

# Coloured Wool Serge

Perfect For: Masking • Decorative/Scenic • Film & TV • Stage • Acoustics



**J&C Joel** 

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the inspiration behind the performance

# Contents

## Composition & Care

150 cm 3

## Fire Certificate

BS5867 Part 2 Type B 4

IMO 8

## Acoustic Test Report

50% Fullness 13

100% Fullness 15

## TECHNICAL



NDFR

### Non Durably Flame Retardant

chemically treated with a water solution and if wetted in any way should be retreated



DFR

### Durably Flame Retardant

chemically treated to withstand a number of cleanings



IFR

### Inherently Flame Retardant

woven from fibres with a high flame retardancy



FR

### Flame Retardant

chemically treated to an individual specification



NOT FR

**Not Flame Retardant** no flame retardant treatment



Confirmation that the fabric meets one or more flame retardant standards

**BS5867** BS5867 Pt2 B is the British Standard for flame retardant fabrics used for curtains and drapes

**BS5852** BS5852 Pt1 is the British Standard for flammability of upholstered composites for seating

**BS4790** BS4790: 1987 Determination of the effects of a small source of ignition on textile floor coverings hot metal nut method (method 1, loose laid)

**EN13773: 2003** Meets European fire safety standards for vertically hung fabrics. Burning behavior, ignitability testing of curtain fabric for use in the contract market.

**TL 1080-0002/8** German Military Specification for horizontally tested materials

**EN14041** Details the requirement for CE Marking of textiles, laminate and resilient floor coverings

**BS7905-1:2001** Lifting equipment for performance, broadcast and similar applications.

## ATTRIBUTES



Approx roll length of material in linear metres (m) & feet (ft)



Approx width of material in centimetres (cm) & inches (")



Approx weight in grams per metre squared (g/m<sup>2</sup>)



Approx thickness in (mm)

**M1, M2, M4** Conforms to French Fire Regulations

**B1, B2** Conforms to German Fire Regulations DIN 4102

**IMO** Conforms to International Maritime Organisation regulations

**Classe Uno** Meets Italian Fire Regulations

**BS EN13501-1** Fire Classification of construction, products and building elements. Classification using test data from reaction to fire tests

**CFC EN ISO 9239-1** Reaction to fire test. Horizontal surface spread of flame on floor covering system. Determination of the burning behaviour using a retardant heat source

**NFPA 701** NFPA 701: (USA) Standard Methods of Fire Tests for Flame Propagation of Textiles and Films






**EN9239-1** Reaction to fire tests – horizontal surface spread of flame on floor covering systems

**DIN EN1021** Meets European fire safety standards for exposure to different ignition sources, namely a lit cigarette and butane flame. Assessment of the ignitability of upholstered furniture

# Datasheet - Fabrics & Flooring

## Coloured Wool Serge

To ensure you get the best from the product supplied to you, we advise you follow the care instructions within this datasheet.

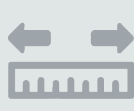
Fabric	Flame Retardancy	IFR
	Fire Certification	BS5867, IMO
	Brand Name (and Manufacturer)	J&C Joel Ltd.
	Material (Blending Ratio)	Blend of Wool (100% Wool), and Recycled Wool (95% Wool, 5% Nylon & Other Fibres)
	Construction of Fabric	Plain Weave • Yarn Count: Medium • Ends/Picks: High Density
	Method of Dying	Batch Dyed. Min 2 rolls, Max 4 rolls, per batch.
Chemicals	Brand Name of Flame Retardant Chemicals	N/A
	Chemical name of Flame Retardant Chemicals	N/A
	Process of Flame Retardant Chemicals	N/A
Care	Information	<p>Inherently Flame Retardant to BS5867 Part 2 Type B and IMO. This means that the man-made fibres are flame retardant for life and if wet, would not need to be re-flameproofed. Therefore, the cloth will withstand wet cleaning but we would advise and suggest professional dry cleaning only, using the correct chemical process.</p> <p>Notwithstanding the aforementioned, it would be our advice to only dry clean this material periodically. We would suggest that the curtain be soft-brushed on a regular basis and periodically cleaned using a vacuum and drapery attachment.</p> <p>This fabric is not pre-shrunk.</p>
	Laundering Treatment	<div>      </div> <div> Dry Clean Only Do Not Wash Do Not Bleach Do Not Iron Do Not Tumble Dry </div>
Other Finishes		Pressed, Blown Finish
Notes		



Fire Rating:  
IFR



Approx Roll Length:  
57m / 187ft



Width:  
150cm / 59"



Weight:  
500 g/m<sup>2</sup>



Fire Certification:  
BS5867, IMO



Colours  
Available



Fabric Thickness:  
\*1.70mm

\*FABRIC THICKNESS Measured in-house with digital callipers, not under laboratory conditions.

