

# Acoustic Test Report - Absorption

**Absorption Class:** C

Calculated to EN ISO 11654:1997

**Fabric:** Wool Serge 800

**Fullness:** Flat

**Cavity from Wall:** 100mm



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## Data Sheet 11

The Laboratory Measurement of Random Incidence Sound Absorption generally to BS EN ISO 354:2003

**Client:** J&C Joel Ltd

**Test Date:** 12/04/2014

**Empty Room:** **Temperature:** 17.0 °C **Humidity:** 57 %RH **Pressure:** 1010 mbar

**Room with Sample:** **Temperature:** 16.7 °C **Humidity:** 50 %RH **Pressure:** 1009 mbar

**Sample Description:** Wool Serge 800 - Single Layer - Flat (Approx. weight 800g/m<sup>2</sup>) - 100mm cavity from wall

**Mounting Method:** G-100

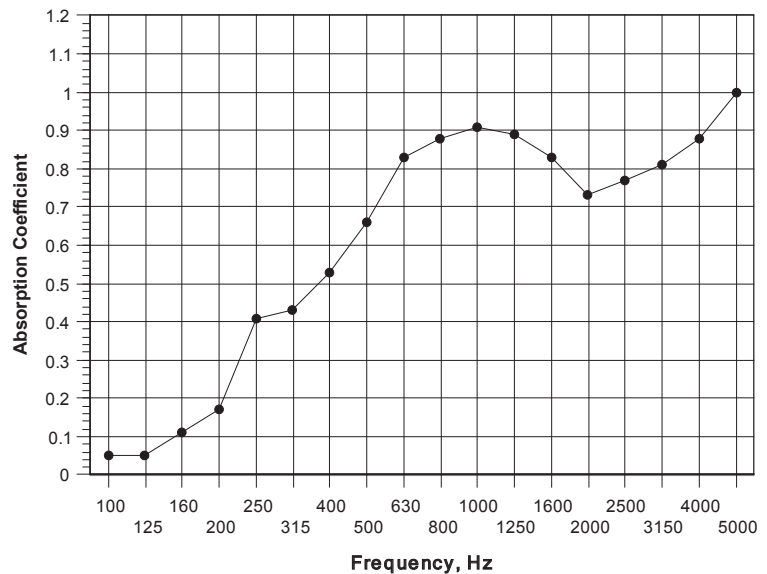
**Sample Area:** 9 m<sup>2</sup>

**Chamber Volume:** 300 m<sup>3</sup>

### Test 12

Freq Hz	T1 sec	T2 sec	Absorp Coeff	Practical Absorp Coeff #
50*	5.07	5.33	-0.05	
63*	4.60	4.05	0.16	n/a
80*	5.86	5.72	0.02	
100	6.96	6.53	0.05	
125	7.22	6.80	0.05	0.05
160	6.82	5.98	0.11	
200	6.37	5.29	0.17	
250	7.19	4.67	0.41	0.35
315	7.06	4.53	0.43	
400	6.40	3.93	0.53	
500	5.35	3.24	0.66	0.65
630	5.03	2.85	0.83	
800	5.43	2.88	0.88	
1000	5.96	2.98	0.91	0.90
1250	5.70	2.93	0.89	
1600	5.08	2.84	0.83	
2000	4.62	2.81	0.73	0.80
2500	4.17	2.56	0.77	
3150	3.50	2.22	0.81	
4000	2.85	1.86	0.88	0.90
5000	2.25	1.50	1.00	
6300*	1.66	1.12	1.26	
8000*	1.38	0.97	1.19	n/a
10000*	0.93	0.70	1.25	

Sound Absorption Coefficient



$\alpha_w$  0.65(MH)

