### Acoustics - Sound absorbers for use in buildings

Client:

**Contemporary Acoustic Solutions Ltd** 

Unit D, Halesfield 10

Telford. TF7 4QP

Product Identification:

24mm A72 Melamine foam

Description of Sample:

Wall/Ceiling panel - Bare

Room Volume:

220 m<sup>3</sup> 12.00 m<sup>2</sup> Location: Acoustic Transmission Suite

Sample Size:

Test Room Large reverberation Room

Sample Thickness:

24 mm

Condition: Clean

Sample Out

Temperature Relative Humidity 18.9 °C 51.0 %

Temperature Relative Humidity

Sample In

19.2 °C 51.7 %

Static Pressure

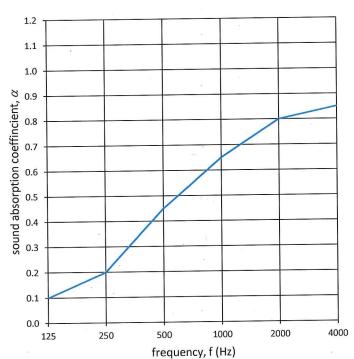
100.2 kPa

Static Pressure

100.2 kPa

# Random Incidence Sound Absorption Coefficient

Frequency [Hz]	$lpha_{\it pi}$
125	0.10
250	0.20
500	0.45
1000	0.65
2000	0.80
4000	0.85



0.45  $\alpha_w =$ 

(H)

Classification: D

Signed:

If a shape indicator is given, it is strongly recommended to use this single-number rating in combination with the complete absorption coefficient curve that can be obtained on request.

Test reference: 2118-2033

Date: 15 October 2015

### Acoustics - Measurement of absorption in a reverberation room

Client:

**Contemporary Acoustic Solutions Ltd** 

Unit D, Halesfield 10 Telford. TF7 4QP

Product Identification:

51mm Cara Melamine foam

Description of Sample:

Wall/Ceiling panel

Room Volume: Sample Size:

220 m<sup>3</sup> 11.98 m<sup>2</sup> Location: Acoustic Transmission Suite Test Room Large reverberation Room

Sample Thickness:

52 mm

Condition: Clean

Sample Out

Temperature 18.9 °C Relative Humidity 51.0 %

Sample In
Temperature

19.2 °C 52.0 %

Relative Humidity Static Pressure

100.2 kPa

Relative Humidity
Static Pressure

100.2 kPa

### **Random Incidence Sound Absorption Coefficient**

Frequency	$T_1$	$T_2$	α.
[Hz]	[s] -	[s]	$\alpha_{S}$
100	4.12	3.20	0.20
125	4.64	3.25	0.27
160	3.68	2.62	0.33
200	3.62	2.29	0.48
250	3.79	2.15	0.60
315	4.16	2.03	0.75
400	4.25	1.89	0.88
500	4.50	1.90	0.90
630	4.51	1.84	0.96
800	4.50	1.81	0.98
1000	4.41	1.79	0.98
1250	4.17	1.77	0.96
1600	3.92	1.69	0.99
2000	3.60	1.65	0.98
2500	3.21	1.57	0.97
3150	2.73	1.45	0.96
4000	2.28	1.31	0.98
5000	1.80	1.14	0.97

Test reference: 2118-2034

Date: 15 October 2015

#### Acoustics - Measurement of absorption in a reverberation room

Client:

**Contemporary Acoustic Solutions Ltd** 

Unit D, Halesfield 10

Telford. TF7 4QP

Product Identification:

51mm Cara Melamine foam

Description of Sample:

Wall/Ceiling panel

Room Volume: Sample Size:

220 m³ 11.98 m<sup>2</sup> Location: Acoustic Transmission Suite Test Room Large reverberation Room

Sample Thickness:

52 mm

Condition: Clean

Sample Out

Temperature Relative Humidity 18.9 °C 51.0 %

Temperature Relative Humidity

Sample In

19.2 °C 52.0 %

Static Pressure

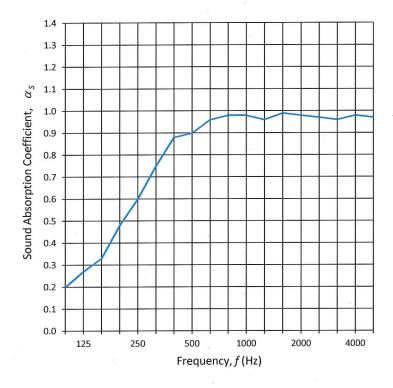
100.2 kPa

Static Pressure

100.2 kPa

#### **Random Incidence Sound Absorption Coefficient**

Frequency	$\alpha_{S}$
[Hz]	
100	0.20
125	0.27
160	0.33
200	0.48
250	0.60
315	0.75
400	0.88
500	0.90
630	0.96
800	0.98
1000	0.98
1250	0.96
1600	0.99
2000	0.98
2500	0.97
3150	0.96
4000	0.98
5000	0.97



Signed:

Test reference: 2118-2034

Date: 15 October 2015

### Acoustics - Sound absorbers for use in buildings

Client:

**Contemporary Acoustic Solutions Ltd** 

Unit D, Halesfield 10

Telford. TF7 4QP

Product Identification:

51mm Cara Melamine foam

Description of Sample:

Wall/Ceiling panel

Room Volume: Sample Size:

220 m<sup>3</sup> 11.98 m<sup>2</sup> Location: Acoustic Transmission Suite Test Room Large reverberation Room

Sample Thickness:

52 mm

Condition: Clean

Sample Out Temperature

18.9 °C 51.0 %

Sample In Temperature Relative Humidity

19.2 °C 52.0 %

Relative Humidity Static Pressure

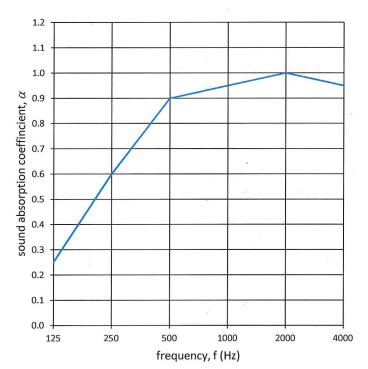
100.2 kPa

Static Pressure

100.2 kPa

### Random Incidence Sound Absorption Coefficient

Frequency	$\alpha_{pi}$
[Hz]	э рі
125	0.25
250	0.60
500	0.90
1000	0.95
2000	1.00
4000	0.95



 $\alpha_w =$ 0.90

Test reference: 2118-2034

Classification: A

Date: 15 October 2015

# Acoustics - Measurement of absorption in a reverberation room

Client:

**Contemporary Acoustic Solutions Ltd** 

Unit D, Halesfield 10

Telford. TF7 4QP

Product Identification:

58mm A72 Melamine foam

Description of Sample:

Wall/Ceiling panel - Bare

Room Volume:

220 m<sup>3</sup> 12.02 m<sup>2</sup> Location: Acoustic Transmission Suite

Sample Size:

Test Room Large reverberation Room

Sample Thickness:

58 mm

Condition: Clean

Sample Out

18.9 °C Temperature 51.0 %

Sample In Temperature

19.1 °C 49.8 %

Relative Humidity Static Pressure

100.2 kPa

Relative Humidity Static Pressure

100.2 kPa

# Random Incidence Sound Absorption Coefficient

Frequency	$T_1$	$T_2$	$\alpha_{S}$
[Hz]	[s]	[s]	° 3
100	4.12	3.16	0.22
125	4.64	3.06	0.32
160	3.68	2.57	0.35
200	3.62	2.24	0.51
250	3.79	2.04	0.67
315	4.16	1.92	0.83
400	4.25	1.83	0.92
500	4.50	1.89	0.91
630	4.51	1.87	0.93
800	4.50	1.87	0.92
1000	4.41	1.88	0.91
1250	4.17	1.86	0.88
1600	3.92	1.76	0.92
2000	3.60	1.70	0.92
2500	3.21	1.57	0.96
3150	2.73	1.44	0.97
4000	2.28	1.30	0.97
5000	1.80	1.13	0.96

