1: Measurement uncertainty for each third octave.

APPENDIX 5: PHOTOS OF THE TEST SET UPS

Stickers or construction materials found in the pictures were removed during the measurement.

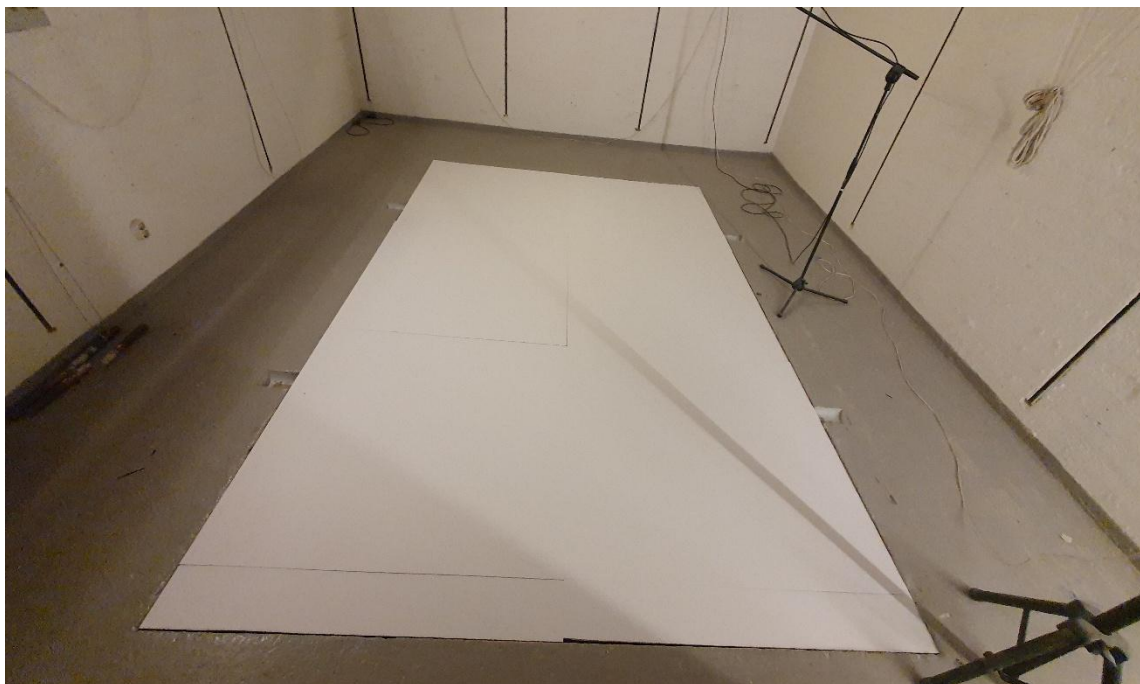


Figure A5-1: DF-09-1500, direct fixing (M1).



Figure A5-2: DF-09-1500 in grid for suspended ceiling (M2).



Figure A5-3: DF-09-1500, E-60 (M2).



Figure A5-4: DF-09-1500, E-100 (M3).



Figure A5-5: DF-09-1500, E-200 (M4).



Figure A5-6: DF-09-1900, E-60 (M6).



Figure A5-7: DF-09-1900, direct fixing (M5).



Figure A5-8: DF-09-1900, in grid for suspended ceiling. (M6).



Figure A5-9: DF-09-1900, E-100 (M7).



Figure A5-10: DF-09-1900, E-200 (M8).



Figure A5-11: DF-12-2400, direct fixing (M9).



Figure A5-12: DF-12-2400 in grid for suspended ceiling (M10).



Figure A5-13: DF-12-2400, E-60 (M10).



Figure A5-14: DF-12-2400, E-100 (M11).



Figure A5-15: DF-12-2400, E-200 (M12).



Figure A5-16: DF-24-4000, E-75 (M14).



Figure A5-17: DF-24-4000, direct fixing (M13).



Figure A5-18: DF-24-4000 in grid for suspended ceiling (M14).



Figure A5-19: DF-24-4000, E-100 (M15).



Figure A5-20: DF-24-4000, E-200 (M16).



Figure A5-21: DF-09-1500 direct fixing (M9), mounting detail – absorber in flush with floor.

DF-09-1500, direct fixing

SOUND ABSORPTION COEFFICIENT ACCORDING TO SS-EN ISO 354:2003 AND SS-EN ISO 11654:1997

Measurement of sound absorption coefficient in a reverberation room



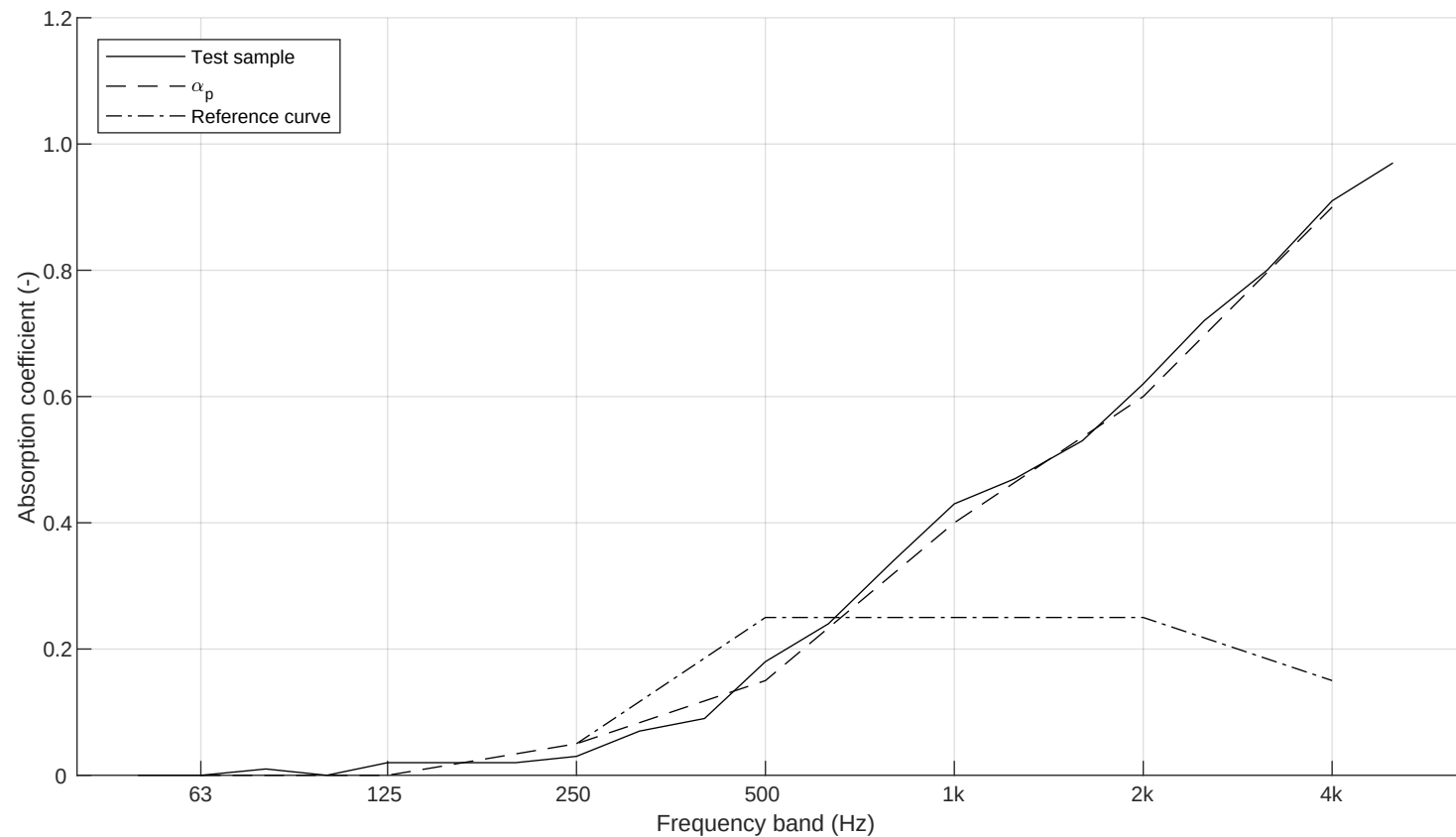
Report number:
4358-M1
Date
2025-06-18

Frequency f [Hz]	Sound absorption coefficient	
	α_s	α_p
50	0.00	
63	0.00	0.00
80	0.01	
100	0.00	
125	0.02	0.00
160	0.02	
200	0.02	
250	0.03	0.05
315	0.07	
400	0.09	
500	0.18	0.15
630	0.24	
800	0.34	
1000	0.43	0.40
1250	0.47	
1600	0.53	
2000	0.62	0.60
2500	0.72	
3150	0.80	
4000	0.91	0.90
5000	0.97	

Client: DEFELT
Manufacturer: DEFELT
Product identification: SOUND PET FELT, DF-09-1500
Description of test specimen: Sheets of 100% polyester made from recycled water/soda bottles, sample batch no 45803/477. Thickness 9 mm. Mounted directly on surface.

Reverberation room volume: 200 m³
Temperature: 19.4 °C (empty: 19.3 °C)
Air humidity: 51 % (empty: 49 %)
Air pressure: 100.0 kPa (empty: 100.0 kPa)
Size of specimen: 10 m²

Measurement date: 2025-06-09
Measured by: Staffan Andersson



$\alpha_w = 0.25(H)$

Absorption class = E

DF-09-1500, E-60

SOUND ABSORPTION COEFFICIENT ACCORDING TO SS-EN ISO 354:2003 AND SS-EN ISO 11654:1997

Measurement of sound absorption coefficient in a reverberation room



Report number:

4358-M2

Date

2025-06-18

Frequency f [Hz]	Sound absorption coefficient	
	α_s	α_p
50	0.00	
63	0.00	0.00
80	0.02	
100	0.04	
125	0.05	0.05
160	0.09	
200	0.08	
250	0.16	0.15
315	0.27	
400	0.39	
500	0.52	0.50
630	0.66	
800	0.76	
1000	0.78	0.80
1250	0.84	
1600	0.89	
2000	0.92	0.90
2500	0.92	
3150	0.85	
4000	0.90	0.90
5000	0.91	