For further information please contact our sales team [sales@jcjoel.com](mailto:sales@jcjoel.com)



## Fire Test Certificate – Specimen

**Fabric:** Coloured Wool Serge  
**Type:** BS5867 Part 2 Type B

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Website: [www.bttg.co.uk](http://www.bttg.co.uk)

Date: 27 June 2019

Our Ref: 56524-1  
Your Ref: 57074

Page: 1 of 4

Client: J. & C. Joel Limited  
Corporation Mill  
Corporation Street  
Sowerby Bridge  
Halifax  
HX6 2QQ

Job Title: Surface Ignition Of Curtains & Drapes

Client's Order No: 57074

Date of Receipt: 18 June 2019

Date of Test Start: 26 June 2019

Description of Sample(s): One sample identified as follows was received for testing:

Coloured Wool Serge IFR, stated to be 100% wool

Work Requested: We were asked to make the following test:

BS 5867: Part 2: 2008 (2015): Type B Curtains, Drapes and Blinds



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# Fire Test Certificate – Specimen

**Fabric:** Coloured Wool Serge  
**Type:** BS5867 Part 2 Type B

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Date: 27 June 2019

Our Ref: 56524-1  
Your Ref: 57074

Page: 2 of 4

J. & C. Joel Limited

Sample was identified as follows:

Coloured Wool Serge IFR, stated to be 100% wool

BS 5867: Part 2: 2008 (2015): Type B Curtains, Drapes and Blinds  
Testing as received.

Three specimens from both length and width were tested in accordance with BS EN ISO 15025: Procedure A (surface ignition): 2002. The sample was tested at 21°C and 44 % relative humidity (R.H.).

Each specimen was subjected to an applied flame using butane and a 15 second flame application time. The results obtained (shown in the table below) were assessed according to the requirements of BS 5867: Part 2: 2008 (2015).

#### Pre-treatment


If the fabric is a pass in the 'as received' condition then the fabric is subjected a water soak procedure as specified in BS EN 1021: Annex D: 2006.


#### Testing after pre-treatment

Three specimens, after pre-treatment, from both length and width were tested following the procedure described above.

Test results relate only to the sample tested.

The results for all tests are given in the table(s) on the following page(s).

Reported by:   
B Bland  
Laboratory Technician

Countersigned By:   
P Doherty  
Manager

Enquiries concerning this report should be addressed to Customer Services.



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# Fire Test Certificate – Specimen

**Fabric:** Coloured Wool Serge  
**Type:** BS5867 Part 2 Type B

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Date: 27 June 2019

Our Ref: 56524-1  
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Page: 3 of 4

J. & C. Joel Limited

## RESULTS

Sample Ref: Coloured Wool Serge IFR, stated to be 100% wool

### BS 5867: Part 2: 2008 (2015): Type B Curtains, Drapes and Blinds

#### Testing as Received

Specimen No.	Length			Width		
	1	2	3	4	5	6
Flame reached an edge	No	No	No	No	No	No
Hole reached an edge	No	No	No	No	No	No
Flaming debris separated	No	No	No	No	No	No

#### Requirements

Any "Yes" means fail except if only one specimen fails a further 6 specimens are tested, if the second 6 specimens all pass the result is a pass.

Result in 'as received': Pass

#### Testing after pre-treatment

Specimen No.	Length			Width		
	1	2	3	4	5	6
Flame reached an edge	No	No	No	No	No	No
Hole reached an edge	No	No	No	No	No	No
Flaming debris separated	No	No	No	No	No	No

#### Requirements

Any "Yes" means fail except if only one specimen fails a further 6 specimens are tested, if the second 6 specimens all pass the result is a pass.