Class C

Calculated to EN ISO 11654:1997

NRC 0.70

Calculated to ASTM C 423-01

\* Denotes frequencies outside the range covered by BS EN ISO 354:2003

T1, empty room reverberation time

T2, room reverberation time with sample

# Practical absorption coefficient, BS EN ISO 11654:1997

v4.3

# Acoustic Test Report - Absorption

**Absorption Class:** C

Calculated to EN ISO 11654:1997

**Fabric:** Wool Serge 800

**Fullness:** Flat

**Cavity from Wall:** 350mm



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## Data Sheet 12

### The Laboratory Measurement of Random Incidence Sound Absorption generally to BS EN ISO 354:2003

**Client:** J&C Joel Ltd

**Test Date:** 12/04/2014

**Empty Room:** Temperature: 17.0 °C Humidity: 57 %RH Pressure: 1010 mbar

**Room with Sample:** Temperature: 16.7 °C Humidity: 50 %RH Pressure: 1009 mbar

**Sample Description:** Wool Serge 800 - Single Layer - Flat (Approx. weight 800g/m<sup>2</sup>) - 350mm cavity from wall

**Mounting Method:** G-350

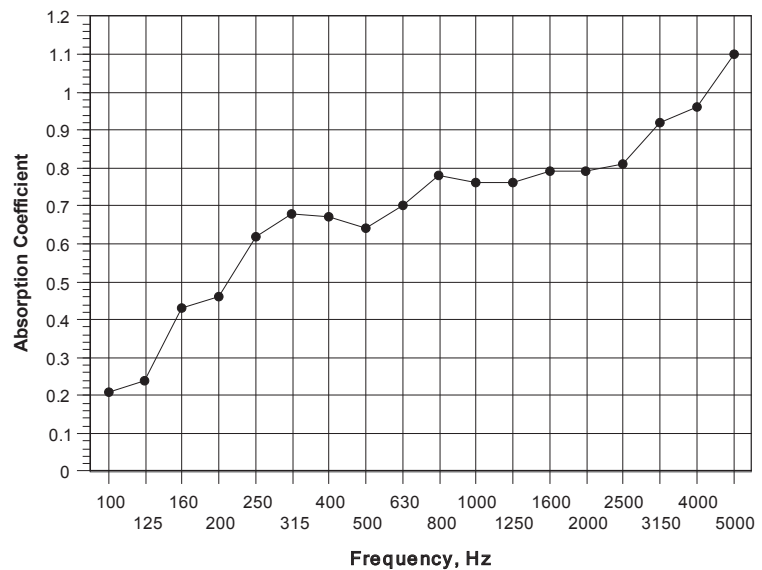
**Sample Area:** 9 m<sup>2</sup>

**Chamber Volume:** 300 m<sup>3</sup>

### Test 13

Freq Hz	T1 sec	T2 sec	Absorp Coeff	Practical Absorp Coeff #
50*	5.07	5.01	0.01	
63*	4.60	4.10	0.14	n/a
80*	5.86	5.52	0.06	
100	6.96	5.50	0.21	
125	7.22	5.44	0.24	0.30
160	6.82	4.41	0.43	
200	6.37	4.12	0.46	
250	7.19	3.94	0.62	0.60
315	7.06	3.73	0.68	
400	6.40	3.57	0.67	
500	5.35	3.29	0.64	0.65
630	5.03	3.06	0.70	
800	5.43	3.05	0.78	
1000	5.96	3.24	0.76	0.75
1250	5.70	3.16	0.76	
1600	5.08	2.89	0.79	
2000	4.62	2.73	0.79	0.80
2500	4.17	2.51	0.81	
3150	3.50	2.13	0.92	
4000	2.85	1.81	0.96	1.00
5000	2.25	1.46	1.10	
6300*	1.66	1.14	1.17	
8000*	1.38	0.96	1.25	n/a
10000*	0.93	0.68	1.48	

Sound Absorption Coefficient



$\alpha_w$  0.75(H)

Class C

Calculated to EN ISO 11654:1997

NRC 0.70

Calculated to ASTM C 423-01

\* Denotes frequencies outside the range covered by BS EN ISO 354:2003

T1, empty room reverberation time  
T2, room reverberation time with sample

# Practical absorption coefficient, BS EN ISO 11654:1997

v4.3

# Acoustic Test Report - Absorption

**Absorption Class:** B

Calculated to EN ISO 11654:1997

**Fabric:** Wool Serge 800

**Fullness:** 50%

**Cavity from Wall:** 100mm



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## Data Sheet 6

See SRL report 24694-SRL-RP-XT-001-P1 for full details

The Laboratory Measurement of Random Incidence Sound Absorption generally to BS EN ISO 354:2003