Test reference: 2118-2030

University of Salford, School of Computing Science & Engineering

# Acoustics - Measurement of absorption in a reverberation room

Client:

**Contemporary Acoustic Solutions Ltd** 

Unit D, Halesfield 10 Telford. TF7 4QP

Product Identification:

58mm A72 Melamine foam

Description of Sample:

Wall/Ceiling panel - Bare

Room Volume:

220 m<sup>3</sup> 12.02 m<sup>2</sup> Location: Acoustic Transmission Suite

Sample Size: Sample Thickness:

Test Room Large reverberation Room

Condition: Clean 58 mm

Sample Out

Temperature Relative Humidity 18.9 °C 51.0 %

Temperature Relative Humidity

Sample In

19.1 °C 49.8 %

Static Pressure

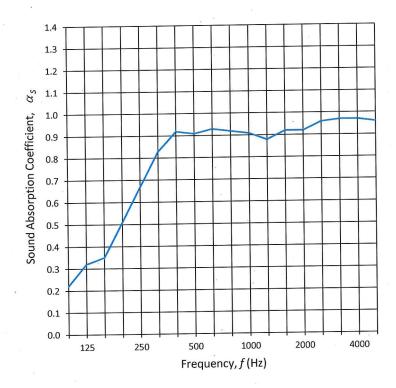
100.2 kPa

Static Pressure

100.2 kPa

# Random Incidence Sound Absorption Coefficient

	X.
Frequency	$\alpha_{s}$
[Hz]	5 3
100	0.22
125	0.32
160	0.35
. 200	0.51
250	0.67
315	0.83
400	0.92
500	0.91
630	0.93
800	0.92
1000	0.91
1250	0.88
1600	0.92
2000	0.92
2500	0.96
3150	0.97
4000	0.97
5000	0.96



Signed:

Test reference: 2118-2030

Date: 15 October 2015

### Acoustics - Sound absorbers for use in buildings

Client:

Contemporary Acoustic Solutions Ltd

Unit D, Halesfield 10

Telford. TF7 4QP

Product Identification:

58mm A72 Melamine foam

Description of Sample:

Wall/Ceiling panel - Bare

Room Volume: Sample Size:

220 m<sup>3</sup> 12.02 m<sup>2</sup> Location: Acoustic Transmission Suite

Test Room Large reverberation Room

Sample Thickness:

58 mm

Condition: Clean

Sample Out

Temperature

Sample In 18.9 °C Temperature

19.1 °C

Relative Humidity Static Pressure

51.0 %

Relative Humidity Static Pressure

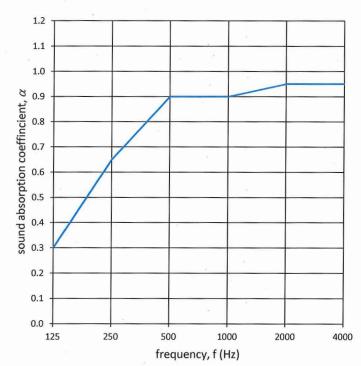
49.8 %

100.2 kPa

100.2 kPa

### Random Incidence Sound Absorption Coefficient

Frequency [Hz]	$\alpha_{\it pi}$
125	0.30
250	0.65
500	0.90
1000	0.90
2000	0.95
4000	0.95



 $\alpha_w =$ 0.90

Classification: A

Test reference: 2118-2030

Date: 15 October 2015

### Acoustics - Measurement of absorption in a reverberation room

Client:

**Contemporary Acoustic Solutions Ltd** 

Unit D, Halesfield 10

Telford. TF7 4QP

Product Identification:

74mm A72 Melamine foam

Description of Sample:

Wall/Ceiling panel - Bare

Room Volume:

220 m<sup>3</sup> 12.00 m<sup>2</sup> Location: Acoustic Transmission Suite

Sample Size: Sample Thickness:

74 mm

Test Room Large reverberation Room

Condition: Clean

Sample Out
Temperature

18.9 °C

Sample In Temperature

19.1 °C 50.6 %

Relative Humidity Static Pressure 51.0 % 100.2 kPa Relative Humidity Static Pressure

100.2 kPa

### **Random Incidence Sound Absorption Coefficient**

Frequency	$\overline{T}_1$	$T_2$	α-
[Hz]	[s]	[s]	$\alpha_{S}$
100	4.12	2.95	0.28
125	4.64	2.97	0.36
160	3.68	2.36	0.45
200	3.62	1.96	0.69
250	3.79	1.76	0.90
315	4.16	1.73	1.00
400	4.25	1.73	1.02
500	4.50	1.81	0.98
630	4.51	1.82	0.98
800	4.50	1.84	0.95
1000	4.41	1.85	0.93
1250	4.17	1.80	0.93
1600	3.92	1.72	0.97
2000	3.60	1.68	0.93
2500	3.21	1.57	0.96
3150	2.73	1.43	0.98
4000	2.28	1.31	0.97
5000	1.80	1.13	0.98

Test reference: 2118-2031

University of Salford, School of Computing Science & Engineering

# Acoustics - Measurement of absorption in a reverberation room

Client:

**Contemporary Acoustic Solutions Ltd** 

Unit D, Halesfield 10

Telford. TF7 4QP

Product Identification:

74mm A72 Melamine foam

Description of Sample:

Wall/Ceiling panel - Bare

Room Volume:

220 m<sup>3</sup>

Location: Acoustic Transmission Suite

Sample Size:

12.00 m<sup>2</sup>

Test Room Large reverberation Room

Sample Thickness:

74 mm

Condition: Clean

Sample Out

Temperature
Relative Humidity

Sample In 18.9 °C Temperatu

Temperature
Relative Humidity

19.1 °C 50.6 %

Static Pressure

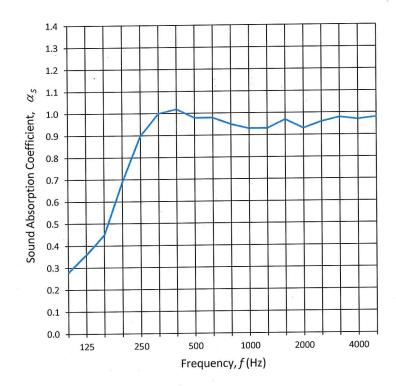
51.0 % 100.2 kPa

Static Pressure

100.2 kPa

# Random Incidence Sound Absorption Coefficient

Frequency [Hz]	$\alpha_{S}$
100	0.28
125	0.36
160	0.45
200	0.69
250	0.90
315	1.00
400	1.02
500	0.98
630	0.98
800	0.95
1000	0.93
1250	0.93
1600	0.97
2000	0.93
2500	0.96
3150	0.98
4000	0.97
5000	0.98



Signed:

Date: 15 October 2015

Test reference: 2118-2031

#### Acoustics - Sound absorbers for use in buildings

Client:

**Contemporary Acoustic Solutions Ltd** 

Unit D, Halesfield 10

Telford. TF7 4QP

Product Identification:

74mm A72 Melamine foam

Description of Sample:

Wall/Ceiling panel - Bare

Room Volume: Sample Size:

220 m<sup>3</sup> 12.00 m<sup>2</sup> Location: Acoustic Transmission Suite

Test Room Large reverberation Room

Sample Thickness:

74 mm

Condition: Clean

Sample Out Temperature

18.9 °C

Sample In Temperature

19.1 °C 50.6 %

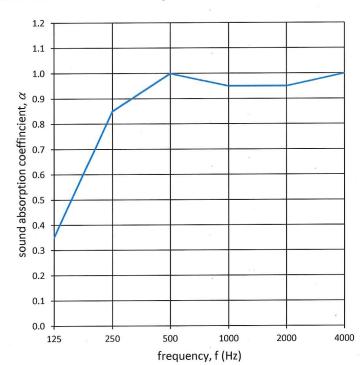
Relative Humidity Static Pressure

51.0 % 100.2 kPa Relative Humidity Static Pressure

100.2 kPa

#### Random Incidence Sound Absorption Coefficient

Frequency [Hz]	$lpha_{\it pi}$
125	0.35
250	0.85
500	1.00
/1000	0.95
2000	0.95
4000	1.00



1.00

Test reference: 2118-2031

Classification: A

Date: 15 October 2015

# Acoustics - Measurement of absorption in a reverberation room

Client:

**Contemporary Acoustic Solutions Ltd** 

Unit D, Halesfield 10 Telford. TF7 4QP

Product Identification:

100mm A72 Melamine foam

Description of Sample:

Wall/Ceiling panel - Bare

Room Volume: Sample Size:

220 m<sup>3</sup> 12.01 m<sup>2</sup> Location: Acoustic Transmission Suite Test Room Large reverberation Room

Sample Thickness:

100 mm

Condition: Clean

Sample Out Temperature

18.9 °C

Sample In Temperature

19.1 °C 51.5 %

Relative Humidity Static Pressure

51.0 % 100.2 kPa Relative Humidity Static Pressure

100.2 kPa

# **Random Incidence Sound Absorption Coefficient**

Frequency	$T_1$	$T_2$	$\alpha_{S}$
[Hz]	[s]	[s]	45
100	4.12	2.72	0.37
125	4.64	2.68	0.47
160	3.68	2.05	0.64
200	3.62	1.67	0.96
250	3.79	1.55	1.13
315	4.16	1.58	1.16
400	4.25	1.63	1.12
500	4.50	1.71	1.07
630 ,	4.51	1.79	1.00
800	4.50	1.77	1.02
1000	4.41	1.75	1.02
1250	4.17	1.75	0.98
1600	3.92	1.69	0.99
2000	3.60	1.63	0.99
2500	3.21	1.56	0.97
3150	2.73	1.43	0.98
4000	2.28	1.30	0.99
5000	1.80	1.14	0.96

Test reference: 2118-2032

University of Salford, School of Computing Science & Engineering

# Acoustics - Measurement of absorption in a reverberation room

Client:

**Contemporary Acoustic Solutions Ltd** 

Unit D, Halesfield 10

Telford. TF7 4QP

Product Identification:

100mm A72 Melamine foam

Description of Sample:

Wall/Ceiling panel - Bare

Room Volume:

220 m<sup>3</sup>

Location: Acoustic Transmission Suite

Sample Size:

12.01 m<sup>2</sup>

Test Room Large reverberation Room

Sample Thickness:

100 mm

Condition: Clean

Sample Out

Temperature

18.9 °C

Temperature Relative Humidity

Sample In

19.1 °C 51.5 %

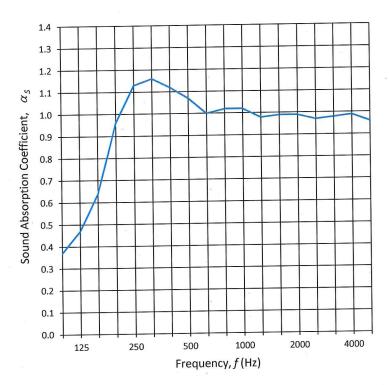
Relative Humidity Static Pressure 51.0 % 100.2 kPa

