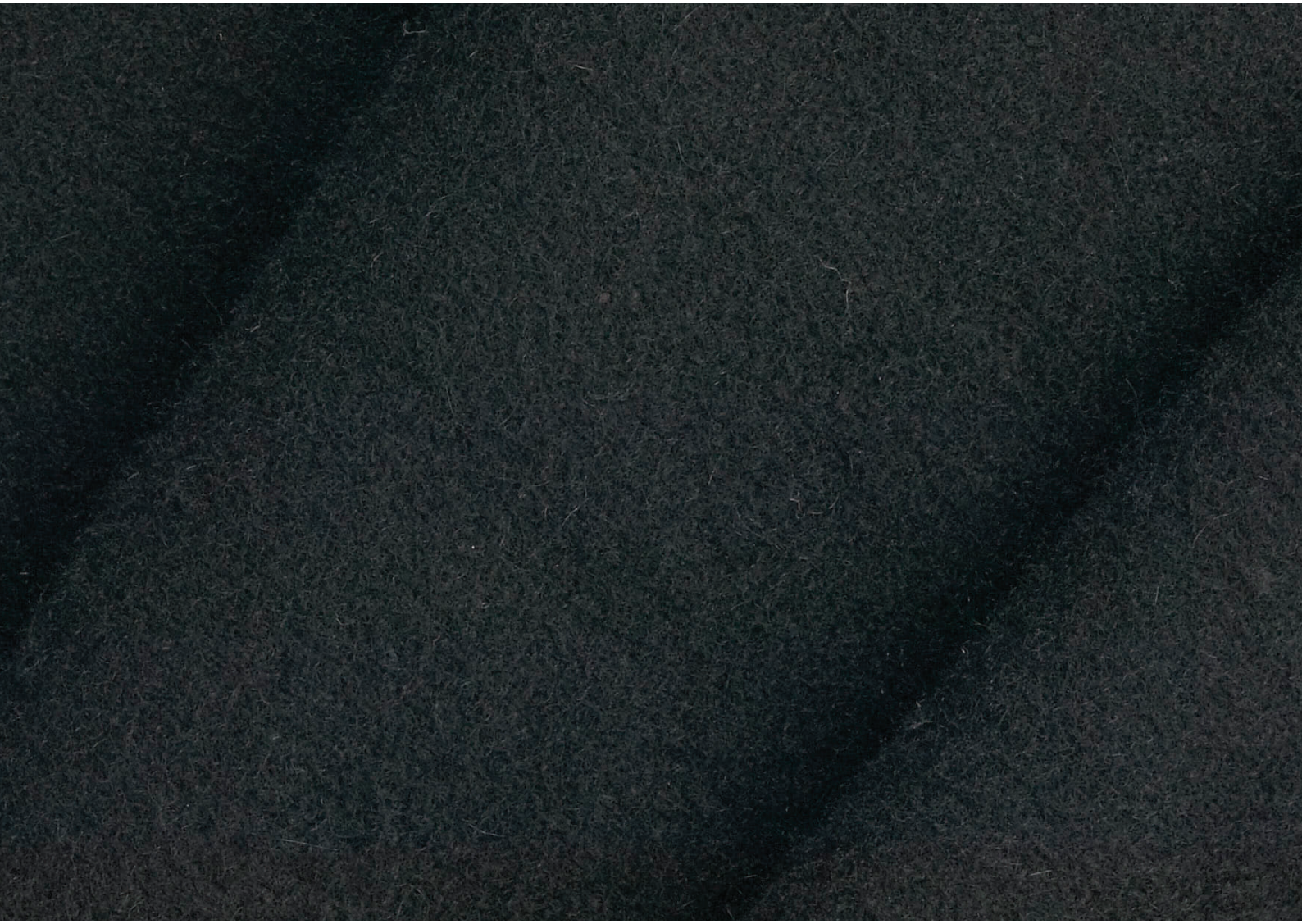
Wool Serge 565

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



J&C Joel

the inspiration behind the performance

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Acoustic Test Report

Flat 20

50% Fullness 22

100% Fullness 25

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^2)

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

Wool Serge 565

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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 Part 2 Type B, NFPA 701, IMO, AS1530.2/3
	Brand Name (and Manufacturer)	J&C Joel Ltd.
	Material (Blending Ratio)	95% Wool 5% Nylon & Other Fibres
	Construction of Fabric	Plain Weave • Yarn Count: Very Heavy • Ends/Picks: Medium Density
	Method of Dying	Fibre Dyed
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**	Inherently Flame Retardant to BS5867 Part 2 Type B, NFPA 701, IMO and AS1530.2/3. 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. 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. This fabric is not pre-shrunk.
	Laundering Treatment	 Dry Clean Only · Do Not Wash · Do Not Bleach · Do Not Iron · Do Not Tumble Dry
Other Finishes		Pressed, Blown Finish
Notes		Recycled Wool Materials

Fire Rating:	Approx Roll Length:	Width:	Weight:	Fire Certification:	Colours Available	Fabric Thickness:
IFR	57m / 187ft	150cm / 59”	565 g/m²	BS5867, NFPA 701, IMO, AS1530.2/3		*1.90mm

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

For further information please contact our sales team **sales@jcjoel.com**

Fire Test Certificate – Specimen

Fabric: Wool Serge 565
Type: BS5867 Part 2 Type B

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Wira House, West Park Ring Road,
Leeds, LS16 6QL, UK.
Telephone: +44 (0)113 259 1999
Email: info@bttg.co.uk
Website: www.bttg.co.uk

Date: 15 August 2017

Our Ref: **53651-50**
Your Ref: -

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: -

Date of Receipt: 16 June 2017
Date of Test Start: 29 June 2017

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

Premier Wool Serge, stated to be IFR

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

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

SPECIMEN

1066

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Telephone: +44 (0)113 259 1999
Email: info@bttg.co.uk
Website: www.bttg.co.uk

Date: 15 August 2017

Our Ref: **53651-50**
Your Ref: -

J. & C. Joel Limited

Sample was identified as follows:

Premier Wool Serge, stated to be IFR

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 20 °C and 60 % relative humidity (R.H.).