**Client:** J & C Joel

**Test Date:** 21/08/2020

**Empty Room:** **Temperature:** 21.2 °C **Humidity:** 67 %RH **Pressure:** 994 mbar

**Room with Sample:** **Temperature:** 21.5 °C **Humidity:** 68 %RH **Pressure:** 995 mbar

**Sample Description:** Wool Serge 800 - Single Layer - 50% Fullness (Approx. Weight 800g/m<sup>2</sup>) - 100mm cavity from wall

**Mounting Method:** G - 100

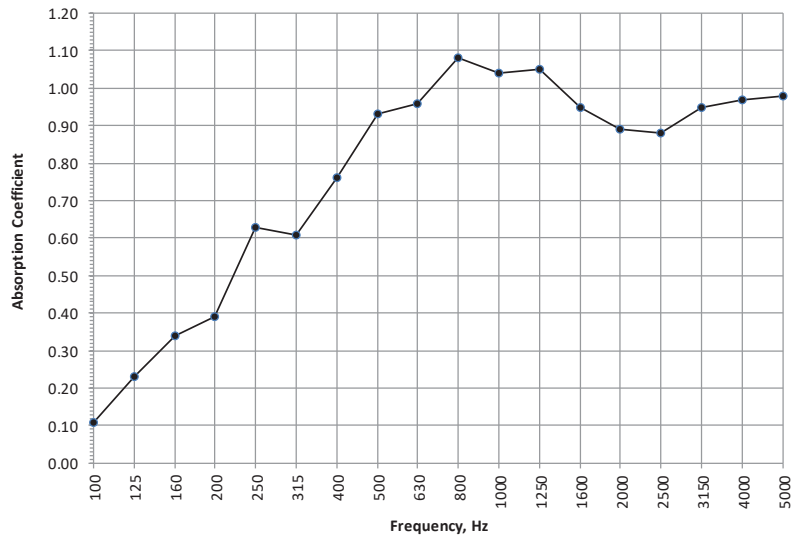
**Sample Area:** 9 m<sup>2</sup>

**Chamber Volume:** 300 m<sup>3</sup>

### Test 7

Freq Hz	T1 sec	T2 sec	Absorp Coeff $\alpha_s$	Practical Absorp Coeff #
50*	4.50	4.61	-0.03	
63*	5.34	4.67	0.14	n/a
80*	7.80	6.69	0.11	
100	7.45	6.45	0.11	
125	7.52	5.68	0.23	0.25
160	6.43	4.56	0.34	
200	7.00	4.64	0.39	
250	6.85	3.80	0.63	0.55
315	6.50	3.73	0.61	
400	6.17	3.28	0.76	
500	5.51	2.81	0.93	0.90
630	4.84	2.59	0.96	
800	5.03	2.50	1.08	
1000	5.39	2.63	1.04	1.00
1250	5.59	2.67	1.05	
1600	5.17	2.70	0.95	
2000	4.85	2.69	0.89	0.90
2500	4.42	2.56	0.88	
3150	3.75	2.26	0.95	
4000	3.16	2.02	0.97	0.95
5000	2.58	1.76	0.98	
6300*	1.92	1.45	0.94	
8000*	1.54	1.20	1.04	n/a
10000*	1.12	0.93	1.06	

### Sound Absorption Coefficient



$\alpha_w$  0.85

Class B

Calculated to EN ISO 11654:1997

NRC 0.85

Calculated to ASTM C 423-01

\* Denotes frequencies outside the range covered by BS EN ISO 354:2003

T1, empty room reverberation time  
T2, room reverberation time with sample

# Practical absorption coefficient, BS EN ISO 11654:1997

v5

# Acoustic Test Report - Absorption

**Absorption Class:** A

Calculated to EN ISO 11654:1997

**Fabric:** Wool Serge 800

**Fullness:** 50%

**Cavity from Wall:** 350mm



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## Data Sheet 21

The Laboratory Measurement of Random Incidence Sound Absorption generally to BS EN ISO 354:2003