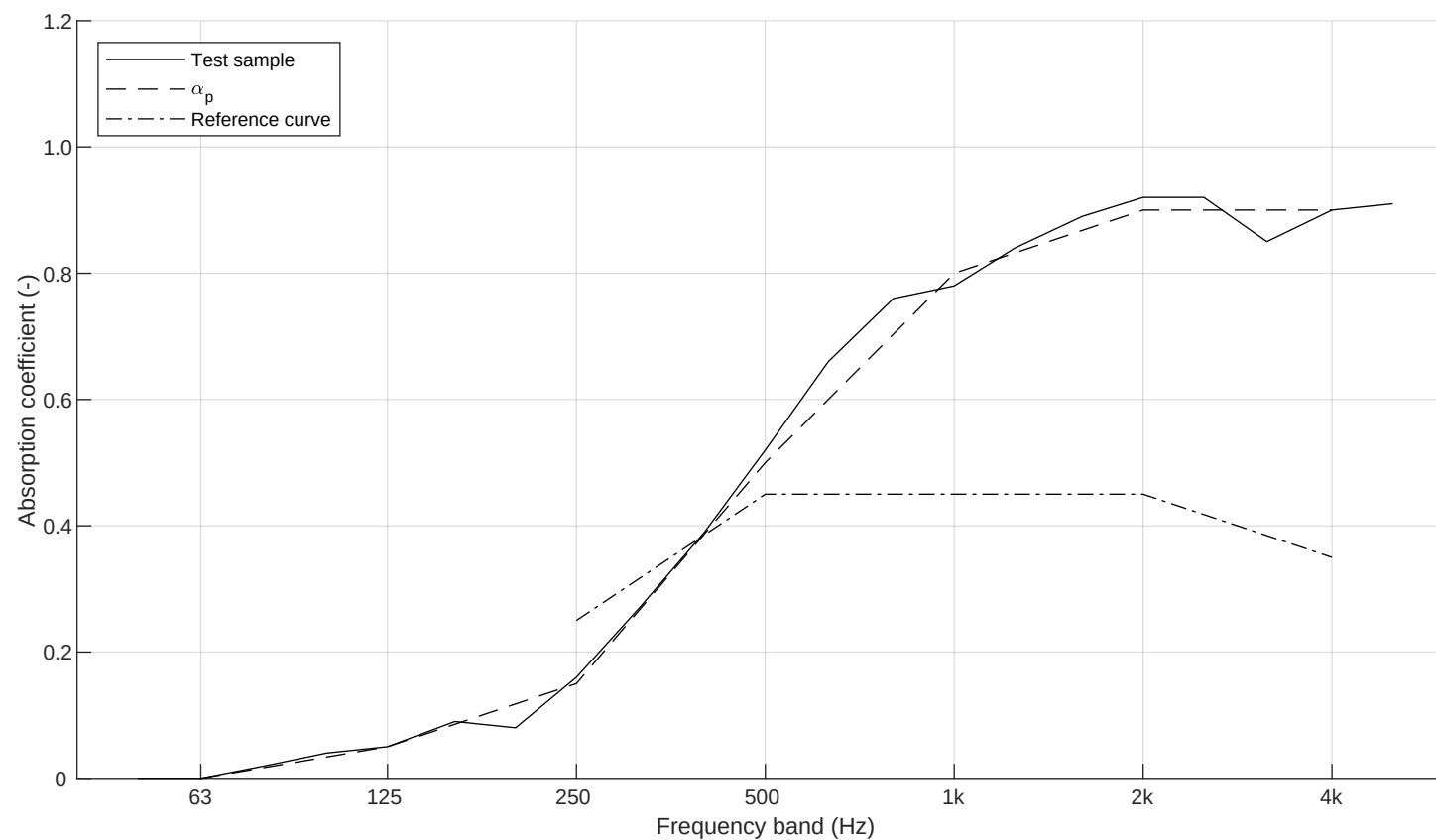
Client: DEFELT
Manufacturer: DEFELT
Product identification: SOUND PET FELT, DF-09-1500

Description of test specimen: Sheets of 100% polyester made from recycled water/soda bottles, sample batch no 45803/477. Thickness 9 mm. mounted in a grid for suspended ceilings with an airgap of 50 mm. Mounting type E-60.

Reverberation room volume: 200 m³
Temperature: 19.5 °C (empty: 19.3 °C)
Air humidity: 52 % (empty: 49 %)
Air pressure: 100.0 kPa (empty: 100.0 kPa)
Size of specimen: 10 m²

Measurement date: 2025-06-09

Measured by: Staffan Andersson



$\alpha_w = 0.45(\text{MH})$

Absorption class = D

DF-09-1500, E-100

SOUND ABSORPTION COEFFICIENT ACCORDING TO SS-EN ISO 354:2003 AND SS-EN ISO 11654:1997

Measurement of sound absorption coefficient in a reverberation room



Report number:

4358-M3

Date

2025-06-18

Frequency f [Hz]	Sound absorption coefficient	
	α_s	α_p
50	0.00	
63	0.01	0.00
80	0.05	
100	0.11	
125	0.12	0.15
160	0.17	
200	0.20	
250	0.31	0.30
315	0.46	
400	0.58	
500	0.71	0.70
630	0.86	
800	0.98	
1000	0.93	0.95
1250	0.93	
1600	0.89	
2000	0.80	0.85
2500	0.79	
3150	0.86	
4000	0.93	0.90
5000	0.95	

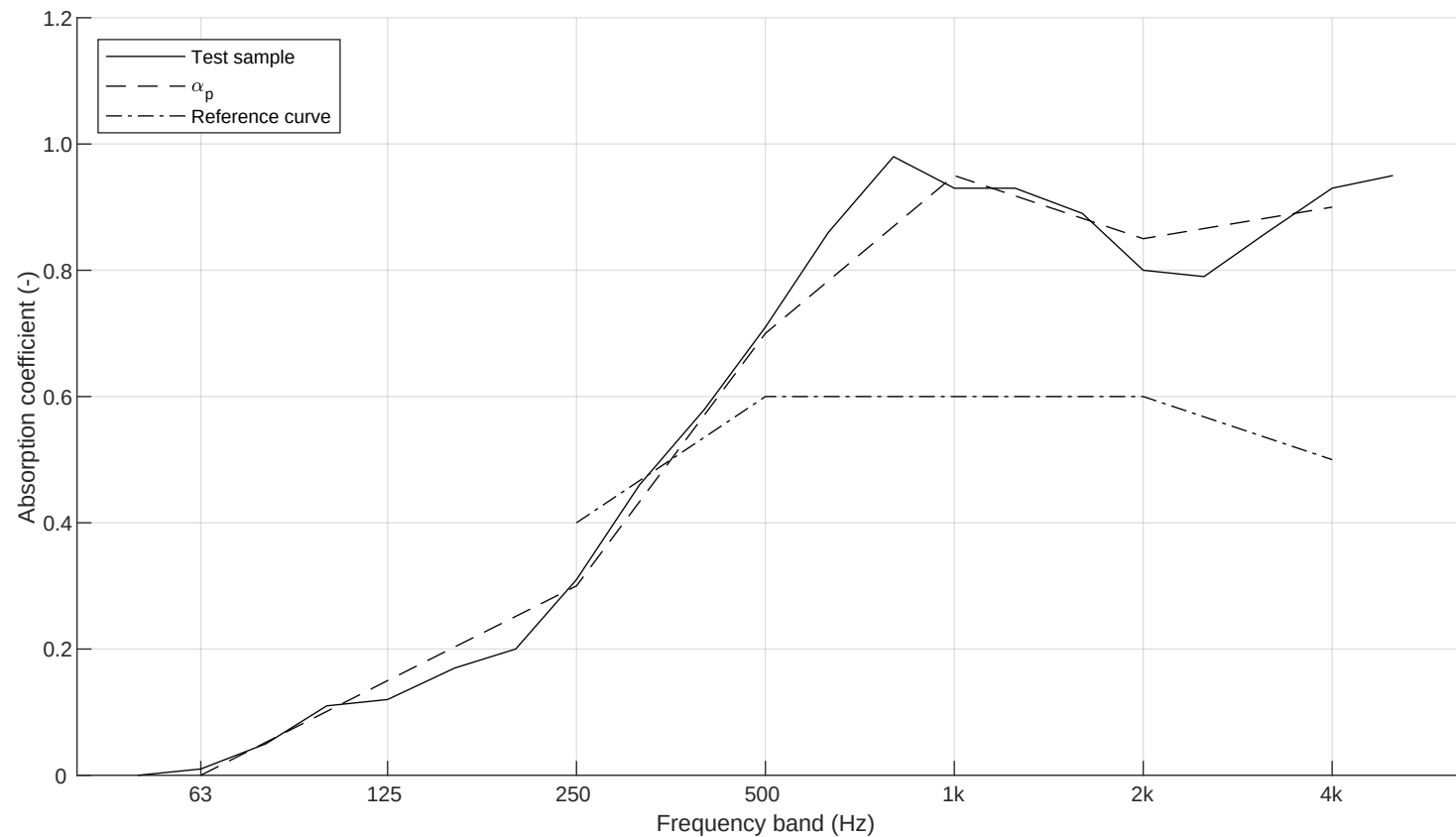
Client: DEFELT
Manufacturer: DEFELT
Product identification: SOUND PET FELT, DF-09-1500

Description of test specimen: Sheets of 100% polyester made from recycled water/soda bottles, sample batch no 45803/477. Thickness 9 mm. mounted in a grid for suspended ceilings with an airgap of 90 mm. Mounting type E-100.

Reverberation room volume: 200 m³
Temperature: 19.5 °C (empty: 19.3 °C)
Air humidity: 52 % (empty: 49 %)
Air pressure: 100.0 kPa (empty: 100.0 kPa)
Size of specimen: 10 m²

Measurement date: 2025-06-09

Measured by: Staffan Andersson



$\alpha_w = 0.60(\text{MH})$

Absorption class = C

DF-09-1500, E-200

SOUND ABSORPTION COEFFICIENT ACCORDING TO SS-EN ISO 354:2003 AND SS-EN ISO 11654:1997

Measurement of sound absorption coefficient in a reverberation room



Report number:

4358-M4

Date

2025-06-18

Frequency f [Hz]	Sound absorption coefficient	
	α_s	α_p
50	0.03	
63	0.08	0.05
80	0.11	
100	0.26	
125	0.36	0.30
160	0.33	
200	0.46	
250	0.63	0.65
315	0.80	
400	0.90	
500	0.96	0.95
630	1.00	
800	0.87	
1000	0.70	0.75
1250	0.70	
1600	0.81	
2000	0.81	0.80
2500	0.83	
3150	0.84	
4000	0.90	0.90
5000	0.95	