Each specimen was subjected to an applied flame using propane 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:.....
J Coleman
Fire Technician

Countersigned By:.....
P Doherty
Operational Head

Enquiries concerning this report should be addressed to Customer Services.

SPECIMEN

1086

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TESTING • CERTIFICATION • AUDITING

Wira House, West Park Ring Road,
Leeds, LS16 6QL, UK.
Telephone: +44 (0)113 259 1999
Email: info@bttg.co.uk
Website: www.bttg.co.uk

Date: 15 August 2017

Our Ref: 53651-50
Your Ref: -

J. & C. Joel Limited

RESULTS

Sample Ref: Premier Wool Serge, stated to be IFR

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

	Length			Width		
Specimen No.	**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

	Length			Width		
Specimen No.	**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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Telephone: +44 (0)113 259 1999
Email: info@bttg.co.uk
Website: www.bttg.co.uk

Date: 15 August 2017

Our Ref: **53651-50**
Your Ref: -

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: Wool Serge 565
Type: NFPA 701

J&C Joel
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The Govmark Organization, Inc.
96-D Allen Boulevard
Farmingdale, New York 11735-5626 USA
Tel. +1 (631) 293-8944 Fax +1 (631) 293-8956
e-mail: info@govmark.com

Received: 03/31/2014	Completed: 04/02/2014	Letter: C	BG	P.O.#: 9556	Test Report #:	3-01380-0-

Client's Identification: Style: Wool Serge. Content: 100% wool. Width: 150 cm. Finish: dyed and treated with flame retardant solution. Weight: 565 grams / sq. meter. End Use: Stage draperies.

Tested For: **Andrew Walsh**
J & C Joel, Ltd.
Corporation Mill, Corporation St.UK
Sowerby Brdg,Halifax,W Yorkshire

Key Test: NFPA 701-2010 TM#1 205

Tel: 011 422 833 835 **Ext:**
Fax: 011 422 835 157

PC: 0.5H DL/jd

TEST PERFORMED: NFPA 701 - Standard Methods of Fire Tests for Flame Propagation of Textiles and Films - 2010 Edition - Test Method #1

PRODUCT CONFIGURATION: [x] Single Layer; [ ] Multi Layer

RESULTS REPORTED: [x] Initially; [ ] After 3 dry cleanings; [ ] After 5 launderings @ 160°F

RESULTS:

Specimen #	Afterflame* (seconds)	Flaming Drip (seconds)	Weight Loss (percent)
1	0	0	6.7
2	0	0	5.9
3	0	0	6.0
4	0	0	6.5
5	0	0	5.3
6	0	0	6.9
7	0	0	6.0
8	0	0	7.2
9	0	0	6.5
10	0	0	7.1
	Mean: 0	Mean: 0	Mean: 6.4

STATISTICAL VALUES: SD = 0.6 3 SD = 1.8 Mean + 3 SD = 8.3

ABBREVIATIONS USED: SD = Standard deviation. NT = Not tested.

APPROXIMATE WEIGHT OF MATERIAL (as measured by Govmark): 590g/m²

PRECONDITIONING: [x] 0.5 hr @ 220°F (Standard)
[ ] 24 hrs @ 60±9°F (Alternate: Material shrinks/distorts @ 220°F)

CONVERSION FACTOR: g/m² ÷ 28.35 x .835 = oz/yd²

NOTE:

1. All specimens prepared in the length direction.
2. See addendum for individual specimen weights.

(Page 1 of 3)

SPECIMEN

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The Govmark Organization, Inc.

96-D Allen Boulevard
Farmingdale, New York 11735-5626 USA
Tel. +1 (631) 293-8944 Fax +1 (631) 293-8956
e-mail: info@govmark.com

Received:03/31/2014	Completed:04/02/2014	Letter: C	BG	P.O.#: 9556	Test Report #:	3-01380-0-
Client's Identification	Style: Wool Serge. Content: 100% wool. Width: 150 cm. Finish: dyed and treated with flame retardant solution. Weight: 565 grams / sq. meter. End Use: Stage draperies.					

Tested For: Andrew Walsh
J & C Joel, Ltd.
Corporation Mill, Corporation St.UK
Sowerby Brdg,Halifax,W Yorkshire

Key Test: NFPA 701-2010 TM#1 205

Tel: 011 422 833 835 **Ext:**
Fax: 011 422 835 157

REMARKS:

[x] Flames did not project above the top of the specimen.
[ ] Flames projected above the top of the specimen; Specimen #'s _____
[ ] Other: _____

FAILURE CRITERIA: As cited by NFPA 701 - 2010 Edition Test Method #1

		Weight Loss (percent)	
	Flaming Drip		
Afterflame	(Mean)	Mean	Individual Specimen
*	Exceeds 2 seconds	Exceeds 40%	Exceeds Mean + 3 SD**

CONCLUSION: Based on the Results on page 1 and the above Failure Criteria cited by NFPA 701 - 2010 Edition Test Method #1, the item tested:

[x] Passes; [ ] Fails; [ ] Requires testing of 10 additional specimens
i.e. only one individual specimen failure was noted

* Afterflame is required to be recorded; however, the NFPA document does not factor it into the Failure Criteria reporting requirements. It should be noted that excessive afterflames (15 seconds or more) could be cause for rejection by local fire authorities performing "match" field tests.