Result in 'after pre-treatment': Pass



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**Type:** BS5867 Part 2 Type B

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J. & C. Joel Limited

### Conclusion

The fabric meets the Type B performance requirements of BS 5867: Part 2: 2008 (2015).

This material should be identified with the manufacturers name, trademark or other identifying mark, the statement 'Flammability complies with the requirements of BS 5867: Part 2: Type B and instructions of any special precautions to be taken concerning care (including cleansing) of the curtain, drape or window blind to be manufactured from the fabric, preferably using an appropriate care labelling symbol in accordance with BS EN 23758 and taking account of the pre-treatment using in this test and the requirements of Clause 4 of BS 5867: Part 2: 2008 (2015). If the fabric is unsuitable for cleansing, this shall be stated.

### Uncertainty Budget

There is no uncertainty budget associated with BS 5867: Part 2: Type B as no measurements are determined, the pass/fail criteria is assessed visually.



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## Fire Test Certificate – Specimen

**Fabric:** Coloured Wool Serge  
**Type:** IMO

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Date: 16 July 2019  
Our Ref: 56603-2  
Your Ref: -  
Page: 1 of 5

Client: J. & C. Joel Limited  
Corporation Mill  
Corporation Street  
Sowerby Bridge  
Halifax  
HX6 2QQ

Job Title: Fire Test on One Sample of Fabric

Client's Order No: 57375

Date of Receipt: 7 July 2019

Description of Sample(s): One sample of fabric, referenced;  
Coloured Wool Serge IFR

Work Requested: We were asked to make the following test(s):  
IMO FTP Code 2010 Part 7

\* subcontracted test, UKAS accredited  
\*\* subcontracted test, EN ISO/IEC 17025 accredited  
\*\*\* not UKAS accredited



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# Fire Test Certificate – Specimen

**Fabric:** Coloured Wool Serge  
**Type:** IMO

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TESTING • CERTIFICATION • AUDITING

Client: J. & C. Joel Limited

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Date: 16 July 2019

Our Ref: 56603-2

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## Product Description

Company Name	J. & C. Joel Ltd
Type of Material, i.e. Curtain, Drape, etc.	Curtain/Draperies Fabrics
Name and/or Identification of the Product Tested	Coloured Wool Serge
Mass per Unit Area (g/m <sup>2</sup> )	Approx. 500g/m <sup>2</sup>
Thickness (mm)	2mm
Colour and Tone (i)	Red/Wine
Quantity and Number of Any Coating	None
Method and Quantity of Fire Retardant Treatment	IFR
Materials of the Product and its Composite Ratio (ii)	90% wool, 10% OF
Composition of Weave (iii)	Twill
Density (Number/Inch) the Number of Threads per Inch in both warp and weft; and	Not supplied by client
Yarn Number Count	Not supplied by client

(i) If the product has a pattern, the representative colour shall be described.

(ii) Such as wool, nylon, polyester, etc.

(iii) Such as plain, weave, twilled;



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# Fire Test Certificate – Specimen

**Fabric:** Coloured Wool Serge  
**Type:** IMO

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## FIRE TESTS ACCORDING to IMO FTP Code 2010:Part 7 Test for Vertically Supported Textiles and Films

### Cleaning Procedure

The sample received no pre-treatment as the fabric is stated to be inherently flame retardant.

### Conditioning

The sample was conditioned for 72 hours in the standard atmosphere for conditioning textiles of  $20 \pm 5^\circ\text{C}$  and  $65 \pm 5\%$  R.H.

### Procedure

The sample was tested in accordance with IMO FTP Code 2010:Part 7. The sponsor sampled the material and the specimens were cut from the sample received to the dimensions set out in the standard.

A 40mm high propane gas flame was applied to the edge of 5 warp and 5 weft specimens for 5 seconds.

The after-flame time, length of char, existence of surface flashing and ignition of cotton waste from drops were recorded.

### Requirements

The Performance Criteria for Curtains and Drapes states that: Products which show any of the following characteristics obtained by the fire test in appendix 1, shall be considered unsuitable for use as curtains, drapes or free-hanging fabric product for use in rooms containing furniture and furnishings of restricted fire risk as defined in the relevant regulations of chapter II-2 of the Convention:-.

