



FIRE BOARD OF APPEALS AGENDA

MEETING DATE: January 8, 2016

TIME: 8:30 A.M.

LOCATION: Pikes Peak Regional Building Department
2880 International Circle – Hearing Room

ADMINISTRATIVE

1. Approval of the December 11, 2015 meeting minutes
2. Election of Chair and Vice Chair

APPEAL ITEM

1. Request by John Burbach of Lu's Construction for relief of 2009 IFC Appendix K as Amended by City Ordinance 12-111, Section K105.1.2 Hardened Structure – Exterior cladding, eaves and soffits shall be constructed of ignition-resistant materials approved by the *Fire Code Official*. Approved materials include, but are not limited to: fiber-cement board, stucco, masonry/brick, manufactured stone, and similar materials. Natural wood/cedar siding, hardboard, vinyl, and similar combustible materials are not allowed. Location: 715 Orion Star View, Colorado Springs, CO

Respectfully submitted,

Brett T. Lacey, Fire Marshal
Secretary to the Fire Board of Appeals

CSFD Request for Appeal

Jan 8, 2016

Date of Request: Dec 21, 2015 Deadline for Decision: Dec 8, 2016

Project / Facility / Business Information:

Name: SLAVENS RESIDENCE
Address / Location: 715 ORION STAR VIEW

Applicant Information:

Name / Title / Organization: John Burbach / OWNER / Lu's Construction
Mailing Address: 220 W DEL NORTE CSC 80907
Phone Number: 719 200 8826 Fax Number: _____
Email Address: LUC.LUSCONSTRUCTION.COM

Variance Request:

Which code requirement do you disagree with? (Include Code Section and copy of order notice, citation or inspection report)

City Ordinance 12-111 Section K105.1.3 Hardened Structure

What is your proposed solution through alternate means or methods? (Be specific)

At front porch ceiling and rear covered deck ceiling, allow a layer of 1/4" cement board or 5/8" type X drywall to be installed to ceiling framing members to meet ignition resistant requirement, and be overlaid with a layer of 5 1/2" x 3/4" tongue and groove pine to achieve the homeowners desired design goals.

Justification for request: (Why do you believe the Code should not be followed? How does your solution address the intent of the Code? Attach additional information/photos)

Front porch ceiling has no combustible material below it, only concrete. Rear covered deck ceiling is 10 feet or more above non-combustible decking material, and 20' or more above ground level

Information:

Have you discussed this issue with a Division of the Fire Marshal representative? Yes No

If so, with whom? (If not, you may be contacted for additional discussion)

DOREEN WITHEE

Were alternative solutions discussed? Yes No

If yes, why were they unacceptable?

WE AGREED THAT SEEKING A VARIANCE PRIOR TO CONSTRUCTION WOULD BE THE BEST COURSE OF ACTION

For CSFD Use Only

Date Received: 12/21/2015 Date Reviewed: _____ Directed to: _____

Resolution / Decision: This appeal is approved to go to the Fire Board of Appeals at the next scheduled meeting.

John Fire Marshal
12/29/15

Return completed form to: CSFD Division of the Fire Marshal
375 Printers Parkway
Colorado Springs, CO 80910

Ph: (719) 385-5978
Fax: (719) 385-7334

Note: Please remember that all items presented at Fire Board must be turned in to the Secretary of the Fire Board of Appeals for retention. Unless copies are provided the originals will be retained

Further action required:
Reinspect on:

Name / Title:

Date:

Return completed form to: CSFD Division of the Fire Marshal
375 Printers Parkway
Colorado Springs, CO 80910

Ph: (719) 385-5978
Fax: (719) 385-7334

*Note: Please remember that all items presented at Fire Board must be turned in to the Secretary of the Fire Board of Appeals for retention.
Unless copies are provided the originals will be retained*

the Building Code). This shall be required at the time a permitted roofing or reroofing application is done within the limits of the City of Colorado Springs, Colorado, unless specifically approved by the *Fire Code Official*.