** See "Discussion" on Page 3.

CERTIFICATION: I certify that the above results were obtained after testing specimens in accordance with the procedures and equipment specified by NFPA 701 - 2010 Edition Test Method #1.

APR 0 9 2014

JCJ/ROS-NJ-2

AUTHORIZED SIGNATURE
THE GOVMARK ORGANIZATION, INC. /je /tm

MS. PHYLLIS PETTIT

(Page 2 of 3)

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The Govmark Organization, Inc.

96-D Allen Boulevard
Farmingdale, New York 11735-5626 USA
Tel. +1 (631) 293-8944 Fax +1 (631) 293-8956
e-mail: info@govmark.com

Received: 03/31/2014	**Completed:** 04/02/2014	**Letter:** C	BG	**P.O.#:** 9556	**Test Report #:** 3-01380-0-

Client's Identification Style: Wool Serge. Content: 100% wool. Width: 150 cm. Finish: dyed and treated with flame retardant solution. Weight: 565 grams / sq. meter. End Use: Stage draperies.

Tested For: **Andrew Walsh**
J & C Joel, Ltd.
Corporation Mill, Corporation St.UK
Sowerby Brdg,Halifax,W Yorkshire

Key Test: NFPA 701-2010 TM#1 205

Tel: 011 422 833 835 **Ext:**
Fax: 011 422 835 157

** DISCUSSION:

Weight Loss - Individual Specimen Failure:

The NFPA 701 document, as written, provides for a statistical calculation which provides for retest and a potential failure if any individual value exceeds the mean by three standard deviations. Govmark is of the opinion that this cannot mathematically occur, i.e. no individual result is mathematically capable of exceeding the mean plus three standard deviations. Therefore, in effect, Govmark is of the opinion that this "individual specimen criteria" has no meaning, since it cannot possibly result in a nonconformance.

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Fire Test Certificate – Specimen

Fabric: Wool Serge 565
Type: NFPA 701

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The Govmark Organization, Inc.

96D Allen Blvd.
Farmingdale, NY 11735
TEL: (516) 293-8944
FAX: (516) 293-8956

Client Name : J&C Joel
Addendum to Test Report # : 3-01380-0
Test : : NFPA 701

Specimen #	Weight Before Test (g)	Weight After Test (g)	Percent Weight Loss
1	32.60	30.40	6.7
2	33.80	31.80	5.9
3	33.20	31.20	6.0
4	34.00	31.80	6.5
5	33.80	32.00	5.3
6	34.60	32.20	6.9
7	33.60	31.60	6.0
8	33.20	30.80	7.2
9	33.60	31.40	6.5
10	33.60	31.20	7.1

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Mean Percent Weight Loss : 6.4
Standard Deviation : 0.6
3 x Standard Deviation : 1.8
Mean + 3 x Standard Deviation : 8.3

APR 0 9 2014

Fire Test Certificate – Specimen

Fabric: Wool Serge 565
Type: IMO

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Wira House, West Park Ring Road, Leeds, LS16 6QL, UK.
Telephone: +44 (0) 113 259 1999
Email: info@bttg.co.uk
Website: www.bttg.co.uk

Date: 24 July 2019

Our Ref: 56634-1
Your Ref: -

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

SPECIMEN

Job Title: Fire Test on One Sample of Fabric

Client's Order No: 57441

Date of Receipt: 17 July 2019

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

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

ilac-MRA UKAS TESTING 1066

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Telephone: +44 (0) 113 259 1999
Email: info@bttg.co.uk
Website: www.bttg.co.uk

Client: J. & C. Joel Limited

Date: 24 July 2019

Our Ref: 56634-1
Your Ref: -

Product Description

Company Name	J & C Joel Ltd
Type of Material, i.e. Curtain, Drape, etc.	Curtain/Drapery Fabric
Name and/or Identification of the Product Tested	Premier Wool Serge
Mass per Unit Area (g/m²)	565gsm
Thickness (mm)	2mm
Colour and Tone (i)	Black
Quantity and Number of Any Coating	None
Method and Quantity of Fire Retardant Treatment	Inherently Flame-retardant
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	---
Yarn Number Count	---

SPECIMEN

(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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Date: 24 July 2019

Our Ref: 56634-1
Your Ref: -

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Client: J. & C. Joel Limited

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± 5°C and 65 ± 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: Wool Serge 565
Type: IMO

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Telephone: +44 (0) 113 259 1999
Email: info@bttg.co.uk
Website: www.bttg.co.uk

Date: 24 July 2019

Our Ref: 56634-1
Your Ref: -

Client: J. & C. Joel Limited

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	Warp	Weft	Weft	Warp	Weft	Warp	Weft
	0	0	34	40	No	No	No	No	No	No
	0	0	39	39	No	No	No	No	No	No
	0	1	40	36	No	No	No	No	No	No
	3	0	37	35	No	No	No	No	No	No
	0	0	34	37	No	No	No	No	No	No
Mean	1	0	37	37						