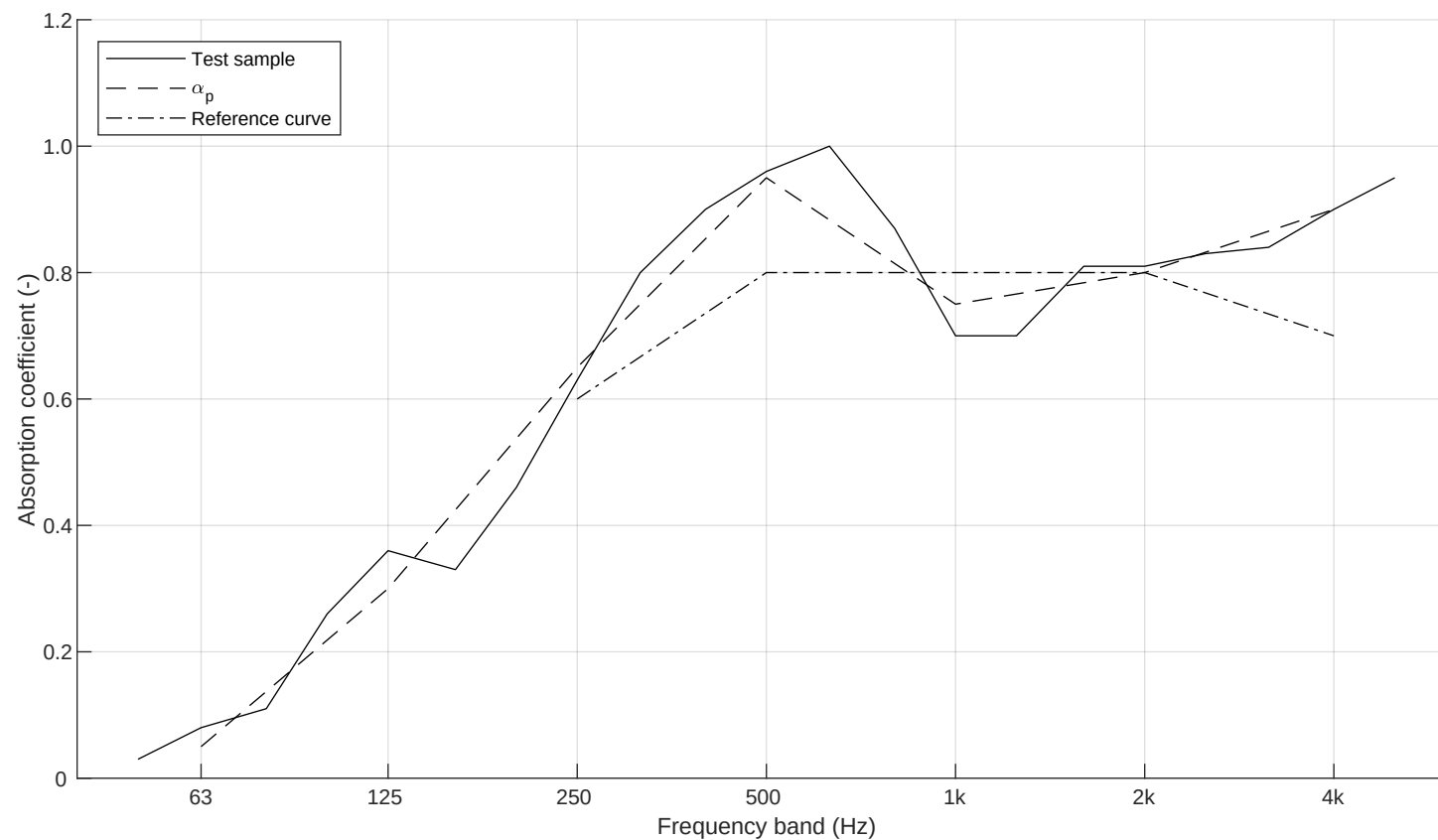
Client: DEFELT
Manufacturer: DEFELT
Product identification: SOUND PET FELT, DF-09-1500

Description of test specimen: Sheets of 100% polyester made from recycled water/soda bottles, sample batch no 45803/477. Thickness 9 mm. mounted in a grid for suspended ceilings with an airgap of 190 mm. Mounting type E-200.

Reverberation room volume: 200 m³
Temperature: 19.5 °C (empty: 19.3 °C)
Air humidity: 52 % (empty: 49 %)
Air pressure: 100.0 kPa (empty: 100.0 kPa)
Size of specimen: 10 m²

Measurement date: 2025-06-09

Measured by: Staffan Andersson



$\alpha_w = 0.80$

Absorption class = B

DF-09-1900, direct fixing

SOUND ABSORPTION COEFFICIENT ACCORDING TO SS-EN ISO 354:2003 AND SS-EN ISO 11654:1997

Measurement of sound absorption coefficient in a reverberation room



Report number:

4358-M5

Date

2025-06-18

Frequency f [Hz]	Sound absorption coefficient	
	α_s	α_p
50	0.00	
63	0.00	0.00
80	0.01	
100	0.00	
125	0.02	0.00
160	0.01	
200	0.03	
250	0.03	0.05
315	0.07	
400	0.09	
500	0.18	0.15
630	0.24	
800	0.33	
1000	0.43	0.40
1250	0.47	
1600	0.55	
2000	0.64	0.65
2500	0.78	
3150	0.86	
4000	0.95	0.95
5000	1.06	

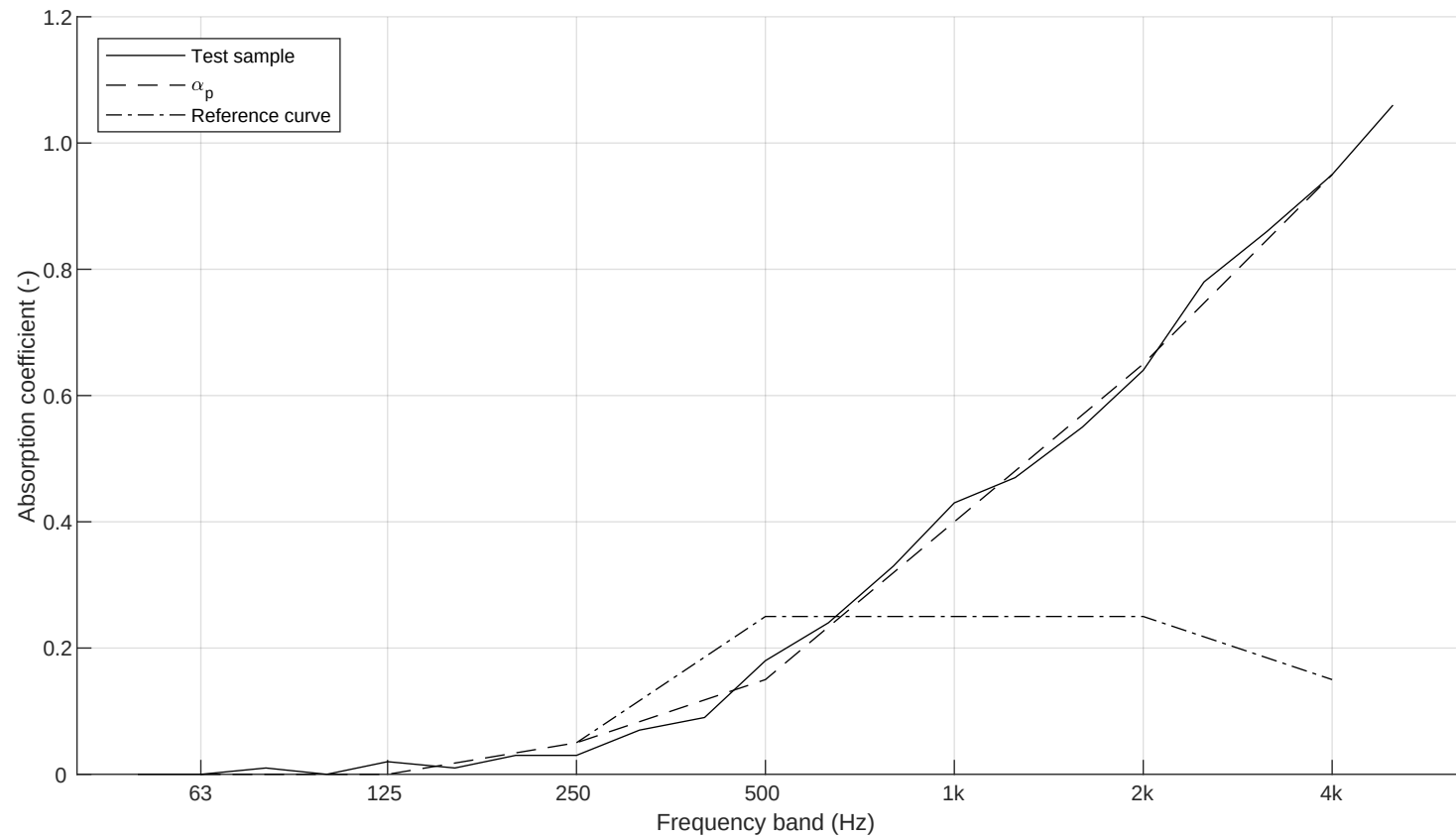
Client: DEFELT
Manufacturer: DEFELT
Product identification: SOUND PET FELT, DF-09-1900

Description of test specimen: Sheets of 100% polyester made from recycled water/soda bottles, sample batch no 45803/477. Thickness 9 mm. Mounted directly on surface.

Reverberation room volume: 200 m³
Temperature: 19.3 °C (empty: 19.3 °C)
Air humidity: 50 % (empty: 49 %)
Air pressure: 100.0 kPa (empty: 100.0 kPa)
Size of specimen: 10 m²

Measurement date: 2025-06-09

Measured by: Staffan Andersson



$\alpha_w = 0.25(H)$

Absorption class = E

DF-09-1900, E-60

SOUND ABSORPTION COEFFICIENT ACCORDING TO SS-EN ISO 354:2003 AND SS-EN ISO 11654:1997
Measurement of sound absorption coefficient in a reverberation room