**Client:** J & C Joel Ltd

**Test Date:** 20/01/2019

**Empty Room:** **Temperature:** 15.7 °C **Humidity:** 45 %RH **Pressure:** 1007 mbar

**Room with Sample:** **Temperature:** 15.4 °C **Humidity:** 42 %RH **Pressure:** 1009 mbar

**Sample Description:** Wool Serge 800 - Single Layer - 50% fullness (Approx. weight 800g/m2) 350mm cavity from the wall

**Mounting Method:** G - 350

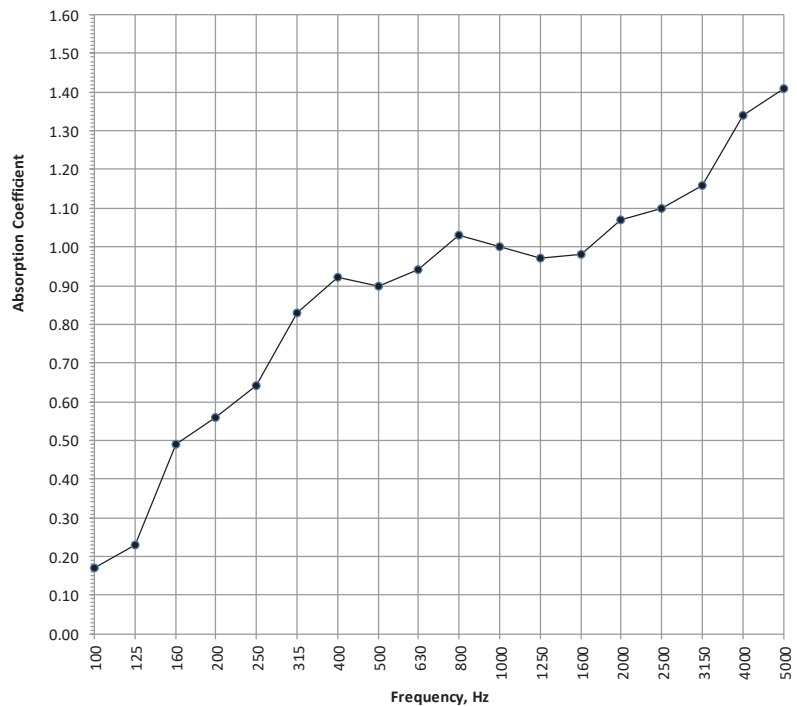
**Sample Area:** 9 m<sup>2</sup>

**Chamber Volume:** 300 m<sup>3</sup>

### Test 23

Freq Hz	T1 sec	T2 sec	Absorp Coeff $\alpha_s$	Practical Absorp Coeff #
50*	4.89	4.50	0.10	
63*	5.29	4.91	0.08	n/a
80*	7.17	5.97	0.15	
100	8.74	6.82	0.17	
125	7.19	5.48	0.23	0.30
160	6.81	4.20	0.49	
200	6.80	3.98	0.56	
250	6.89	3.79	0.64	0.70
315	6.81	3.33	0.83	
400	6.46	3.09	0.92	
500	5.52	2.88	0.90	0.90
630	5.09	2.71	0.94	
800	5.13	2.60	1.03	
1000	5.66	2.76	1.00	1.00
1250	5.45	2.75	0.97	
1600	5.02	2.61	0.98	
2000	4.54	2.37	1.07	1.00
2500	4.01	2.17	1.10	
3150	3.16	1.84	1.16	
4000	2.47	1.49	1.34	1.00
5000	1.89	1.22	1.41	
6300*	1.26	0.90	1.49	
8000*	1.05	0.75	1.75	n/a
10000*	0.75	0.57	1.90	

### Sound Absorption Coefficient



$\alpha_w$  0.95

Class A

Calculated to EN ISO 11654:1997

NRC 0.90

Calculated to ASTM C 423-01

\* Denotes frequencies outside the range covered by BS EN ISO 354:2003

T1, empty room reverberation time

T2, room reverberation time with sample

# Practical absorption coefficient, BS EN ISO 11654:1997

v5

# Acoustic Test Report - Absorption

**Absorption Class:** A

Calculated to EN ISO 11654:1997

**Fabric:** Wool Serge 800

**Fullness:** 100%

**Cavity from Wall:** 100mm



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## Data Sheet 5

See SRL report 24694-SRL-RP-XT-001-P1 for full details

The Laboratory Measurement of Random Incidence Sound Absorption generally to BS EN ISO 354:2003