SPECIMEN

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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Telephone: +44 (0) 113 259 1999
Email: info@bttg.co.uk
Website: www.bttg.co.uk

Client: J. & C. Joel Limited

Date: 24 July 2019

Our Ref: 56634-1
Your Ref: -

Uncertainty Budget - Annex

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

Measurements:	±1mm
Duration of Flaming:	±0.5 seconds

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Fire Test Certificate – Specimen

Fabric: Wool Serge 565
Type: AS 1530.2

J&C Joel
the inspiration behind the performance

AWTA PRODUCT TESTING

Australian Wool Testing Authority Ltd - trading as AWTA Product Testing
A.B.N 43 006 014 106
1st Floor, 191 Racecourse Road, Flemington, Victoria 3031
P.O Box 240, North Melbourne, Victoria 3051
Phone (03) 9371 2400 Fax (03) 9371 2499

TEST REPORT

Client : J & C Joel Ltd
Corporation Mill, Corporation Street
Sowerby Bridge, Halifax, HX6 2QQ
ENGLAND

Test Number : 18-002989
Issue Date : 6/06/2018
Print Date : 18/06/2018

Sample Description

Clients Ref : "Premier Wool Serge"
Milled woven woollen fabric
End Use : Curtains & Drapery
Nominal Composition : 100% Wool
Nominal Mass per Unit Area/Density : 565g/m2
Nominal Thickness : 2.5mm

AS 1530.2-1993 **Methods for Fire Tests on Building Materials, Components and Structures. Part 2: Test for Flammability of Materials**

Date Tested		06/06/2018	
Flammability Index		6	
	Length	Width	
Spread Factor	3	5	
Heat Factor	1	1	
Maximum height (d)			
Mean	4.4	5.4	
Coefficient of Variation	18.1	14.8	%
Heat (a)			
Mean	3.3	4.0	°C.min
Coefficient of Variation	18.2	5.0	%
Number of Specimens Tested	6	6	
Observation	Melting and visible smoke		

These test results relate only to the behaviour of the test specimens of the material under the particular conditions of the test, and they are not intended to be the sole criterion for assessing the potential fire hazard of the material in use.

132359 28114

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NATA
Accredited for compliance with ISO/IEC 17025 - Testing
- Chemical Testing : Accreditation No. 983
- Mechanical Testing : Accreditation No. 985
- Performance & Approvals Testing : Accreditation No. 1356

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APPROVED SIGNATORY

MICHAEL A. JACKSON B.Sc.(Hons)
MANAGING DIRECTOR

0204/11/06

SPECIMEN

Fire Test Certificate – Specimen

Fabric: Wool Serge 565
Type: AS/NZS 1530.3

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AWTA PRODUCT TESTING

Australian Wool Testing Authority Ltd - trading as AWTA Product Testing
A.B.N 43 006 014 106
1st Floor, 191 Racecourse Road, Flemington, Victoria 3031
P.O Box 240, North Melbourne, Victoria 3051
Phone (03) 9371 2400 Fax (03) 9371 2499

TEST REPORT

Client : J & C Joel Ltd
Corporation Mill, Corporation Street
Sowerby Bridge, Halifax, HX6 2QQ
ENGLAND

Test Number : 18-003051
Issue Date : 20/06/2018
Print Date : 20/06/2018

Sample Description
Clients Ref : "Premier Wool Serge"
Milled woven woollen fabric
End Use : Curtains & Drapery
Nominal Composition : 100% Wool
Nominal Mass per Unit Area/Density : 565g/m2
Nominal Thickness : 2.5mm

AS/NZS 1530.3-1999 **Methods for Fire Tests on Building Materials, Components and Structures Part 3: Simultaneous Determination of Ignitability, Flame Propagation, Heat Release and Smoke Release**

Face tested: Face
Date tested: 15/06/2018

	Standard Error	Mean	
Ignition time	Nil	Nil	min
Flame propagation time	Nil	Nil	sec
Heat release integral	Nil	Nil	kJ/m²
Smoke release, log d	0.0197	-1.0172	
Optical density, d		0.0966	/ metre

Number of specimens ignited: 0
Number of specimens tested: 6

Regulatory Indices:

Ignitability Index	0	Range 0-20
Spread of Flame Index	0	Range 0-10
Heat Evolved Index	0	Range 0-10
Smoke Developed Index	4	Range 0-10

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- Performance & Approvals Testing : Accreditation No. 1356

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AWTA LIMITED

APPROVED SIGNATORY

MICHAEL A. JACKSON B.Sc.(Hons)
MANAGING DIRECTOR

0204/11/06

SPECIMEN

AWTA PRODUCT TESTING

Australian Wool Testing Authority Ltd - trading as AWTA Product Testing
A.B.N 43 006 014 106
1st Floor, 191 Racecourse Road, Flemington, Victoria 3031
P.O Box 240, North Melbourne, Victoria 3051
Phone (03) 9371 2400 Fax (03) 9371 2499

TEST REPORT

Client : J & C Joel Ltd
Corporation Mill, Corporation Street
Sowerby Bridge, Halifax, HX6 2QQ
ENGLAND

Test Number : 18-003051
Issue Date : 20/06/2018
Print Date : 20/06/2018

These results only apply to the specimen mounted, as described in this report. The result of this fire test may be used to directly assess fire hazard, but it should be recognised that a single test method will not provide a full assessment of fire hazard under all fire conditions.