1. An after-flame time greater than 5 sec for any of the 10 or more specimens tested with surface application of the pilot flame.
2. Burn through to any edge of any of the 10 or more specimens tested with surface application of the pilot flame.
3. Ignition of cotton wool below specimen in any of the 10 or more specimens tested.
4. An average char length in excess of 150mm observed in any of the 10 or more specimens tested by either surface or edge ignition; and
5. The occurrence of a surface flash propagating more than 100mm from the point of ignition with or without charring of the base fabric.

If it is found that either or both of the batches of five specimens cut in both warp and weft directions fail to meet one or more of the criteria specified in subparagraphs .1 to .3 and .5 above because of poor performance of only one of the five specimens tested, one complete retest of a similar batch is permitted. Failure of the second batch to meet any of the criteria shall provide the basis for rejection of the fabric for use.



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# Fire Test Certificate – Specimen

**Fabric:** Coloured Wool Serge  
**Type:** IMO

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Date: 16 July 2019

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Page: 4 of 5

## As Received

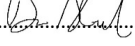
	After flame time (s)		Char length (mm)		Flaming to edge (yes or No)		Ignition of Cotton Wool from Flaming Drops (Yes or No)		Surface Flashing (Yes or No), if yes, Propagation Length (mm)	
	Warp	Weft	Warp	Weft	Warp	Weft	Warp	Weft	Warp	Weft
	3	1	4	4	No	No	No	No	No	No
	4	2	9	6	No	No	No	No	No	No
	2	7	8	39	No	No	No	No	No	No
	3	4	12	16	No	No	No	No	No	No
	3	6	11	26	No	No	No	No	No	No
Mean	3	4	9	18						


## Comment

The results indicate the sample meets the requirements according to IMO 2010 FTP Code, Part 7.

This report relates only to the samples submitted and as described in the report.

Uncertainty of measurement has not been taken into account when presenting the test result. The relevant uncertainty value is included as an annex which forms an integral part of the report.

Reported by:   
B Bland  
Laboratory Technician

Countersigned By:   
P Doherty  
Manager



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## Fire Test Certificate – Specimen

**Fabric:** Coloured Wool Serge  
**Type:** IMO

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TESTING • CERTIFICATION • AUDITING

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Date: 16 July 2019

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### Uncertainty Budget - Annex

The overall uncertainty budget IMO FTP Code 2010:Part 7 is as follows:-

Measurements:  $\pm 1\text{mm}$   
Duration of Flaming:  $\pm 0.5$  seconds

SPECIMEN



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# Acoustic Test Report - Absorption

**Absorption Class:** B

Calculated to EN ISO 11654:1997

**Fabric:** Coloured Wool Serge

**Fullness:** 50%

**Cavity from Wall:** 100mm

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## Data Sheet 17

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

**Client:** J & C Joel Ltd

**Test Date:** 30/11/2020

**Empty Room:** **Temperature:** 16.4 °C **Humidity:** 57 %RH **Pressure:** 1016 mbar

**Room with Sample:** **Temperature:** 15.7 °C **Humidity:** 56 %RH **Pressure:** 1010 mbar

**Sample Description:** Coloured Wool Serge - Single Layer - 50% Fullness (Approx. Weight 500g/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 17

Freq Hz	T1 sec	T2 sec	Absorp Coeff $\alpha_s$	Practical Absorp Coeff #
50*	5.15	5.21	-0.01	
63*	4.83	5.31	-0.10	n/a
80*	7.33	7.00	0.04	
100	7.42	6.33	0.13	
125	7.17	5.52	0.23	0.20
160	6.75	4.96	0.29	
200	6.77	4.62	0.37	
250	6.80	4.23	0.49	0.50
315	6.65	3.66	0.67	
400	6.46	3.23	0.84	
500	5.63	2.87	0.93	0.95
630	5.00	2.58	1.02	
800	5.22	2.72	0.96	
1000	5.79	2.93	0.92	0.95
1250	5.75	2.94	0.90	
1600	5.33	2.87	0.87	
2000	4.93	2.72	0.89	0.90
2500	4.35	2.50	0.91	
3150	3.55	2.17	0.95	
4000	2.92	1.86	1.02	1.00
5000	2.34	1.60	1.00	
6300*	1.60	1.17	1.14	
8000*	1.30	1.01	1.04	n/a
10000*	0.93	0.74	1.28	

$\alpha_w$  0.80(H)