**Client:** J & C Joel

**Test Date:** 21/08/2020

**Empty Room:** **Temperature:** 21.2 °C **Humidity:** 67 %RH **Pressure:** 994 mbar

**Room with Sample:** **Temperature:** 21.5 °C **Humidity:** 68 %RH **Pressure:** 995 mbar

**Sample Description:** Wool Serge 800 - Single Layer - 100% Fullness (Approx. Weight 800g/m<sup>2</sup>) - 100mm cavity from wall

**Mounting Method:** G - 100

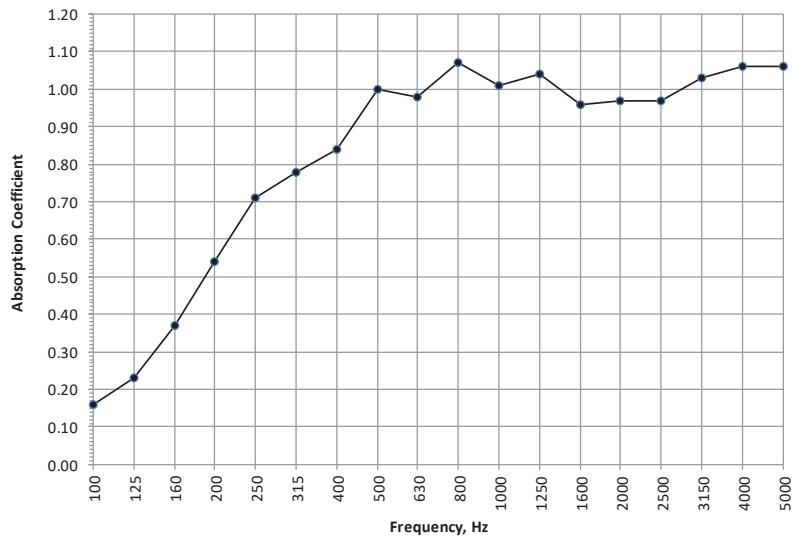
**Sample Area:** 9 m<sup>2</sup>

**Chamber Volume:** 300 m<sup>3</sup>

### Test 6

Freq Hz	T1 sec	T2 sec	Absorp Coeff $\alpha_s$	Practical Absorp Coeff #
50*	4.50	4.55	-0.01	
63*	5.34	4.74	0.13	n/a
80*	7.80	6.43	0.15	
100	7.45	6.11	0.16	
125	7.52	5.66	0.23	0.25
160	6.43	4.45	0.37	
200	7.00	4.12	0.54	
250	6.85	3.59	0.71	0.70
315	6.50	3.35	0.78	
400	6.17	3.13	0.84	
500	5.51	2.72	1.00	0.95
630	4.84	2.56	0.98	
800	5.03	2.51	1.07	
1000	5.39	2.67	1.01	1.00
1250	5.59	2.68	1.04	
1600	5.17	2.68	0.96	
2000	4.85	2.58	0.97	0.95
2500	4.42	2.45	0.97	
3150	3.75	2.18	1.03	
4000	3.16	1.95	1.06	1.00
5000	2.58	1.72	1.06	
6300*	1.92	1.39	1.09	
8000*	1.54	1.20	1.04	n/a
10000*	1.12	0.92	1.12	

### Sound Absorption Coefficient



$\alpha_w$  0.95

Class A

Calculated to EN ISO 11654:1997

NRC 0.90

Calculated to ASTM C423-01

\* Denotes frequencies outside the range covered  
by BS EN ISO 354:2003

T1, empty room reverberation time  
T2, room reverberation time with sample

# Practical absorption coefficient, BS EN ISO 11654:1997

v5

# Acoustic Test Report - Absorption

**Absorption Class:** A

Calculated to EN ISO 11654:1997

**Fabric:** Wool Serge 800

**Fullness:** 100%

**Cavity from Wall:** 350mm



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## Data Sheet 22

The Laboratory Measurement of Random Incidence Sound Absorption generally to BS EN ISO 354:2003