Ignition is initiated by a pilot flame that is held near, but does not touch the specimen . A material that does not ignite during the standard test may ignite if contacted with a pilot flame during the test.

The specimens were mounted to simulate use in an unsupported or free hanging mode. The results may be significantly different when mounted to simulate a wall cladding or upholstery application .

To allow free movement of sample during testing all corners were folded away from the clamps.

Each test specimen was sandwiched between two layers of galvanised welded square mesh made from wire of nominal diameter 0.8mm and nominal spacing 12mm in both directions, stapled through at four points, each 100mm from the centre of the sample and the assembly clamped in four places.

SPECIMEN

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- Chemical Testing : Accreditation No. 983
- Mechanical Testing : Accreditation No. 985
- Performance & Approvals Testing : Accreditation No. 1356

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Acoustic Test Report - Absorption

Absorption Class: D
Calculated to EN ISO 11654:1997
Fabric: Wool Serge 565
Fullness: Flat
Cavity from Wall: 100mm

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Data Sheet 9

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 565 - Single Layer – Flat (Approx. weight 565g/m²) – 100mm cavity from wall

Mounting Method: G-100
Sample Area: 9 m2
Chamber Volume: 300 m3

	Test 10			
Freq Hz	T1 sec	T2 sec	Absorp Coeff	Practical Absorp Coeff #
*50**	*5.07*	*5.34*	*-0.05*	
*63**	*4.60*	*4.75*	*-0.04*	*n/a*
*80**	*5.86*	*5.27*	*0.10*	
100	6.96	6.70	0.03	
125	7.22	6.73	0.05	0.05
160	6.82	5.92	0.12	
200	6.37	5.61	0.11	
250	7.19	5.28	0.27	0.25
315	7.06	4.95	0.33	
400	6.40	4.16	0.46	
500	5.35	3.50	0.54	0.55
630	5.03	3.02	0.72	
800	5.43	3.01	0.80	
1000	5.96	3.06	0.86	0.80
1250	5.70	3.09	0.80	
1600	5.08	2.98	0.74	
2000	4.62	2.96	0.63	0.70
2500	4.17	2.61	0.73	
3150	3.50	2.26	0.77	
4000	2.85	1.90	0.82	0.85
5000	2.25	1.51	0.97	
*6300**	*1.66*	*1.16*	*1.09*	
*8000**	*1.38*	*0.98*	*1.13*	*n/a*
*10000**	*0.93*	*0.69*	*1.36*	

α_w 0.55(MH)

Class D

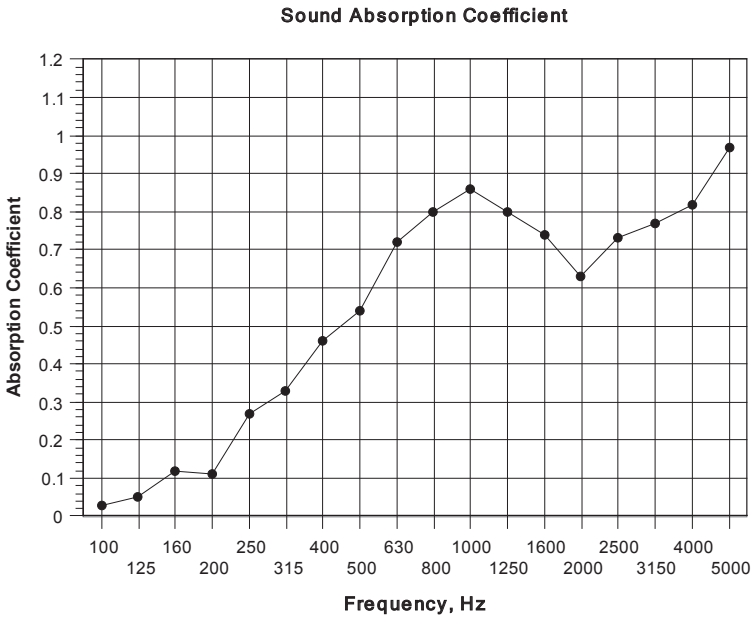
Calculated to EN ISO 11654:1997

NRC 0.60

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 565
Fullness: Flat
Cavity from Wall: 350mm

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Data Sheet 10

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 565 - Single Layer – Flat (Approx. weight 565g/m²) – 350mm cavity from wall

Mounting Method: G-350
Sample Area: 9 m2
Chamber Volume: 300 m3

	Test 11			
Freq Hz	T1 sec	T2 sec	Absorp Coeff	Practical Absorp Coeff #
*50**	*5.07*	*4.92*	*0.03*	
*63**	*4.60*	*3.97*	*0.19*	*n/a*
*80**	*5.86*	*5.00*	*0.16*	
100	6.96	5.59	0.19	
125	7.22	5.50	0.23	0.25
160	6.82	4.58	0.39	
200	6.37	4.11	0.47	
250	7.19	4.08	0.57	0.55
315	7.06	3.86	0.64	
400	6.40	3.60	0.66	
500	5.35	3.31	0.63	0.60
630	5.03	3.30	0.57	
800	5.43	3.21	0.69	
1000	5.96	3.37	0.70	0.70
1250	5.70	3.31	0.68	
1600	5.08	3.02	0.71	
2000	4.62	2.83	0.72	0.75
2500	4.17	2.57	0.76	
3150	3.50	2.23	0.80	
4000	2.85	1.85	0.90	0.90
5000	2.25	1.49	1.02	
*6300**	*1.66*	*1.16*	*1.09*	
*8000**	*1.38*	*0.98*	*1.13*	*n/a*
*10000**	*0.93*	*0.69*	*1.36*	