**Class B**

Calculated to EN ISO 11654:1997

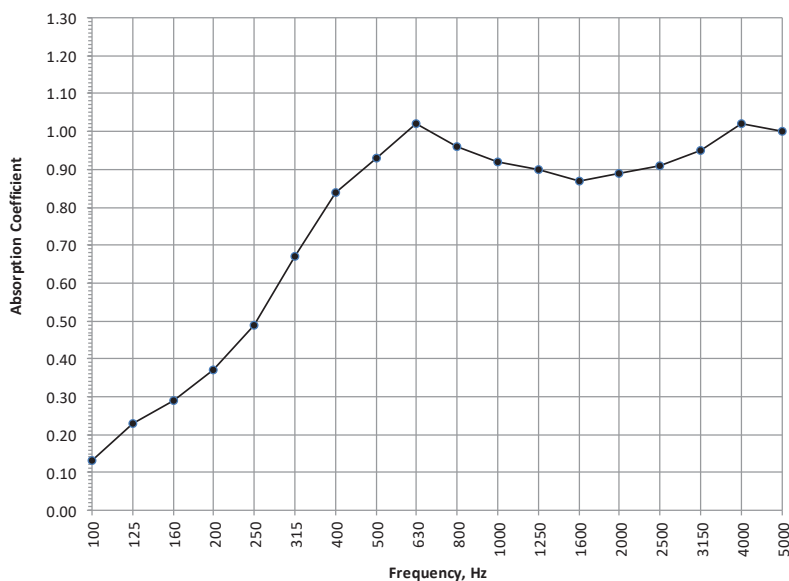
**NRC 0.80**

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

### Sound Absorption Coefficient



# Practical absorption coefficient, BS EN ISO 11654:1997

v5



# Acoustic Test Report - Absorption

**Absorption Class:** B

Calculated to EN ISO 11654:1997

**Fabric:** Coloured Wool Serge

**Fullness:** 50%

**Cavity from Wall:** 350mm

**J&C Joel** 

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## Data Sheet 18

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

**Client:** J & C Joel Ltd

**Test Date:** 30/11/2020

**Empty Room:** **Temperature:** 16.4 °C **Humidity:** 57 %RH **Pressure:** 1016 mbar

**Room with Sample:** **Temperature:** 15.7 °C **Humidity:** 56 %RH **Pressure:** 1009 mbar

**Sample Description:** Coloured Wool Serge - Single Layer - 50% Fullness (Approx. Weight 500g/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 18

Freq Hz	T1 sec	T2 sec	Absorp Coeff $\alpha_s$	Practical Absorp Coeff #
50*	5.15	4.78	0.08	
63*	4.83	4.91	-0.02	n/a
80*	7.33	6.13	0.15	
100	7.42	5.95	0.18	
125	7.17	4.91	0.35	0.30
160	6.75	4.40	0.43	
200	6.77	4.32	0.45	
250	6.80	3.83	0.62	0.60
315	6.65	3.52	0.73	
400	6.46	3.25	0.83	
500	5.63	3.10	0.79	0.80
630	5.00	2.83	0.83	
800	5.22	2.83	0.88	
1000	5.79	2.95	0.90	0.90
1250	5.75	2.90	0.93	
1600	5.33	2.73	0.97	
2000	4.93	2.66	0.93	0.95
2500	4.35	2.41	0.99	
3150	3.55	2.12	1.01	
4000	2.92	1.81	1.10	1.00
5000	2.34	1.54	1.14	
6300*	1.60	1.14	1.26	
8000*	1.30	0.98	1.21	n/a
10000*	0.93	0.72	1.49	

$\alpha_w$  0.85(H)