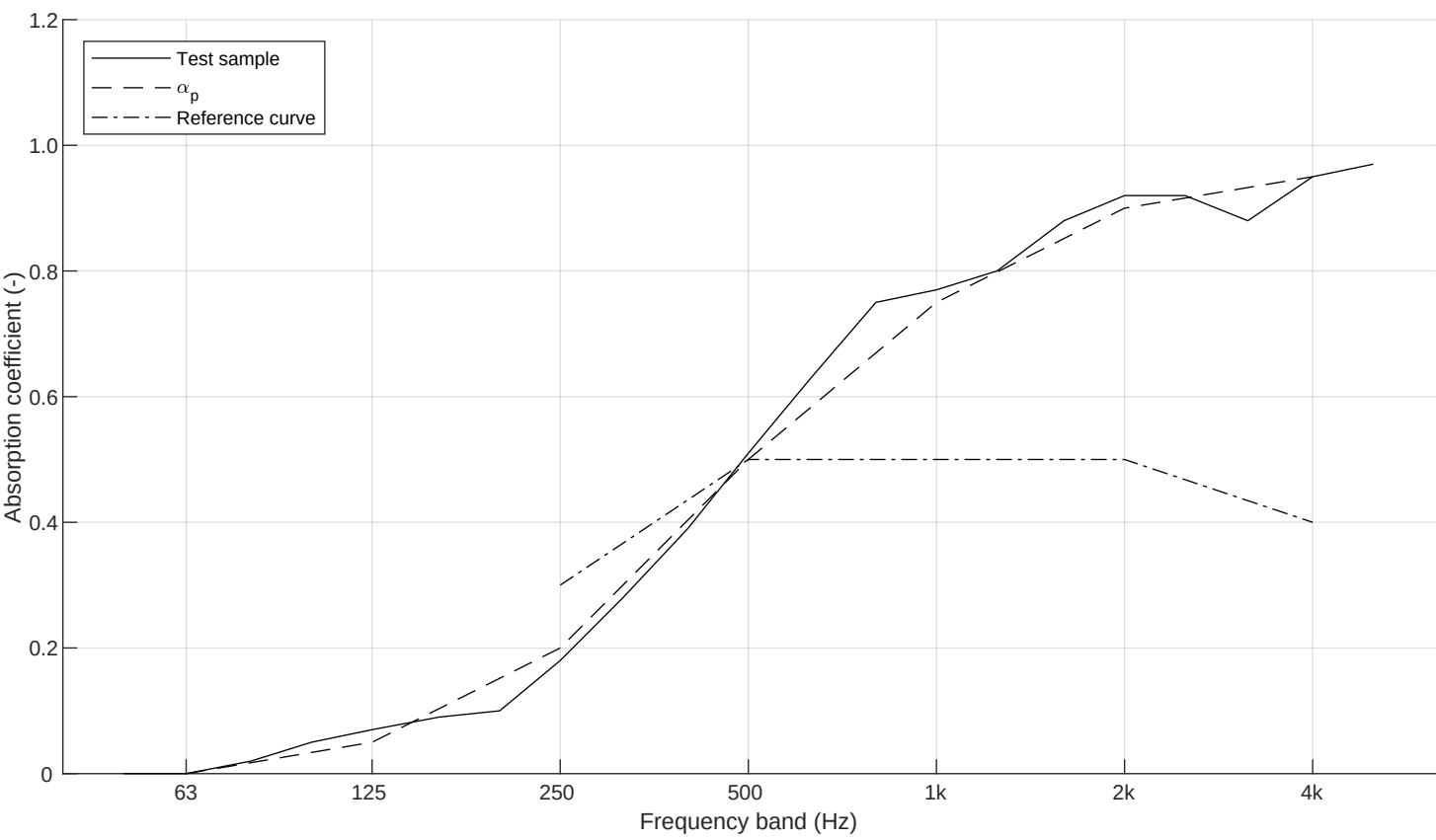


Report number:
4358-M6
Date
2025-06-18

Frequency f [Hz]	Sound absorption coefficient	
	α_s	α_p
50	0.00	
63	0.00	0.00
80	0.02	
100	0.05	
125	0.07	0.05
160	0.09	
200	0.10	
250	0.18	0.20
315	0.28	
400	0.39	
500	0.51	0.50
630	0.63	
800	0.75	
1000	0.77	0.75
1250	0.80	
1600	0.88	
2000	0.92	0.90
2500	0.92	
3150	0.88	
4000	0.95	0.95
5000	0.97	

Client: DEFELT
Manufacturer: DEFELT
Product identification: SOUND PET FELT, DF-09-1900
Description of test specimen: Sheets of 100% polyester made from recycled water/soda bottles, sample batch no 45803/477. Thickness 9 mm. mounted in a grid for suspended ceilings with an airgap of 50 mm. Mounting type E-60.

Reverberation room volume: 200 m³
Temperature: 19.4 °C (empty: 19.3 °C)
Air humidity: 50 % (empty: 49 %)
Air pressure: 100.0 kPa (empty:100.0 kPa)
Size of specimen: 10 m²
Measurement date: 2025-06-09
Measured by: Staffan Andersson



$\alpha_w = 0.50(\text{MH})$
Absorption class = D



DF-09-1900, E-100

SOUND ABSORPTION COEFFICIENT ACCORDING TO SS-EN ISO 354:2003 AND SS-EN ISO 11654:1997

Measurement of sound absorption coefficient in a reverberation room



Report number:

4358-M7

Date

2025-06-18

Frequency f [Hz]	Sound absorption coefficient	
	α_s	α_p
50	0.00	
63	0.02	0.00
80	0.05	
100	0.13	
125	0.16	0.15
160	0.21	
200	0.25	
250	0.38	0.40
315	0.53	
400	0.64	
500	0.75	0.75
630	0.87	
800	0.96	
1000	0.93	0.95
1250	0.91	
1600	0.91	
2000	0.82	0.85
2500	0.81	
3150	0.86	
4000	0.95	0.95
5000	0.98	

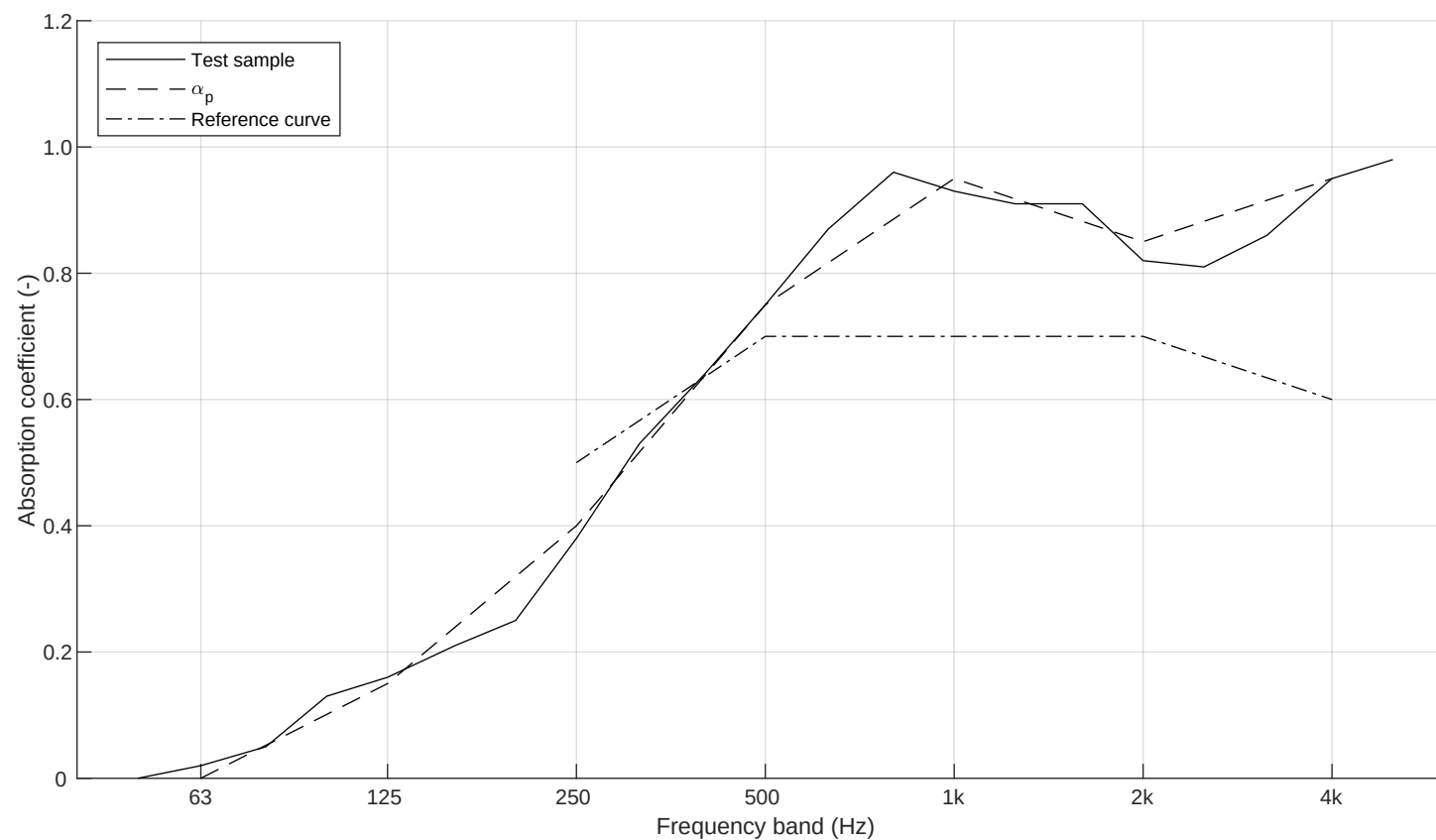
Client: DEFELT
Manufacturer: DEFELT
Product identification: SOUND PET FELT, DF-09-1900

Description of test specimen: Sheets of 100% polyester made from recycled water/soda bottles, sample batch no 45803/477. Thickness 9 mm. mounted in a grid for suspended ceilings with an airgap of 90 mm. Mounting type E-100.

Reverberation room volume: 200 m³
Temperature: 19.4 °C (empty: 19.3 °C)
Air humidity: 50 % (empty: 49 %)
Air pressure: 100.0 kPa (empty: 100.0 kPa)
Size of specimen: 10 m²

Measurement date: 2025-06-09

Measured by: Staffan Andersson



$\alpha_w = 0.70(\text{MH})$

Absorption class = C

DF-09-1900, E-200

SOUND ABSORPTION COEFFICIENT ACCORDING TO SS-EN ISO 354:2003 AND SS-EN ISO 11654:1997

Measurement of sound absorption coefficient in a reverberation room



Report number:

4358-M8

Date

2025-06-18

Frequency f [Hz]	Sound absorption coefficient	
	α_s	α_p
50	0.04	
63	0.08	0.10
80	0.12	
100	0.27	
125	0.41	0.35
160	0.38	
200	0.52	
250	0.67	0.65
315	0.83	
400	0.93	
500	0.93	0.95
630	1.02	
800	0.90	
1000	0.74	0.80
1250	0.71	
1600	0.79	
2000	0.84	0.80
2500	0.82	
3150	0.85	
4000	0.93	0.90
5000	0.98	

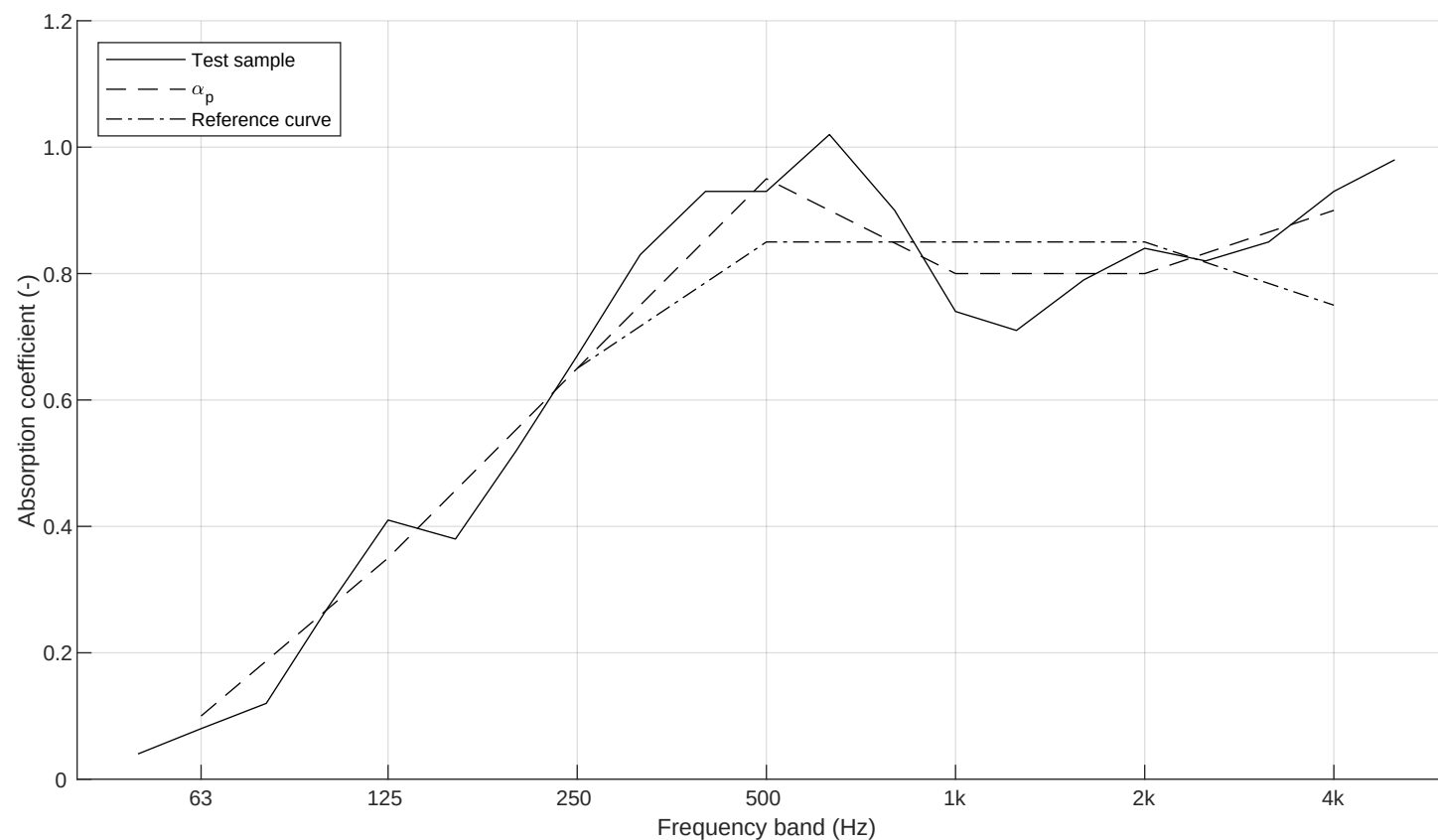
Client: DEFELT
Manufacturer: DEFELT
Product identification: SOUND PET FELT, DF-09-1900