α_w 0.70(H)

Class C

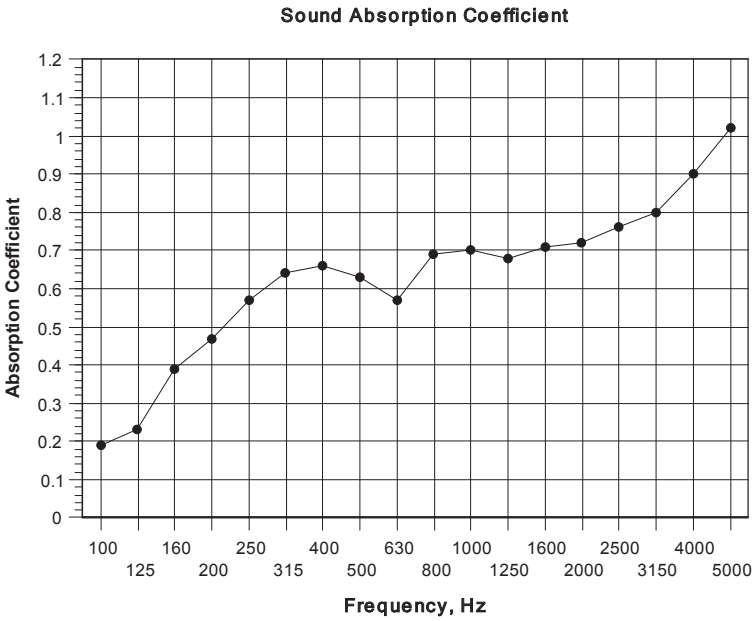
Calculated to EN ISO 11654:1997

NRC 0.65

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 565
Fullness: 50%
Cavity from Wall: 100mm

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Data Sheet 13

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:**	49	%RH	**Pressure:**	1009 mbar

Sample Description: Wool Serge 565 – Single Layer – 50% fullness (Approx. weight 565g/m²) – 100mm cavity from wall

Mounting Method: G-100
Sample Area: 9 m2
Chamber Volume: 300 m3

	Test 14			
Freq Hz	T1 sec	T2 sec	Absorp Coeff	Practical Absorp Coeff #
*50**	*5.07*	*5.19*	*-0.02*	
*63**	*4.60*	*4.16*	*0.12*	*n/a*
*80**	*5.86*	*5.26*	*0.10*	
100	6.96	6.42	0.06	
125	7.22	5.91	0.16	0.15
160	6.82	5.07	0.27	
200	6.37	4.60	0.33	
250	7.19	4.18	0.54	0.50
315	7.06	3.96	0.60	
400	6.40	3.51	0.70	
500	5.35	2.96	0.82	0.80
630	5.03	2.67	0.95	
800	5.43	2.83	0.92	
1000	5.96	2.99	0.90	0.90
1250	5.70	2.99	0.85	
1600	5.08	2.80	0.85	
2000	4.62	2.65	0.84	0.85
2500	4.17	2.39	0.91	
3150	3.50	2.13	0.90	
4000	2.85	1.81	0.94	1.00
5000	2.25	1.45	1.09	
*6300**	*1.66*	*1.11*	*1.25*	
*8000**	*1.38*	*0.94*	*1.30*	*n/a*
*10000**	*0.93*	*0.66*	*1.62*	

α_w 0.80(H)

Class B

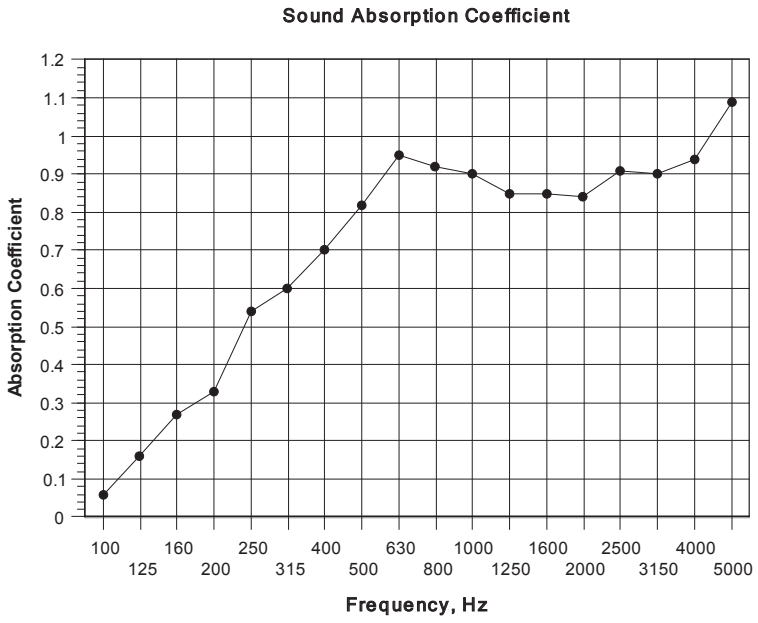
Calculated to EN ISO 11654:1997

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



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 565
Fullness: 50%
Cavity from Wall: 350mm

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Data Sheet 14

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:**	16.1	°C	**Humidity:**	49	%RH	**Pressure:**	1009 mbar

Sample Description: Wool Serge 565 – Single Layer – 50% fullness (Approx. weight 565g/m²) – 350mm cavity from wall