Class B

Calculated to EN ISO 11654:1997

NRC 0.80

Calculated to ASTM C 423-01

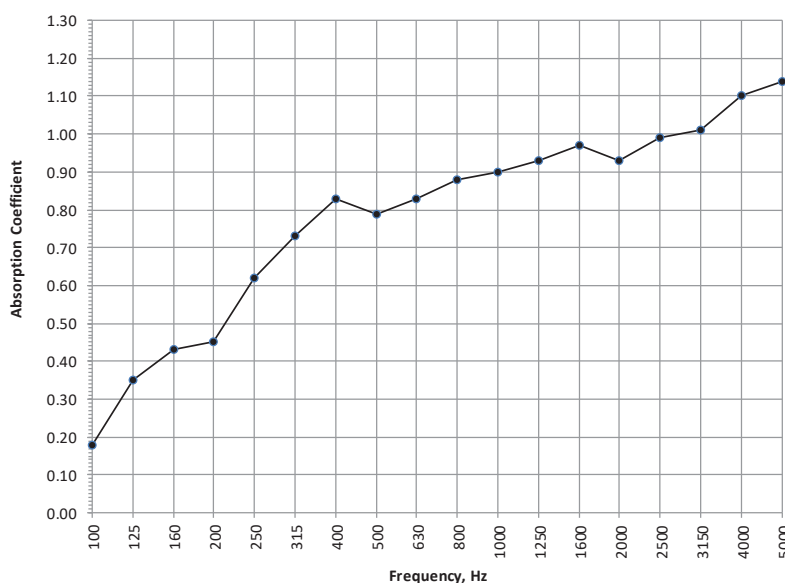
\* Denotes frequencies outside the range covered

by BS EN ISO 354:2003

T1, empty room reverberation time

T2, room reverberation time with sample

### Sound Absorption Coefficient



# Practical absorption coefficient, BS EN ISO 11654:1997

v5

# Acoustic Test Report - Absorption

**Absorption Class:** A

Calculated to EN ISO 11654:1997

**Fabric:** Coloured Wool Serge

**Fullness:** 100%

**Cavity from Wall:** 100mm

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## Data Sheet 15

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

**Client:** J & C Joel Ltd

**Test Date:** 30/11/2020

**Empty Room:** **Temperature:** 16.4 °C **Humidity:** 57 %RH **Pressure:** 1016 mbar

**Room with Sample:** **Temperature:** 15.7 °C **Humidity:** 56 %RH **Pressure:** 1011 mbar

**Sample Description:** Coloured Wool Serge - Single Layer - 100% Fullness (Approx. Weight 500g/m<sup>2</sup>) - 100mm Cavity From Wall

**Mounting Method:** G - 100

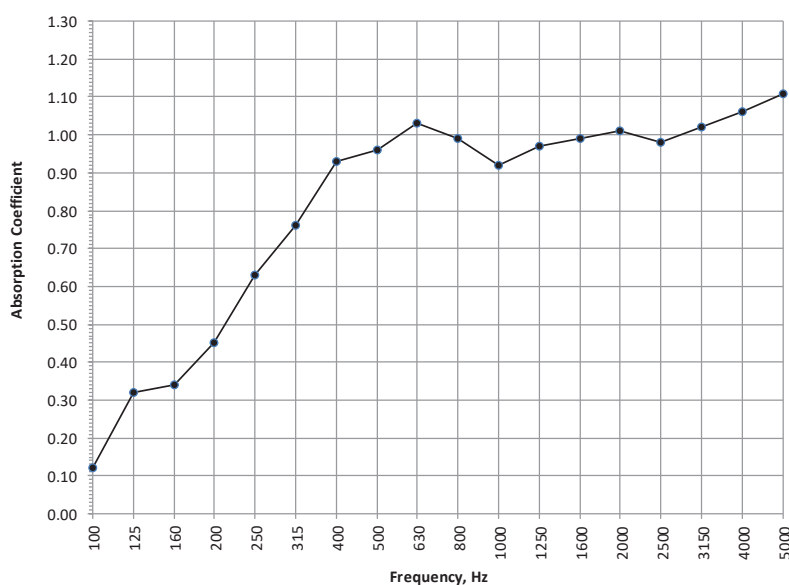
**Sample Area:** 9 m<sup>2</sup>

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

### Test 15

Freq Hz	T1 sec	T2 sec	Absorp Coeff $\alpha_s$	Practical Absorp Coeff #
50*	5.15	5.05	0.02	
63*	4.83	5.12	-0.06	n/a
80*	7.33	6.97	0.04	
100	7.42	6.36	0.12	
125	7.17	5.03	0.32	0.25
160	6.75	4.74	0.34	
200	6.77	4.35	0.45	
250	6.80	3.81	0.63	0.60
315	6.65	3.44	0.76	
400	6.46	3.07	0.93	
500	5.63	2.83	0.96	0.95
630	5.00	2.57	1.03	
800	5.22	2.68	0.99	
1000	5.79	2.92	0.92	0.95
1250	5.75	2.84	0.97	
1600	5.33	2.70	0.99	
2000	4.93	2.56	1.01	1.00
2500	4.35	2.42	0.98	
3150	3.55	2.11	1.02	
4000	2.92	1.83	1.06	1.00
5000	2.34	1.55	1.11	
6300*	1.60	1.17	1.14	
8000*	1.30	0.99	1.15	n/a
10000*	0.93	0.75	1.19	