Description of test specimen: Sheets of 100% polyester made from recycled water/soda bottles, sample batch no 45803/477. Thickness 9 mm. mounted in a grid for suspended ceilings with an airgap of 190 mm. Mounting type E-200.

Reverberation room volume: 200 m³
Temperature: 19.4 °C (empty: 19.3 °C)
Air humidity: 50 % (empty: 49 %)
Air pressure: 100.0 kPa (empty: 100.0 kPa)
Size of specimen: 10 m²

Measurement date: 2025-06-09

Measured by: Staffan Andersson



$$\alpha_w = 0.85$$

Absorption class = B

DF-12-2400, direct fixing

SOUND ABSORPTION COEFFICIENT ACCORDING TO SS-EN ISO 354:2003 AND SS-EN ISO 11654:1997

Measurement of sound absorption coefficient in a reverberation room



Report number:

4358-M9

Date

2025-06-18

Frequency f [Hz]	Sound absorption coefficient	
	α_s	α_p
50	0.00	
63	0.00	0.00
80	0.01	
100	0.00	
125	0.02	0.00
160	0.02	
200	0.03	
250	0.06	0.05
315	0.12	
400	0.16	
500	0.27	0.25
630	0.38	
800	0.50	
1000	0.60	0.60
1250	0.67	
1600	0.75	
2000	0.84	0.85
2500	0.94	
3150	0.99	
4000	1.04	1.00
5000	1.08	

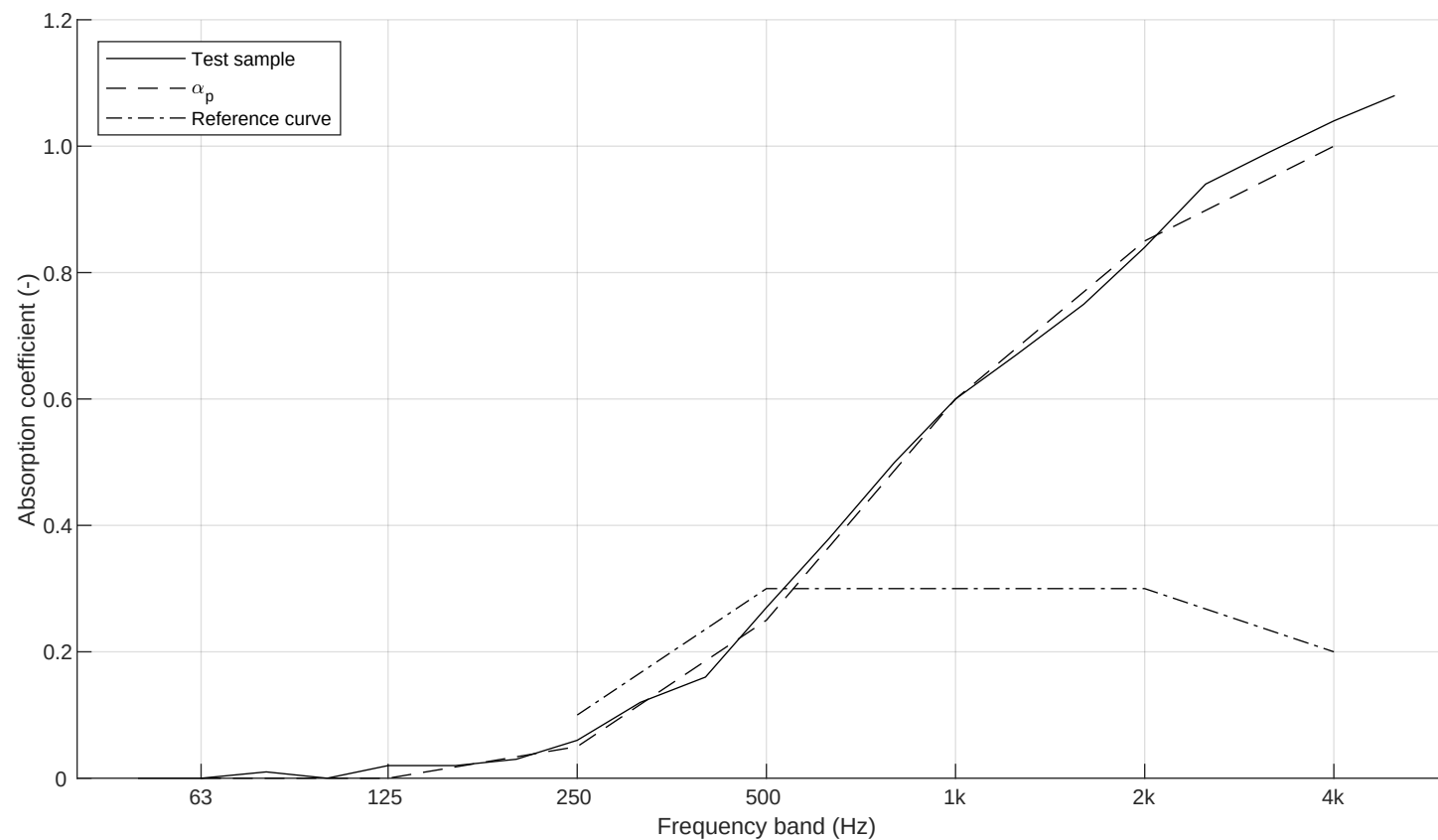
Client: DEFELT
Manufacturer: DEFELT
Product identification: SOUND PET FELT, DF-12-2400

Description of test specimen: Sheets of 100% polyester made from recycled water/soda bottles, sample batch no 45803/477. Thickness 12 mm. Mounted directly on surface.

Reverberation room volume: 200 m³
Temperature: 19.6 °C (empty: 19.3 °C)
Air humidity: 51 % (empty: 49 %)
Air pressure: 100.0 kPa (empty: 100.0 kPa)
Size of specimen: 10 m²

Measurement date: 2025-06-09

Measured by: Staffan Andersson



$\alpha_w = 0.30(\text{MH})$

Absorption class = D

DF-12-2400, E-60

SOUND ABSORPTION COEFFICIENT ACCORDING TO SS-EN ISO 354:2003 AND SS-EN ISO 11654:1997

Measurement of sound absorption coefficient in a reverberation room



Report number:

4358-M10

Date

2025-06-18

Frequency f [Hz]	Sound absorption coefficient	
	α_s	α_p
50	0.00	
63	0.00	0.00
80	0.03	
100	0.05	
125	0.08	0.10
160	0.11	
200	0.12	
250	0.22	0.25
315	0.35	
400	0.46	
500	0.60	0.60
630	0.74	
800	0.86	
1000	0.88	0.85
1250	0.87	
1600	0.91	
2000	0.94	0.95
2500	0.95	
3150	0.92	
4000	1.00	1.00
5000	1.01	

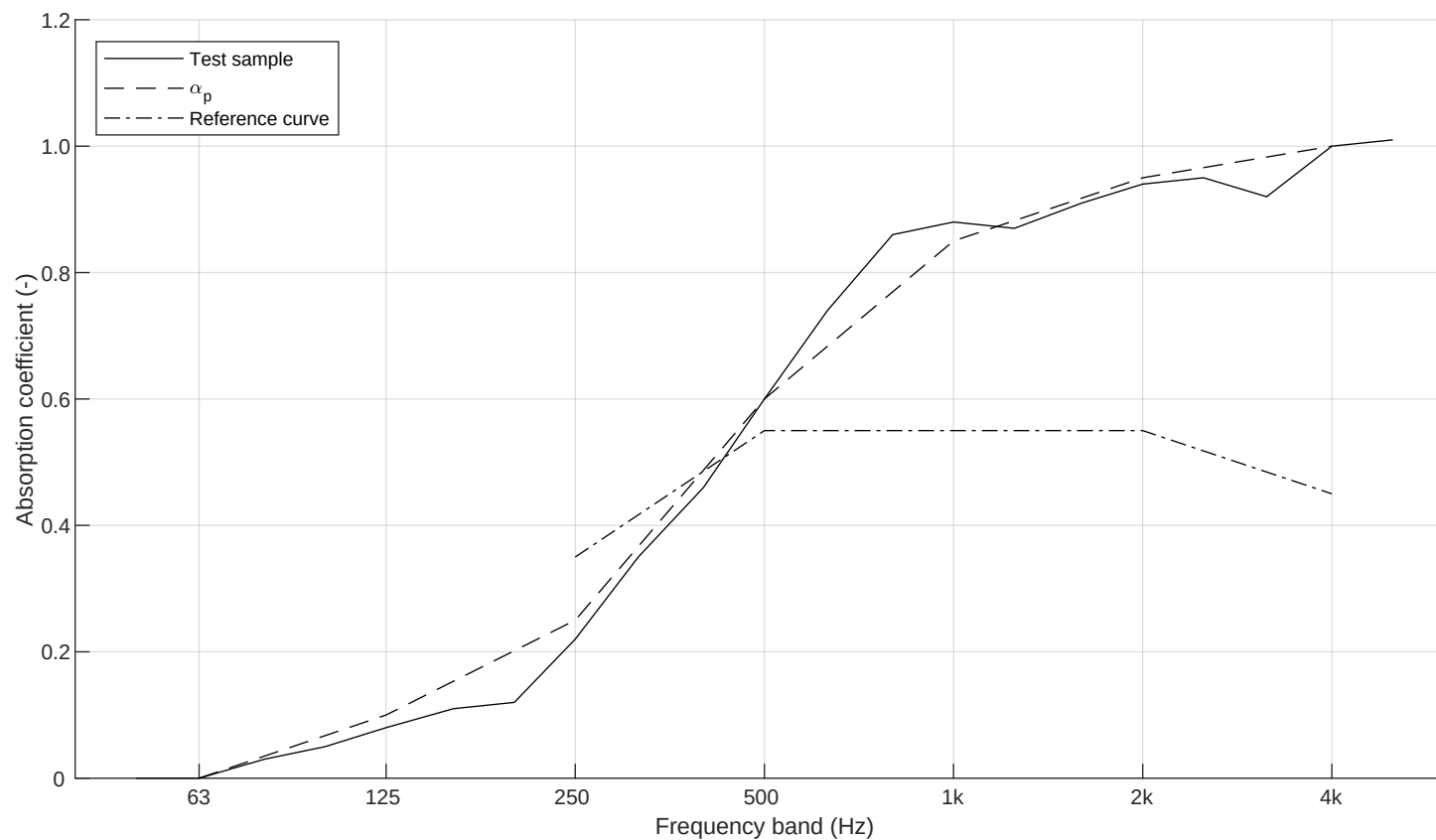
Client: DEFELT
Manufacturer: DEFELT
Product identification: SOUND PET FELT, DF-12-2400

Description of test specimen: Sheets of 100% polyester made from recycled water/soda bottles, sample batch no 45803/477. Thickness 12 mm. mounted in a grid for suspended ceilings with an airgap of 50 mm. Mounting type E-60.