SECTION K105 HARDENED STRUCTURE

K105.1 Structure Protection. The following requirements shall be enforced for all homes constructed or reconstructed, after the adoption of this ordinance, within the Hillside Overlay Zone for ignition-resistant construction and fuels management:

1. A Class A roof covering (excluding solid wood materials) shall be installed on all Residential Occupancies and a minimum Class B roof covering shall be installed on remaining occupancies, unless otherwise permitted.

2. Exterior cladding, eaves and soffits shall be constructed of ignition-resistant materials approved by the *Fire Code Official*. Approved materials include, but are not limited to: fiber-cement board, stucco, masonry/brick, manufactured stone, and similar materials. Natural wood/cedar siding, hardboard, vinyl, and similar combustible materials are not allowed.

Exception: Natural wood or plastic products used for fascia, trim board materials and trim accents, such as corbels, false rafter tails, faux trusses, shutters and decorative vents material are allowed when painted or as approved.

3. For any portion of the attached structure with projections or overhangs, the area below the structure shall have all horizontal under-floor areas enclosed with ignition resistive materials such as those allowed in item 2, above.

Exception: Exposed heavy timber or dimensional log construction is allowed.

4. Exterior doors shall be noncombustible or solid core not less than one and three-fourths inches (1¾") thick. Windows within doors and glazed doors shall be tempered safety glass or multi-layered glazed panels.

Exception: Decorative single pane glazing in front entry doors is allowed.

5. Exterior windows shall be a minimum double pane. Tempered panes are preferable but not required by this Code.

Fire Board of Appeals Staff Summary Report

Agenda Item: Slavens Residence, 715 Orion Star View

Report Completed By: Senior Fire Inspector Chip Taylor

Project History: *(plan review & inspection history relevant to this issue)*

This building location is Lot 16 Top of Skyway Filing Number 11; which lies between Gold Camp Rd and 21st St/Cresta Rd. Initial construction review of this new home, located inside the hillside overlay was disapproved on 11/9/15. The plans were promptly corrected, and were approved during a counter walk through on the same day. I would like to commend the contactor for contacting CSFD construction services and pursuing this variance prior to construction beginning instead of waiting until this became a field fire inspection issue.

(STANDARD COMMENT) IGNITION-RESISTANT CONSTRUCTION is required for use.

1. Exterior cladding, eaves and soffits shall be constructed of ignition resistant materials, including but not limited to: fiber-cement board, stucco, masonry/brick, manufactured stone and similar materials. Natural wood/cedar siding, hardboard, vinyl and similar combustibles are not permitted. Natural wood or plastic products used for fascia, trim board materials and trim accents are allowed when painted or as approved.
2. For any portion of the attached structure with projections or overhangs, the area below shall have all horizontal under-floor areas enclosed with ignition resistive materials such as allowed in item 1 above.
3. Exterior doors shall be noncombustible or solid core not less than 1 3/4-inches thick. Windows within doors and glazed doors shall be tempered safety glass or multi-layered glazed panels.
4. Exterior windows shall be a minimum double pane. Tempered panes are preferable but not required.
5. All attic vents shall be screen with wire mesh or hardware cloth having openings no larger than 1/8-inch. Soffit vents are permitted, gable vents may be allowed as approved by the Fire Code Official.
6. Gutters and downspouts of non-combustible construction shall be installed such that the leading edge of the roof is finished with a metal drip edge so that no wood sheathing is exposed. Drip edge shall extend into the gutter. Vinyl gutters may be allowed but must have a noncombustible landing area below the roof line, a minimum of 5-feet from the side of the structure/foundation.
7. Decks and other habitable spaces shall be of ignition resistant or non-combustible decking materials, such as metal or composite materials. Wood is permitted for use for large structural components and railings (ie vertical members).
8. The base of exterior walls, posts or columns shall be protected on the bottom

Staff supervisor sign off Benny Madison Deputy Fire Marshal

Fire Board of Appeals Staff Summary Report

side with provision such as fire resistant foam or wire mesh having openings no larger than 1/8-inch.

9. Chimneys serving fireplaces and other solid or liquid fueled heating appliances shall have an approved spark arrestor or cap.