**Client:** J & C Joel Ltd

**Test Date:** 20/01/2019

**Empty Room:** **Temperature:** 15.7 °C **Humidity:** 45 %RH **Pressure:** 1007 mbar

**Room with Sample:** **Temperature:** 15.3 °C **Humidity:** 42 %RH **Pressure:** 1009 mbar

**Sample Description:** Wool Serge 800 - Single Layer - 100% fullness (Approx. weight 800g/m<sup>2</sup>) 350mm cavity from the wall

**Mounting Method:** G - 350

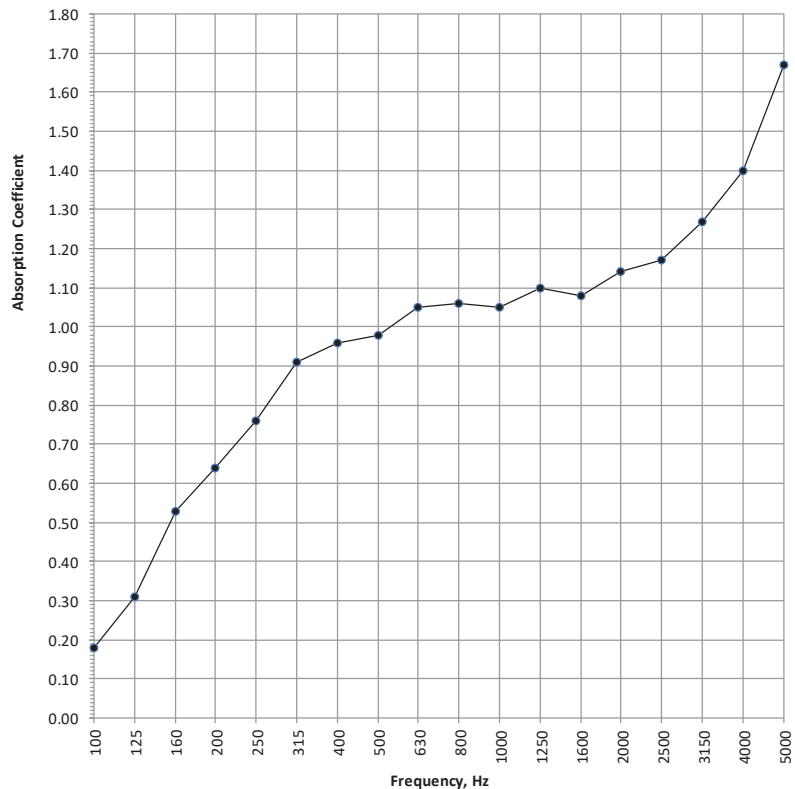
**Sample Area:** 9 m<sup>2</sup>

**Chamber Volume:** 300 m<sup>3</sup>

### Test 24

Freq Hz	T1 sec	T2 sec	Absorp Coeff $\alpha_s$	Practical Absorp Coeff #
50*	4.89	4.55	0.08	
63*	5.29	4.55	0.17	n/a
80*	7.17	6.16	0.12	
100	8.74	6.75	0.18	
125	7.19	5.08	0.31	0.35
160	6.81	4.08	0.53	
200	6.80	3.77	0.64	
250	6.89	3.51	0.76	0.75
315	6.81	3.18	0.91	
400	6.46	3.01	0.96	
500	5.52	2.77	0.98	1.00
630	5.09	2.56	1.05	
800	5.13	2.56	1.06	
1000	5.66	2.69	1.05	1.00
1250	5.45	2.58	1.10	
1600	5.02	2.49	1.08	
2000	4.54	2.30	1.14	1.00
2500	4.01	2.11	1.17	
3150	3.16	1.77	1.27	
4000	2.47	1.46	1.40	1.00
5000	1.89	1.15	1.67	
6300*	1.26	0.86	1.75	
8000*	1.05	0.73	1.93	n/a
10000*	0.75	0.54	2.41	

Sound Absorption Coefficient



$\alpha_w$  1.00

Class A

Calculated to EN ISO 11654:1997

NRC 1.00

Calculated to ASTM C 423-01

\* Denotes frequencies outside the range covered by BS EN ISO 354:2003

T1, empty room reverberation time  
T2, room reverberation time with sample

# Practical absorption coefficient, BS EN ISO 11654:1997

v5