Reverberation room volume: 200 m³
Temperature: 19.6 °C (empty: 19.3 °C)
Air humidity: 52 % (empty: 49 %)
Air pressure: 100.0 kPa (empty: 100.0 kPa)
Size of specimen: 10 m²

Measurement date: 2025-06-09

Measured by: Staffan Andersson



$\alpha_w = 0.55(\text{MH})$

Absorption class = D

DF-12-2400, E-100

SOUND ABSORPTION COEFFICIENT ACCORDING TO SS-EN ISO 354:2003 AND SS-EN ISO 11654:1997

Measurement of sound absorption coefficient in a reverberation room



Report number:

4358-M11

Date

2025-06-18

Frequency f [Hz]	Sound absorption coefficient	
	α_s	α_p
50	0.00	
63	0.01	0.00
80	0.05	
100	0.14	
125	0.20	0.20
160	0.24	
200	0.27	
250	0.42	0.40
315	0.57	
400	0.68	
500	0.79	0.80
630	0.91	
800	0.97	
1000	0.96	0.95
1250	0.93	
1600	0.88	
2000	0.85	0.85
2500	0.89	
3150	0.92	
4000	0.99	1.00
5000	1.03	

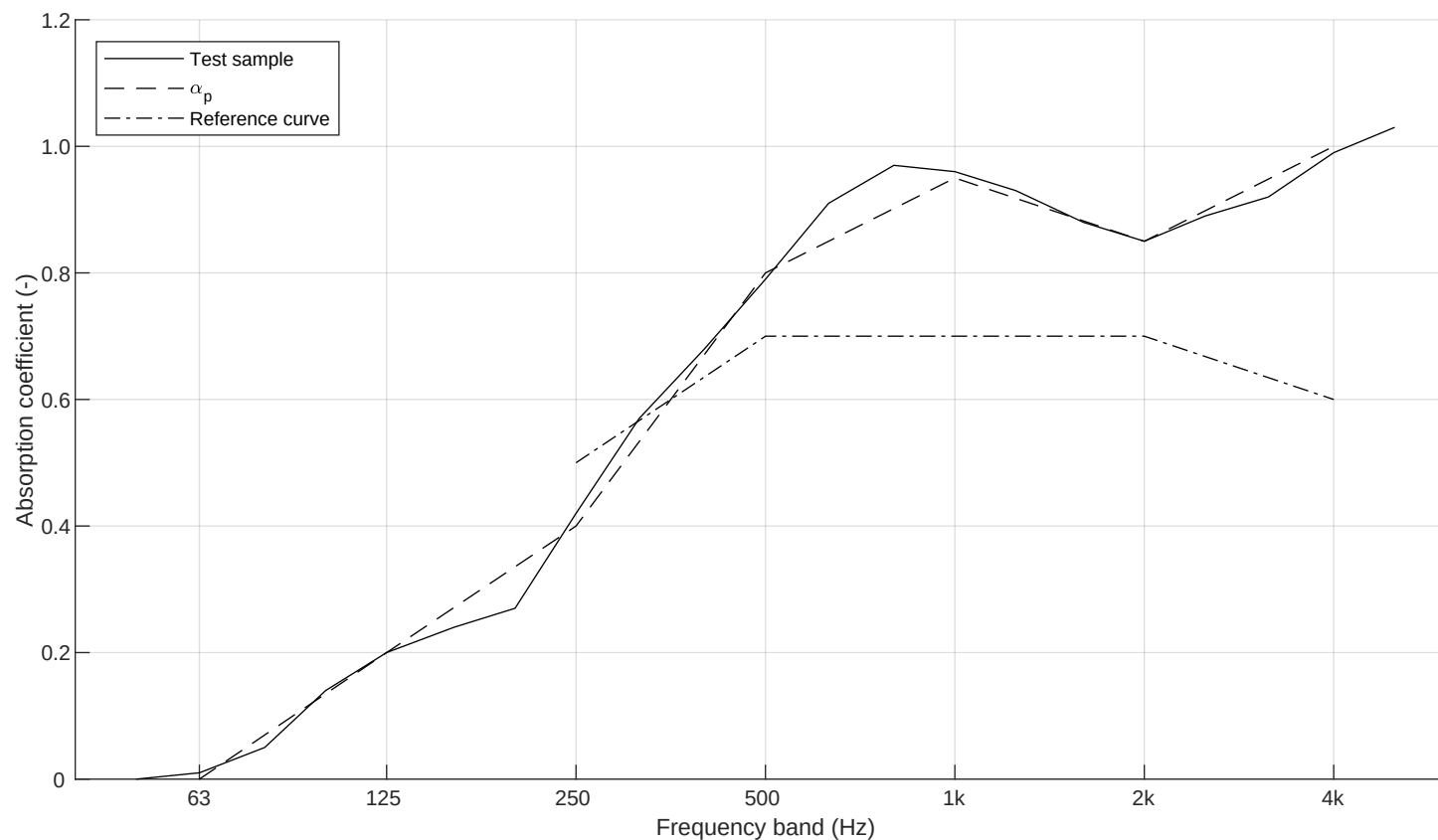
Client: DEFELT
Manufacturer: DEFELT
Product identification: SOUND PET FELT, DF-12-2400

Description of test specimen: Sheets of 100% polyester made from recycled water/soda bottles, sample batch no 45803/477. Thickness 12 mm. mounted in a grid for suspended ceilings with an airgap of 90 mm. Mounting type E-100.

Reverberation room volume: 200 m³
Temperature: 19.6 °C (empty: 19.3 °C)
Air humidity: 52 % (empty: 49 %)
Air pressure: 100.0 kPa (empty: 100.0 kPa)
Size of specimen: 10 m²

Measurement date: 2025-06-09

Measured by: Staffan Andersson



$\alpha_w = 0.70(\text{MH})$

Absorption class = C

DF-12-2400, E-200

SOUND ABSORPTION COEFFICIENT ACCORDING TO SS-EN ISO 354:2003 AND SS-EN ISO 11654:1997

Measurement of sound absorption coefficient in a reverberation room



Report number:

4358-M12

Date

2025-06-18

Frequency f [Hz]	Sound absorption coefficient	
	α_s	α_p
50	0.05	
63	0.07	0.10
80	0.13	
100	0.27	
125	0.46	0.40
160	0.42	
200	0.54	
250	0.69	0.70
315	0.85	
400	0.91	
500	0.92	0.95
630	1.00	
800	0.90	
1000	0.76	0.80
1250	0.78	
1600	0.87	
2000	0.87	0.90
2500	0.91	
3150	0.92	
4000	1.00	1.00
5000	1.03	

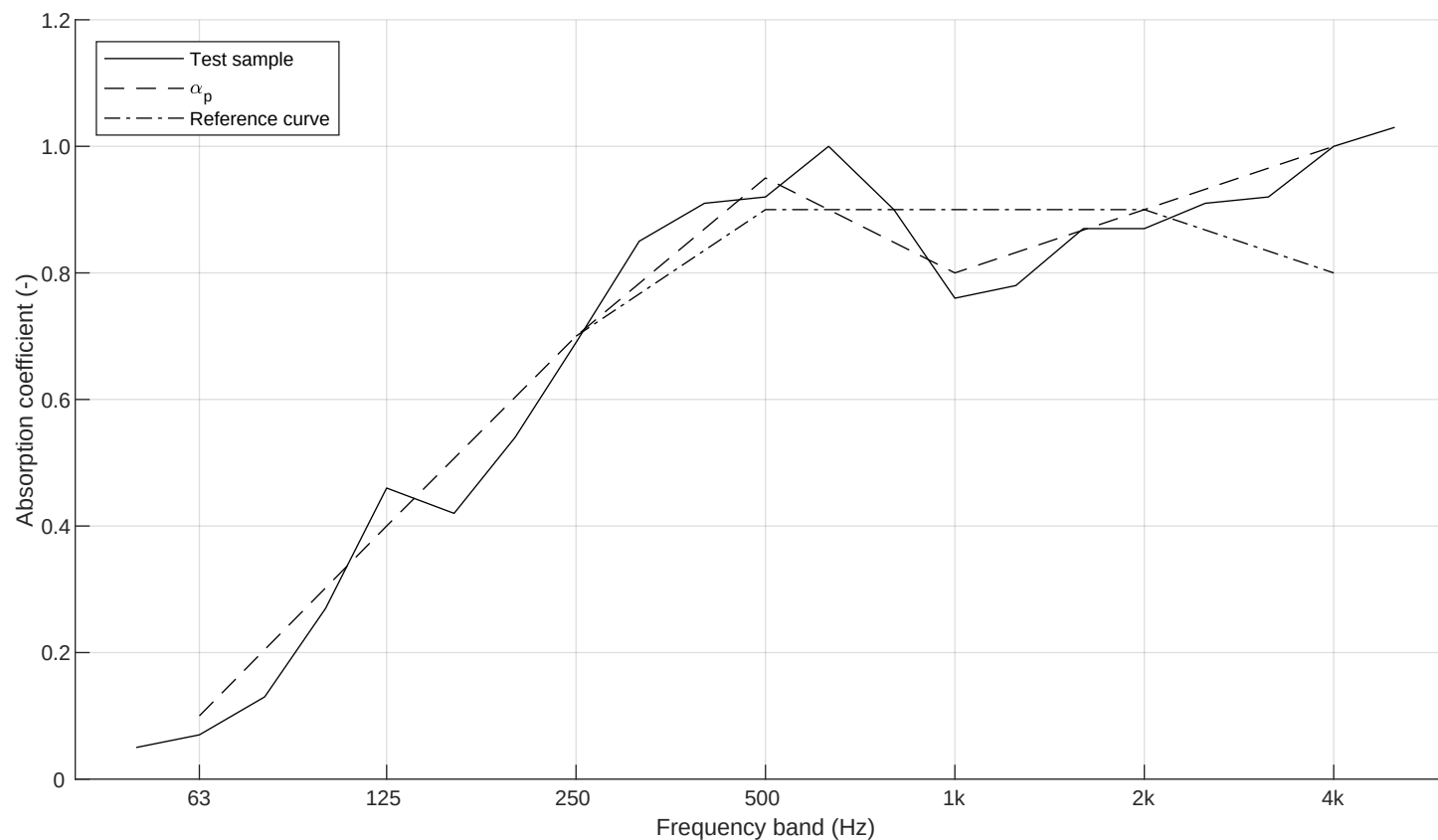
Client: DEFELT
Manufacturer: DEFELT
Product identification: SOUND PET FELT, DF-12-2400

Description of test specimen: Sheets of 100% polyester made from recycled water/soda bottles, sample batch no 45803/477. Thickness 12 mm. mounted in a grid for suspended ceilings with an airgap of 190 mm. Mounting type E-200.