Static Pressure

100.2 kPa

# Random Incidence Sound Absorption Coefficient

Frequency	$\alpha_{S}$
[Hz]	۵,2
100	0.37
125	0.47
160	0.64
200	0.96
250	1.13
315	1.16
400	1.12
500	1.07
630	1.00
800	1.02
1000	1.02
1250	0.98
1600	0.99
2000	0.99
2500	0.97
3150	0.98
4000	0.99
5000	0.96



Signed:

Date: 15 October 2015

Test reference: 2118-2032

# Acoustics - Sound absorbers for use in buildings

Client:

**Contemporary Acoustic Solutions Ltd** 

Unit D, Halesfield 10 Telford. TF7 4QP

Product Identification:

100mm A72 Melamine foam

Description of Sample:

Wall/Ceiling panel - Bare

Room Volume: Sample Size:

220 m<sup>3</sup> 12.01 m<sup>2</sup> Location: Acoustic Transmission Suite

Sample Thickness:

Test Room Large reverberation Room

100 mm

Condition: Clean

Sample Out

18.9 °C Temperature 51.0 % Relative Humidity

Temperature Relative Humidity

Sample In

19.1 °C 51.5 %

Static Pressure

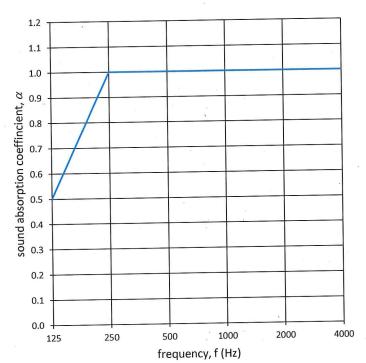
100.2 kPa

Static Pressure

100.2 kPa

# Random Incidence Sound Absorption Coefficient

Frequency [Hz]	$lpha_{\it pi}$
125	0.50
250	1.00
500	1.00
1000	1.00
2000	1.00
4000	1.00



1.00

Classification: A

Date: 15 October 2015

Test reference: 2118-2032

# Acoustics - Measurement of absorption in a reverberation room

Client:

**Contemporary Acoustic Solutions Ltd** 

Unit D, Halesfield 10 Telford. TF7 4QP

Product Identification:

24mm A72 Melamine foam

Description of Sample:

Wall/Ceiling panel - Bare

Room Volume:

220 m<sup>3</sup> 12.00 m<sup>2</sup> Location: Acoustic Transmission Suite

Sample Size: Sample Thickness:

24 mm

Test Room Large reverberation Room

Condition: Clean

Sample Out
Temperature

18.9 °C 51.0 % Sample In
Temperature

19.2 °C 51.7 %

Relative Humidity
Static Pressure

100.2 kPa

Relative Humidity Static Pressure

100.2 kPa

# Random Incidence Sound Absorption Coefficient

Frequency	$T_1$	$T_2$	$\alpha_{S}$
[Hz]	[s]	[s]	
100	4.12	3.74	0.07
125	4.64	3.91	0.12
160	3.68	3.32	0.09
200	3.62	3.06	0.15
250	3.79	3.09	0.18
315	4.16	2.94	0.29
400	4.25	2.72	0.39
500	4.50	2.67	0.45
630	4.51	2.47	0.54
800	4.50	2.33	0.62
1000	4.41	2.21	0.67
1250	4.17	2.05	0.73
1600	3.92	1.93	0.78
2000	3.60	1.85	0.78
2500	3.21	1.71	0.81
3150	2.73	1.56	0.82
4000	2.28	1.38	0.86
5000	1.80	1.20	0.83

Test reference: 2118-2033

University of Salford, School of Computing Science & Engineering

## BS EN ISO 354:2003 Acoustics - Measurement of absorption in a reverberation room

Client:

**Contemporary Acoustic Solutions Ltd** 

Unit D, Halesfield 10

Telford. TF7 4QP

Product Identification:

24mm A72 Melamine foam

Description of Sample:

Wall/Ceiling panel - Bare

Room Volume:

220 m<sup>3</sup>

Location: Acoustic Transmission Suite

Sample Size:

12.00 m<sup>2</sup>

Test Room Large reverberation Room

Sample Thickness:

24 mm

Condition: Clean

Sample Out

Temperature
Relative Humidity

18.9 °C 51.0 % Temperature
Relative Humidity

Sample In

19.2 °C 51.7 %

Static Pressure

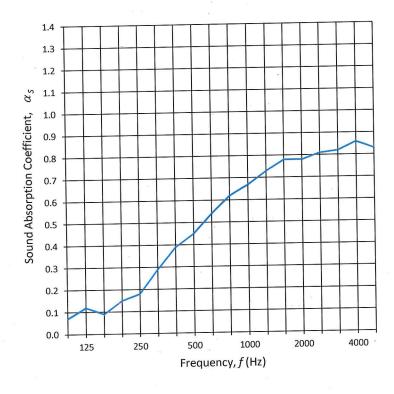
100.2 kPa

Static Pressure

100.2 kPa

# Random Incidence Sound Absorption Coefficient

Frequency [Hz]	$\alpha_{S}$
100	0.07
125	0.12
160	0.09
200	0.15
250	0.18
315	0.29
400	0.39
500	0.45
630	0.54
. 800	0.62
1000	0.67
1250	0.73
1600	0.78
2000	0.78
2500	0.81
3150	0.82
4000	0.86
5000	0.83



Signed:

Date: 15 October 2015

Test reference: 2118-2033

### Acoustics - Measurement of absorption in a reverberation room

Client:

**Contemporary Acoustic Solutions Ltd** 

Unit D, Halesfield 10

Telford. TF7 4QP

Product Identification:

62mm Cara Melamine foam

Description of Sample:

Wall/Ceiling panel

Room Volume:

220 m³

Location: Acoustic Transmission Suite

Sample Size:

11.97 m²

Test Room Large reverberation Room

Sample Thickness:

62 mm

Condition: Clean

Sample Out

18.9 °C

Sample In
Temperature

19.2 °C

Temperature Relative Humidity Static Pressure

51.0 % 100.2 kPa

Relative Humidity
Static Pressure

52.1 % 100.2 kPa

### **Random Incidence Sound Absorption Coefficient**

Frequency	$T_1$	$T_2$	α .
[Hz]	[s]	[s]	$\alpha_{S}$
100	4.12	3.14	0.23
125	4.64	3.13	0.31
160	3.68	2.42	0.42
200	3.62	2.11	0.59
250	3.79	1.88	0.79
315	4.16	1.84	0.90
400	4.25	1.79	0.96
500	4.50	1.82	0.97
630	4.51	1.82	0.98
800	4.50	1.84	0.95
1000	4.41	1.85	0.94
1250	4.17	1.82	0.92
1600	3.92	1.75	0.94
2000	3.60	1.69	0.93
2500	3.21	1.60	0.94
3150	2.73	1.45	0.96
4000	2.28	1.31	0.99
5000	1.80	1.15	0.95

Test reference: 2118-2035

Date: 15 October 2015

#### Acoustics - Measurement of absorption in a reverberation room

Client:

**Contemporary Acoustic Solutions Ltd** 

Unit D, Halesfield 10

Telford. TF7 4QP

Product Identification:

62mm Cara Melamine foam

Description of Sample:

Wall/Ceiling panel

Room Volume:

220 m³

Location: Acoustic Transmission Suite

Sample Size:

11.97 m<sup>2</sup>

Test Room Large reverberation Room

Sample Thickness: 62 mm

Condition: Clean

Sample Out Temperature

18.9 °C

Sample In
Temperature

19.2 °C

Relative Humidity

51.0 %

Relative Humidity

52.1 %

Static Pressure

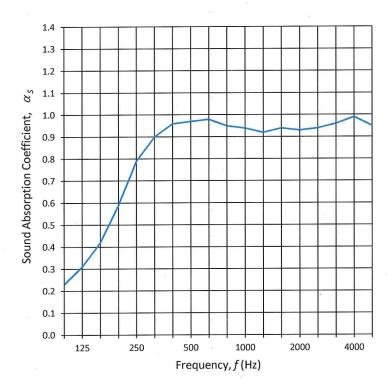
100.2 kPa

Static Pressure

100.2 kPa

### **Random Incidence Sound Absorption Coefficient**

Frequency [Hz]  100 0.23  125 0.31  160 0.42  200 0.59  250 0.79  315 0.90  400 0.96  500 0.97  630 0.98  800 0.95		
100 0.23 125 0.31 160 0.42 200 0.59 250 0.79 315 0.90 400 0.96 500 0.97 630 0.98 800 0.95		$\alpha_{S}$
125 0.31 160 0.42 200 0.59 250 0.79 315 0.90 400 0.96 500 0.97 630 0.98 800 0.95	[Hz]	
160 0.42 200 0.59 250 0.79 315 0.90 400 0.96 500 0.97 630 0.98 800 0.95	100	0.23
200 0.59 250 0.79 315 0.90 400 0.96 500 0.97 630 0.98 800 0.95	. 125	0.31
250 0.79 315 0.90 400 0.96 500 0.97 630 0.98 800 0.95	160	0.42
315 0.90 400 0.96 500 0.97 630 0.98 800 0.95	200	0.59
400 0.96 500 0.97 630 0.98 800 0.95	250	0.79
500 0.97 630 0.98 800 0.95	315	0.90
630 0.98 800 0.95	400	0.96
800 0.95	500	0.97
000 0.00	630	0.98
1000 0.01	800	0.95
1000 0.94	1000	0.94
1250 0.92	1250	0.92
1600 0.94	1600	0.94
2000 0.93	2000	0.93
2500 0.94	2500	0.94
3150 0.96	3150	0.96
4000 0.99	4000	0.99
5000 0.95	5000	0.95



Signed:

Date: 15 October 2015

Test reference: 2118-2035

### Acoustics - Sound absorbers for use in buildings

Client:

**Contemporary Acoustic Solutions Ltd** 

Unit D, Halesfield 10

Telford. TF7 4QP

Product Identification:

62mm Cara Melamine foam

Description of Sample:

Wall/Ceiling panel

Room Volume: Sample Size:

220 m<sup>3</sup> 11.97 m<sup>2</sup> Location: Acoustic Transmission Suite

Sample Thickness:

62 mm

Test Room Large reverberation Room

Condition: Clean

Sample Out Temperature

18.9 °C 51.0 %

Sample In Temperature

19.2 °C 52.1 %

Relative Humidity Static Pressure

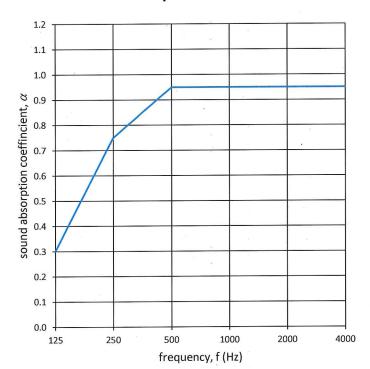
100.2 kPa

Relative Humidity Static Pressure

100.2 kPa

### **Random Incidence Sound Absorption Coefficient**

Frequency [Hz]	$lpha_{\it pi}$
125	0.30
250	0.75
500	0.95
1000	0.95
2000	0.95
4000	0.95



 $\alpha_w =$ 0.95

Test reference: 2118-2035

Classification: A

Date: 15 October 2015