Mounting Method: G-350
Sample Area: 9 m2
Chamber Volume: 300 m3

	Test 15			
Freq Hz	T1 sec	T2 sec	Absorp Coeff	Practical Absorp Coeff #
*50**	*5.07*	*4.88*	*0.04*	
*63**	*4.60*	*4.17*	*0.12*	*n/a*
*80**	*5.86*	*4.93*	*0.17*	
100	6.96	5.24	0.26	
125	7.22	5.11	0.31	0.35
160	6.82	4.16	0.51	
200	6.37	3.89	0.54	
250	7.19	3.64	0.73	0.70
315	7.06	3.40	0.83	
400	6.40	3.37	0.76	
500	5.35	3.15	0.71	0.75
630	5.03	2.84	0.84	
800	5.43	2.92	0.86	
1000	5.96	2.99	0.90	0.90
1250	5.70	2.93	0.89	
1600	5.08	2.76	0.88	
2000	4.62	2.61	0.87	0.90
2500	4.17	2.33	0.96	
3150	3.50	2.07	0.96	
4000	2.85	1.76	1.00	1.00
5000	2.25	1.40	1.18	
*6300**	*1.66*	*1.08*	*1.32*	
*8000**	*1.38*	*0.94*	*1.21*	*n/a*
*10000**	*0.93*	*0.66*	*1.50*	

α_w 0.85(H)

Class B

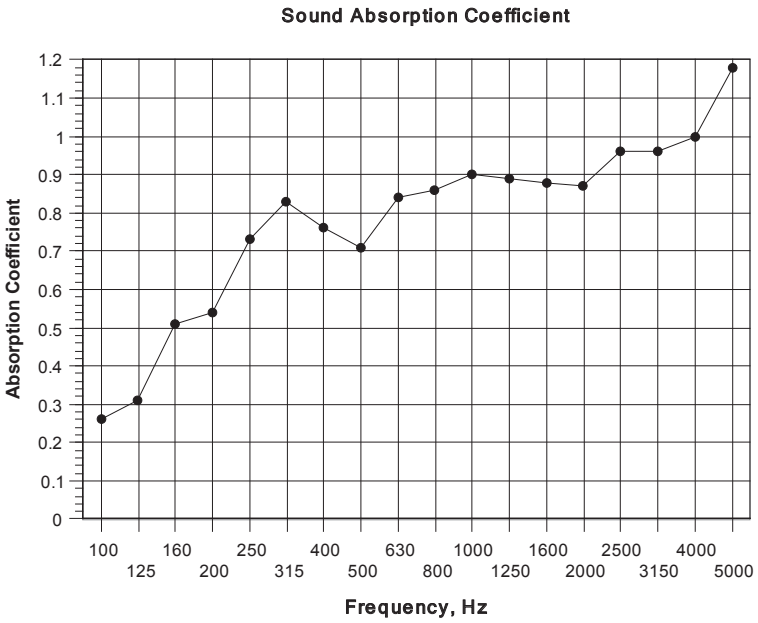
Calculated to EN ISO 11654:1997

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



Practical absorption coefficient, BS EN ISO 11654:1997

v4.3

Acoustic Test Report - Absorption

Absorption Class: A
Calculated to EN ISO 11654:1997
Fabric: Wool Serge 565
Fullness: 100%
Cavity from Wall: 100mm

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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: 12/04/2014

Empty Room:	**Temperature:**	17.0	°C	**Humidity:**	57	%RH	**Pressure:**	1010 mbar
Room with Sample:	**Temperature:**	16.7	°C	**Humidity:**	49	%RH	**Pressure:**	1009 mbar

Sample Description: Wool Serge 565 – Single Layer – 100% fullness (Approx. weight 565g/m²) – 100mm cavity from wall

Mounting Method: G-100
Sample Area: 9 m2
Chamber Volume: 300 m3

	Test 17			
Freq Hz	T1 sec	T2 sec	Absorp Coeff	Practical Absorp Coeff #
*50**	*5.07*	*5.35*	*-0.06*	
*63**	*4.60*	*3.67*	*0.30*	*n/a*
*80**	*5.86*	*5.36*	*0.09*	
100	6.96	6.57	0.05	
125	7.22	5.26	0.28	0.20
160	6.82	4.85	0.32	
200	6.37	4.32	0.40	
250	7.19	3.85	0.65	0.60
315	7.06	3.71	0.69	
400	6.40	3.25	0.82	
500	5.35	2.91	0.85	0.90
630	5.03	2.61	1.00	
800	5.43	2.78	0.95	
1000	5.96	2.87	0.98	0.95
1250	5.70	2.82	0.96	
1600	5.08	2.72	0.91	
2000	4.62	2.58	0.90	0.90
2500	4.17	2.34	0.96	
3150	3.50	2.09	0.95	
4000	2.85	1.75	1.04	1.00
5000	2.25	1.43	1.14	
*6300**	*1.66*	*1.11*	*1.25*	
*8000**	*1.38*	*0.95*	*1.24*	*n/a*
*10000**	*0.93*	*0.67*	*1.50*	