Reverberation room volume: 200 m³
Temperature: 19.6 °C (empty: 19.3 °C)
Air humidity: 52 % (empty: 49 %)
Air pressure: 100.0 kPa (empty: 100.0 kPa)
Size of specimen: 10 m²

Measurement date: 2025-06-09

Measured by: Staffan Andersson



$\alpha_w = 0.90$

Absorption class = A

DF-24-4000, direct fixing

SOUND ABSORPTION COEFFICIENT ACCORDING TO SS-EN ISO 354:2003 AND SS-EN ISO 11654:1997

Measurement of sound absorption coefficient in a reverberation room



Report number:

4358-M13

Date

2025-06-18

Frequency f [Hz]	Sound absorption coefficient	
	α_s	α_p
50	0.00	
63	0.01	0.00
80	0.02	
100	0.03	
125	0.07	0.05
160	0.08	
200	0.14	
250	0.19	0.20
315	0.29	
400	0.39	
500	0.58	0.60
630	0.78	
800	0.86	
1000	0.93	0.90
1250	0.94	
1600	0.98	
2000	1.06	1.00
2500	1.06	
3150	1.07	
4000	1.07	1.00
5000	1.08	

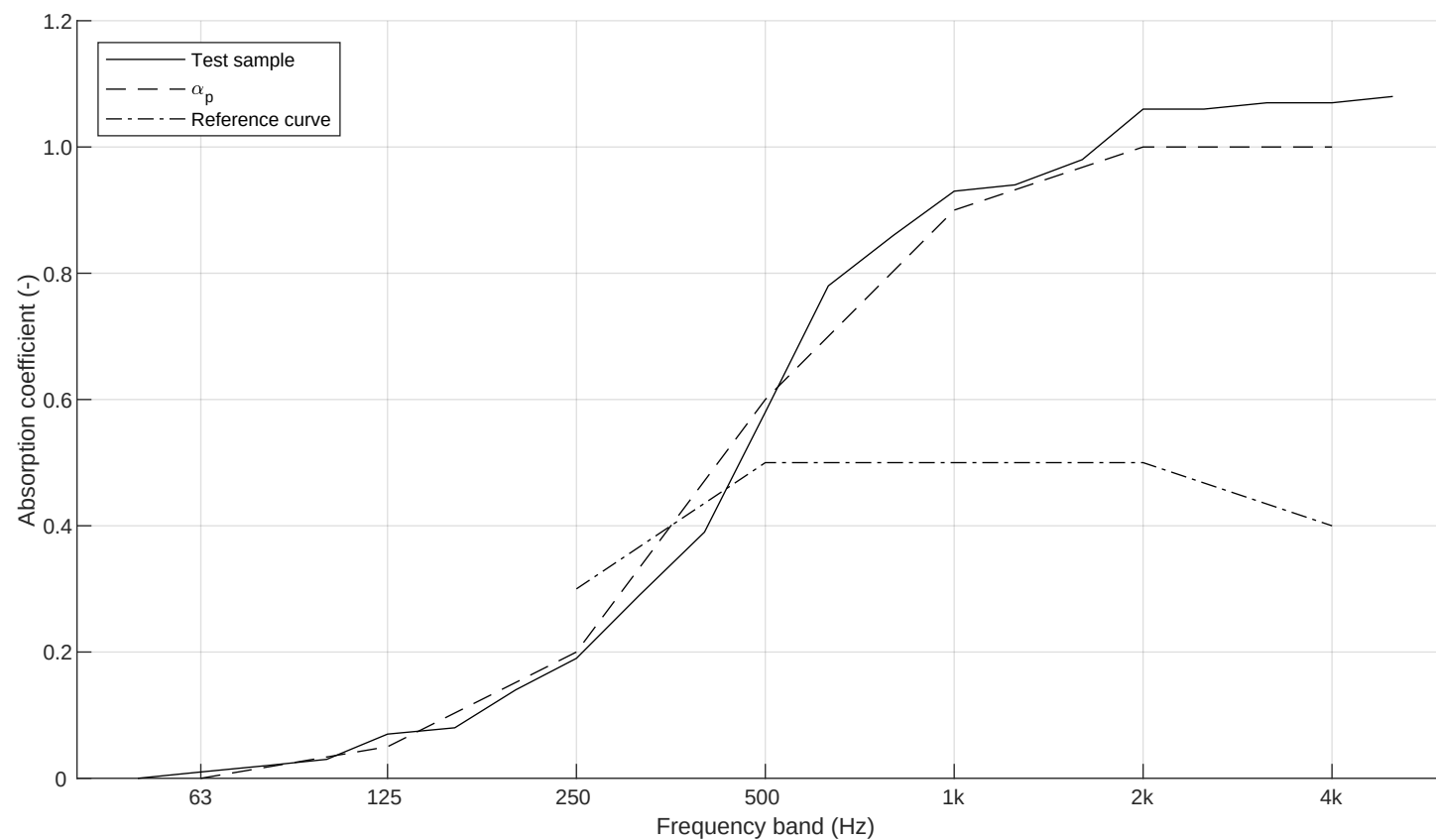
Client: DEFELT
Manufacturer: DEFELT
Product identification: SOUND PET FELT, DF-24-4000

Description of test specimen: Sheets of 100% polyester made from recycled water/soda bottles, sample batch no 45803/477. Thickness 24 mm. Mounted directly on surface.

Reverberation room volume: 200 m³
Temperature: 20.0 °C (empty: 19.3 °C)
Air humidity: 50 % (empty: 49 %)
Air pressure: 100.0 kPa (empty: 100.0 kPa)
Size of specimen: 10 m²

Measurement date: 2025-06-09

Measured by: Staffan Andersson



$\alpha_w = 0.50(\text{MH})$

Absorption class = D

DF-24-4000, E-75

SOUND ABSORPTION COEFFICIENT ACCORDING TO SS-EN ISO 354:2003 AND SS-EN ISO 11654:1997

Measurement of sound absorption coefficient in a reverberation room



Report number:

4358-M14

Date

2025-06-18

Frequency f [Hz]	Sound absorption coefficient	
	α_s	α_p
50	0.00	
63	0.01	0.00
80	0.04	
100	0.10	
125	0.16	0.15
160	0.23	
200	0.27	
250	0.38	0.40
315	0.56	
400	0.73	
500	0.84	0.85
630	1.03	
800	1.06	
1000	1.01	1.00
1250	0.98	
1600	0.97	
2000	0.96	0.95
2500	0.99	
3150	1.04	
4000	1.05	1.00
5000	1.05	

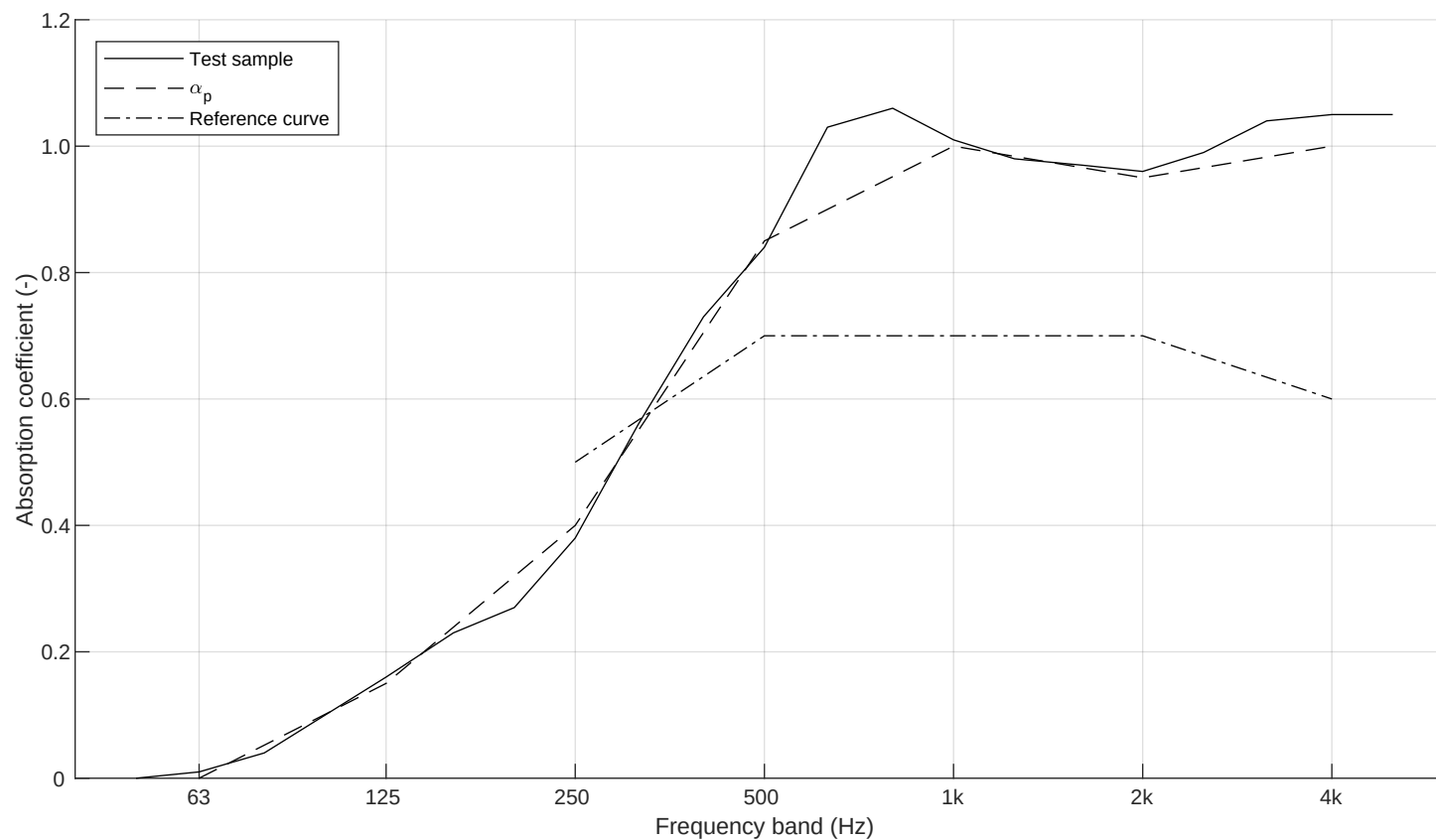
Client: DEFELT
Manufacturer: DEFELT
Product identification: SOUND PET FELT, DF-24-4000

Description of test specimen: Sheets of 100% polyester made from recycled water/soda bottles, sample batch no 45803/477. Thickness 24 mm. mounted in a grid for suspended ceilings with an airgap of 50 mm. Mounting type E-75.