### Sound Absorption Coefficient



$\alpha_w$  0.90

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:** Coloured Wool Serge

**Fullness:** 100%

**Cavity from Wall:** 350mm

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## Data Sheet 16

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

**Client:** J & C Joel Ltd

**Test Date:** 30/11/2020

**Empty Room:** **Temperature:** 16.4 °C **Humidity:** 57 %RH **Pressure:** 1016 mbar

**Room with Sample:** **Temperature:** 15.7 °C **Humidity:** 56 %RH **Pressure:** 1010 mbar

**Sample Description:** Coloured Wool Serge - Single Layer - 100% Fullness (Approx. Weight 500g/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 16

Freq Hz	T1 sec	T2 sec	Absorp Coeff $\alpha_s$	Practical Absorp Coeff #
50*	5.15	4.91	0.05	
63*	4.83	4.95	-0.03	n/a
80*	7.33	6.01	0.16	
100	7.42	5.88	0.19	
125	7.17	4.69	0.40	0.35
160	6.75	4.42	0.42	
200	6.77	4.01	0.55	
250	6.80	3.80	0.63	0.65
315	6.65	3.42	0.77	
400	6.46	3.25	0.83	
500	5.63	3.02	0.83	0.90
630	5.00	2.63	0.98	
800	5.22	2.72	0.96	
1000	5.79	2.87	0.95	1.00
1250	5.75	2.72	1.05	
1600	5.33	2.65	1.03	
2000	4.93	2.55	1.02	1.00
2500	4.35	2.32	1.08	
3150	3.55	2.01	1.15	
4000	2.92	1.73	1.24	1.00
5000	2.34	1.50	1.23	
6300*	1.60	1.14	1.26	
8000*	1.30	0.95	1.38	n/a
10000*	0.93	0.72	1.49	

$\alpha_w$  0.90

Class A

Calculated to EN ISO 11654:1997

NRC 0.85

Calculated to ASTM C 423-01

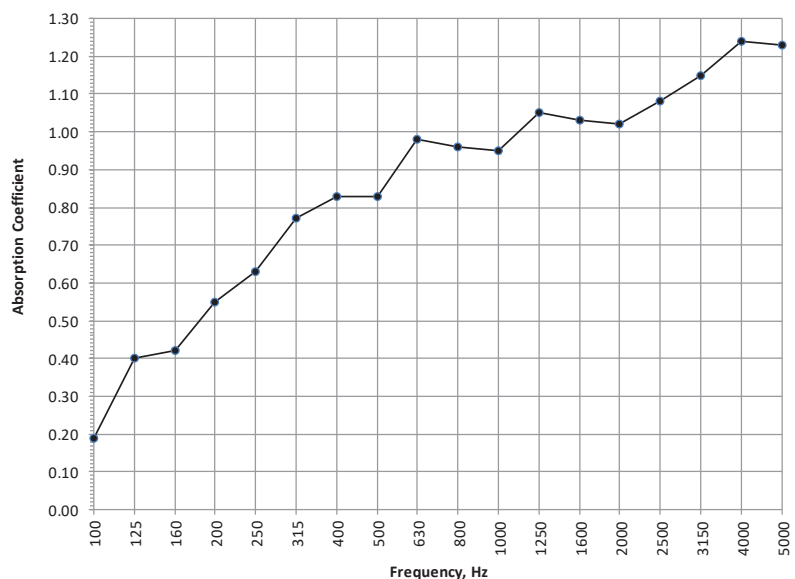
\* Denotes frequencies outside the range covered

by BS EN ISO 354:2003

T1, empty room reverberation time

T2, room reverberation time with sample

### Sound Absorption Coefficient



# Practical absorption coefficient, BS EN ISO 11654:1997

v5

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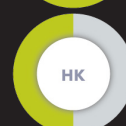
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