α_w 0.90

Class A

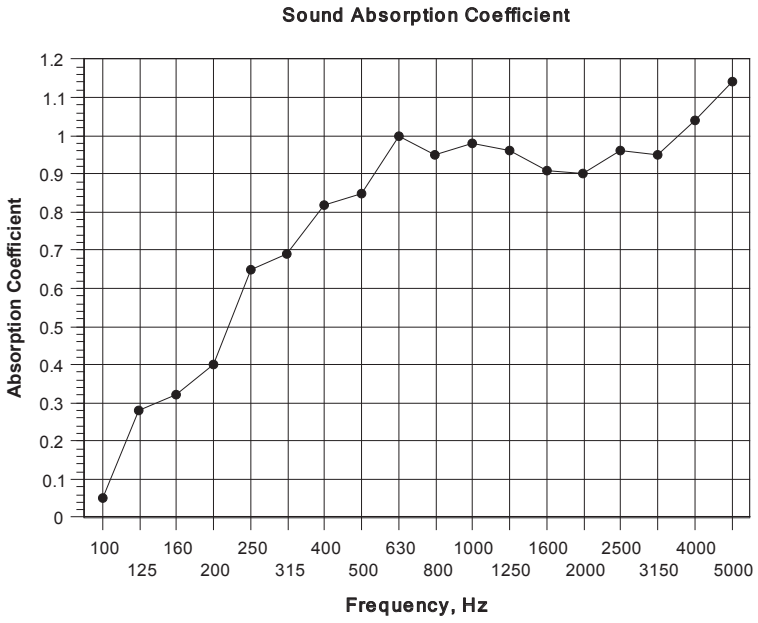
Calculated to EN ISO 11654:1997

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



Practical absorption coefficient, BS EN ISO 11654:1997

v4.3

Acoustic Test Report - Absorption

Absorption Class: A
Calculated to EN ISO 11654:1997
Fabric: Wool Serge 565
Fullness: 100%
Cavity from Wall: 350mm

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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: 12/04/2014

Empty Room:	**Temperature:**	17.0	°C	**Humidity:**	57	%RH	**Pressure:**	1010 mbar
Room with Sample:	**Temperature:**	16.7	°C	**Humidity:**	49	%RH	**Pressure:**	1009 mbar

Sample Description: Wool Serge 565 – Single Layer – 100% fullness (Approx. weight 565g/m²) – 350mm cavity from wall

Mounting Method: G-350
Sample Area: 9 m2
Chamber Volume: 300 m3

	Test 16			
Freq Hz	T1 sec	T2 sec	Absorp Coeff	Practical Absorp Coeff #
*50**	*5.07*	*4.93*	*0.03*	
*63**	*4.60*	*3.72*	*0.28*	*n/a*
*80**	*5.86*	*5.22*	*0.11*	
100	6.96	5.48	0.21	
125	7.22	5.02	0.33	0.35
160	6.82	4.33	0.45	
200	6.37	3.89	0.54	
250	7.19	3.60	0.75	0.70
315	7.06	3.43	0.81	
400	6.40	3.34	0.78	
500	5.35	3.09	0.74	0.80
630	5.03	2.76	0.89	
800	5.43	2.71	1.00	
1000	5.96	2.86	0.98	1.00
1250	5.70	2.78	0.99	
1600	5.08	2.59	1.01	
2000	4.62	2.49	0.97	1.00
2500	4.17	2.28	1.02	
3150	3.50	2.00	1.07	
4000	2.85	1.68	1.17	1.00
5000	2.25	1.38	1.28	
*6300**	*1.66*	*1.08*	*1.39*	
*8000**	*1.38*	*0.93*	*1.36*	*n/a*
*10000**	*0.93*	*0.67*	*1.50*	

α_w 0.90

Class A

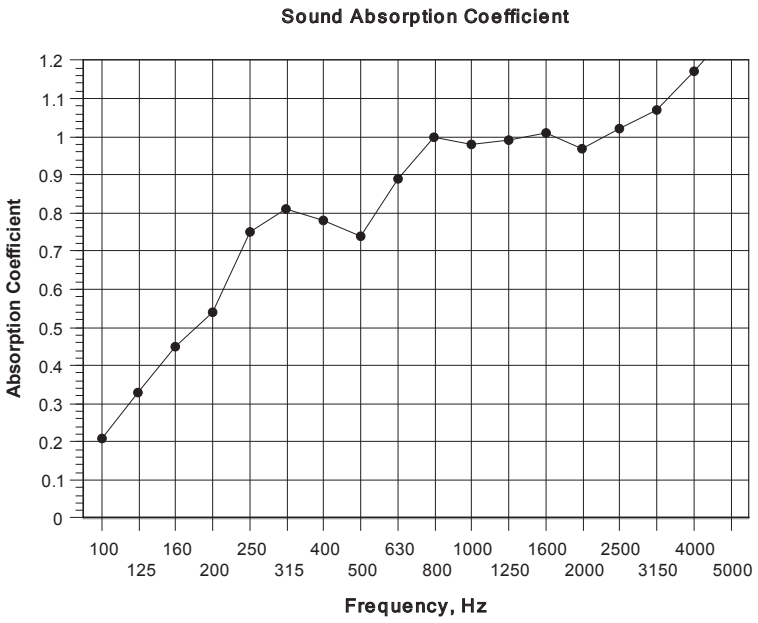
Calculated to EN ISO 11654:1997

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



Practical absorption coefficient, BS EN ISO 11654:1997

v4.3

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UK
J&C Joel United Kingdom - HQ
uksales@jcjoel.com

EU
J&C Joel Europe
eusales@jcjoel.com

ME
J&C Joel Middle East
uaesales@jcjoel.com

VN
J&C Joel Vietnam
asiasales@jcjoel.com

MO
J&C Joel Macau
asiasales@jcjoel.com

HK
J&C Joel Hong Kong
asiasales@jcjoel.com