Reverberation room volume: 200 m³
Temperature: 19.8 °C (empty: 19.3 °C)
Air humidity: 51 % (empty: 49 %)
Air pressure: 100.0 kPa (empty: 100.0 kPa)
Size of specimen: 10 m²

Measurement date: 2025-06-09

Measured by: Staffan Andersson



$\alpha_w = 0.70(\text{MH})$

Absorption class = C

DF-24-4000, E-100

SOUND ABSORPTION COEFFICIENT ACCORDING TO SS-EN ISO 354:2003 AND SS-EN ISO 11654:1997

Measurement of sound absorption coefficient in a reverberation room



Report number:
4358-M15
Date
2025-06-18

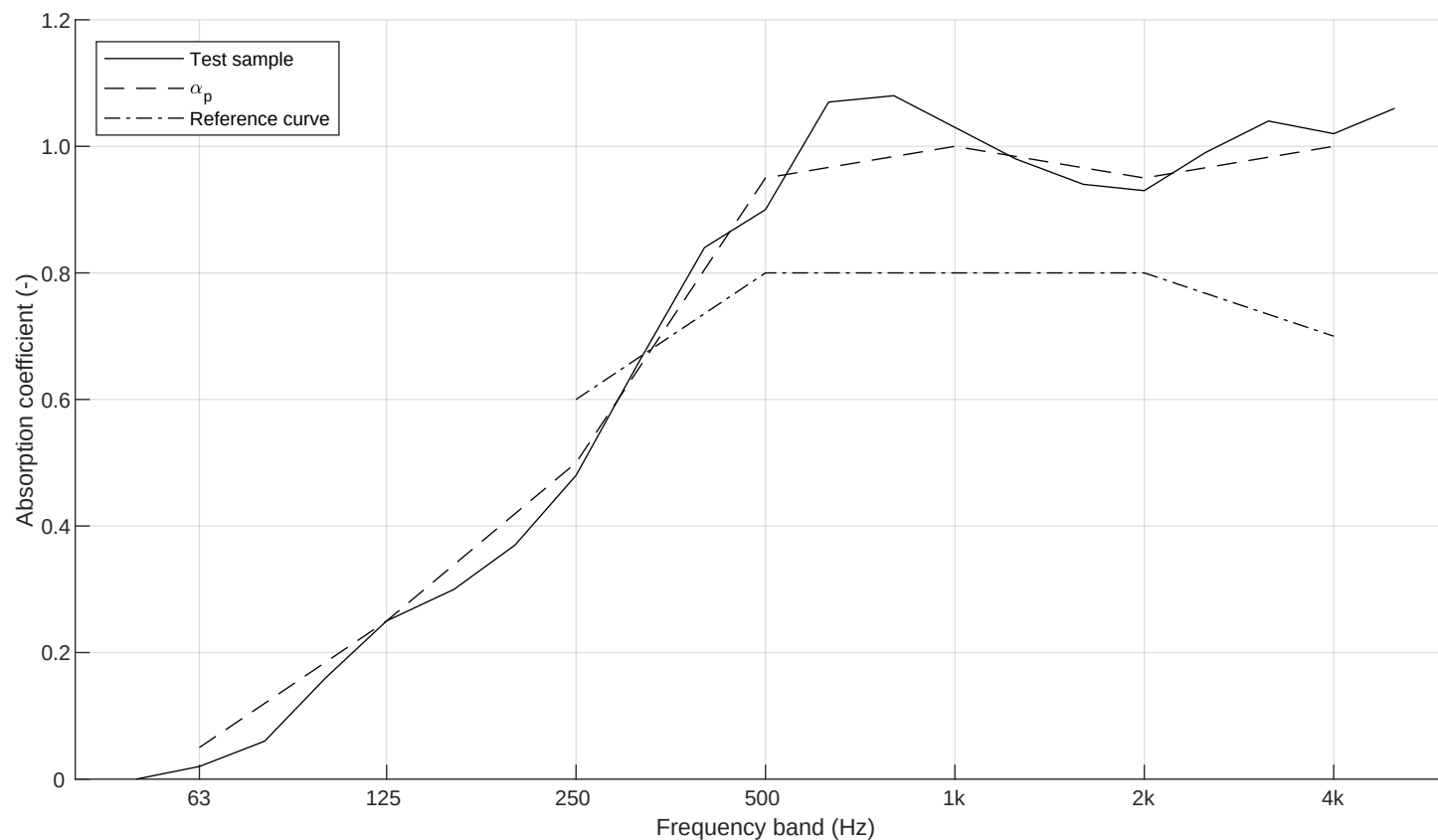
Frequency f [Hz]	Sound absorption coefficient	
	α_s	α_p
50	0.00	
63	0.02	0.05
80	0.06	
100	0.16	
125	0.25	0.25
160	0.30	
200	0.37	
250	0.48	0.50
315	0.66	
400	0.84	
500	0.90	0.95
630	1.07	
800	1.08	
1000	1.03	1.00
1250	0.98	
1600	0.94	
2000	0.93	0.95
2500	0.99	
3150	1.04	
4000	1.02	1.00
5000	1.06	

Client: DEFELT
Manufacturer: DEFELT
Product identification: SOUND PET FELT, DF-24-4000

Description of test specimen: Sheets of 100% polyester made from recycled water/soda bottles, sample batch no 45803/477. Thickness 24 mm. mounted in a grid for suspended ceilings with an airgap of 75 mm. Mounting type E-100.

Reverberation room volume: 200 m³
Temperature: 19.8 °C (empty: 19.3 °C)
Air humidity: 51 % (empty: 49 %)
Air pressure: 100.0 kPa (empty: 100.0 kPa)
Size of specimen: 10 m²

Measurement date: 2025-06-09
Measured by: Staffan Andersson



$\alpha_w = 0.80(H)$

Absorption class = B

DF-24-4000, E-200

SOUND ABSORPTION COEFFICIENT ACCORDING TO SS-EN ISO 354:2003 AND SS-EN ISO 11654:1997

Measurement of sound absorption coefficient in a reverberation room



Report number:

4358-M16

Date

2025-06-18

Frequency f [Hz]	Sound absorption coefficient	
	α_s	α_p
50	0.08	
63	0.09	0.10
80	0.16	
100	0.31	
125	0.52	0.45
160	0.45	
200	0.56	
250	0.73	0.70
315	0.86	
400	0.98	
500	0.97	1.00
630	1.05	
800	1.00	
1000	0.89	0.95
1250	0.89	
1600	0.96	
2000	0.95	0.95
2500	0.99	
3150	1.03	
4000	1.03	1.00
5000	1.07	

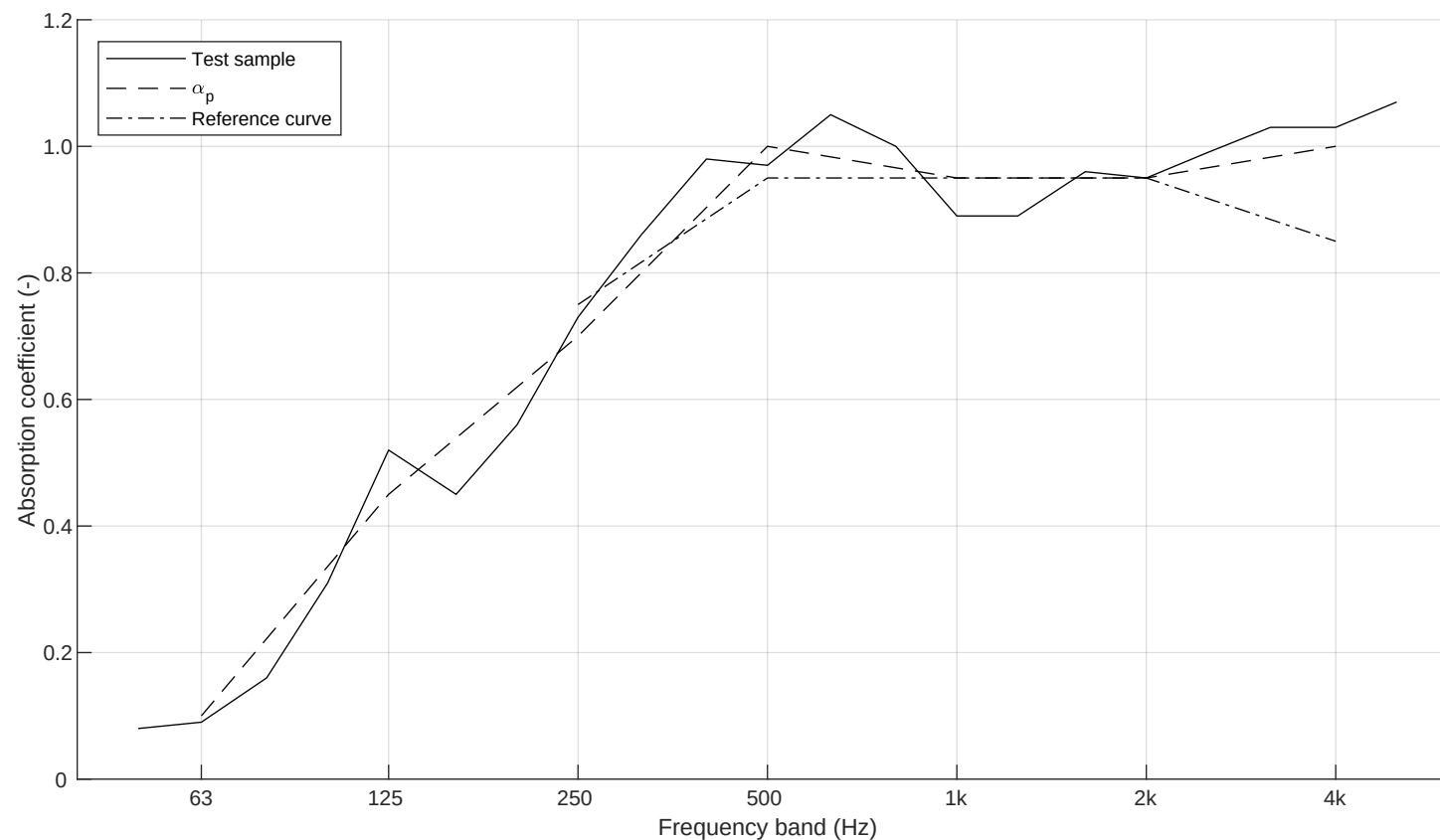
Client: DEFELT
Manufacturer: DEFELT
Product identification: SOUND PET FELT, DF-24-4000

Description of test specimen: Sheets of 100% polyester made from recycled water/soda bottles, sample batch no 45803/477. Thickness 24 mm. mounted in a grid for suspended ceilings with an airgap of 175 mm. Mounting type E-200.

Reverberation room volume: 200 m³
Temperature: 19.8 °C (empty: 19.3 °C)
Air humidity: 51 % (empty: 49 %)
Air pressure: 100.0 kPa (empty: 100.0 kPa)
Size of specimen: 10 m²

Measurement date: 2025-06-09

Measured by: Staffan Andersson



$\alpha_w = 0.95$

Absorption class = A