Per the initial review, the contractor added the following notes on sheet A.1 of their plans:

Building structure will adhere to Colorado Springs City Ordinance No. 12-111

Standing seam metal class A roof

Metal gutters and downspouts

All soffits, eaves, exterior ceiling materials ¼" Hardi cement board

All fascia 5 ½" x 1" Hardi cement board

All soffit venting ½" or less opening metal screen grills

Fibercon synthetic ignition resistant decking material

Metal handrails around deck

All exterior walls stucco

The following red-line item was added to the approved review:

Decorative wood accents must be stained/sealed to prevent cracking

Homeowner of this V-B constructed, non-sprinkled home has requested the underside of the exterior front porch and rear deck ceilings be allowed to be covered with wood tongue and groove lumber applied over 5/8" fire rated sheetrock (taped and mudded) or ¼" cement board.

Applicable Code(s) Summary: (code applicable to year of construction/remodel and/or current code as needed)

Specific code references:

Staff supervisor sign off Benny Medina Deputy Fire Marshal

Fire Board of Appeals Staff Summary Report

Considerations

Year Built/remodeled - 2015

Occupancy type -R3

Occupant Load -

Square footage - 4241

Construction Type - VB

Sprinkled? - No

Alarmed? - No

Contractor Licensing Details -

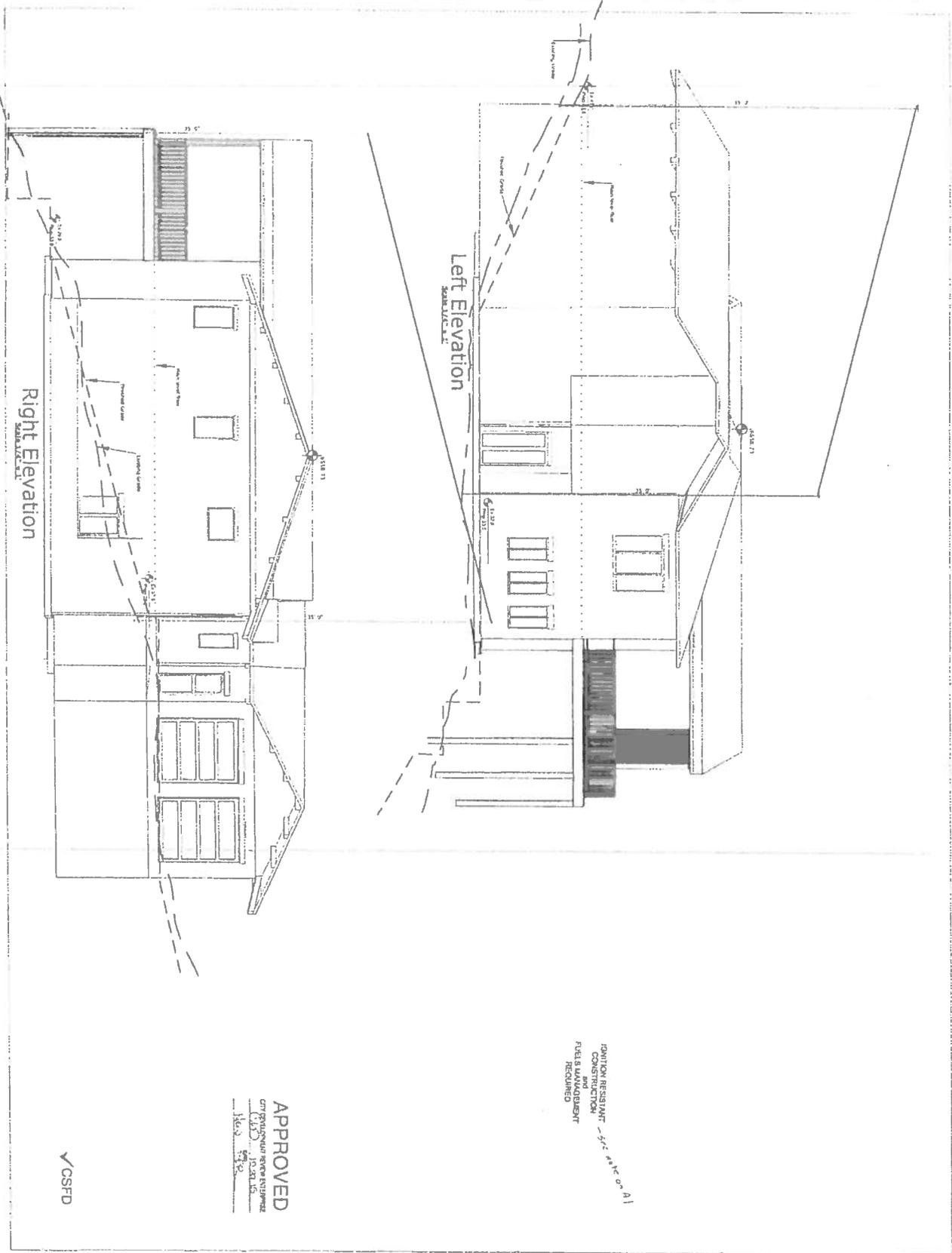
CSFD Recommendations for Resolution:

The building location is a vacant lot within the hillside overlay. Based on images available on Google Map, the existing area contains high levels of combustible vegetation. The home site is within the wild land-urban interface; approximately 180 feet up a dead end cul-de-sac, and is approximately 1400 feet from the forest boundary. Based on the proximity to the wild land-urban interface, and the high levels of combustible vegetation, CSFD recommends the disapproval of this variance. There are commercially available alternative cement board material that provides the look of wood tongue and groove without the higher fire danger associated with this exposed wood. Examples of this cement board alternative are provided.

Attachments:

- Photos
- Floor Plan
- Code References
- Data Sheets
- Inspection/Plan Review Reports
- Correspondence
- Contractor Licensing Details

Staff supervisor sign off Benny Maldonado Deputy Fire Marshal



IGNITION RESISTANT - FIRE RESISTANT
 CONSTRUCTION
 FUEL & MANAGEMENT
 REQUIRED

CSFD

APPROVED
 [Signature]
 [Title]

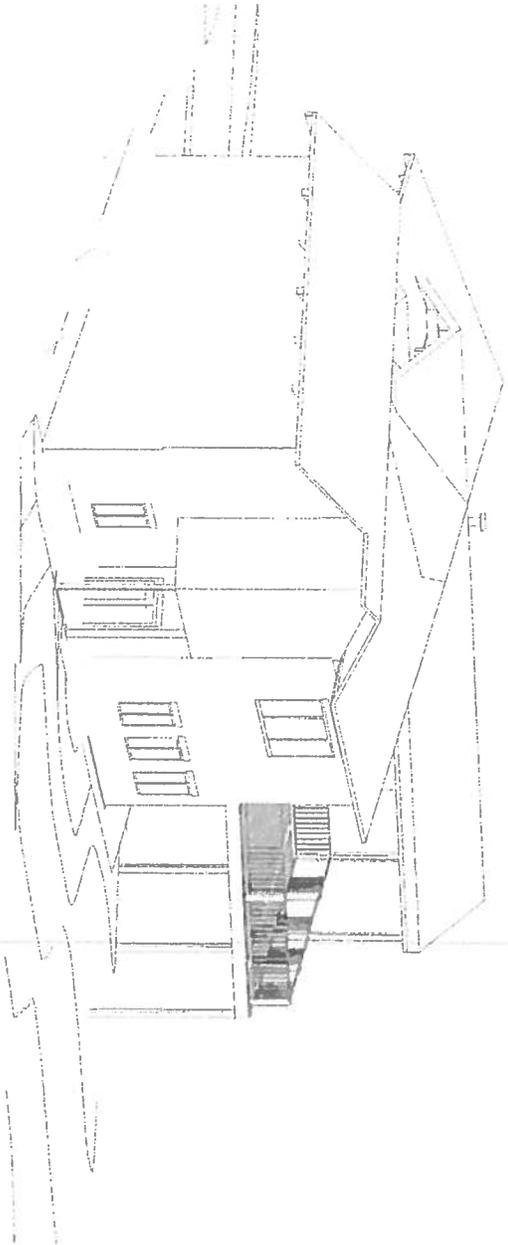
Slavens Residence
715 Orion Starview



Version
 1.1
 Design by
 LU
 Lu's Construction, LLC
 220 West Del Norte
 Colorado Springs,
 CO 80907
 719-200-8828

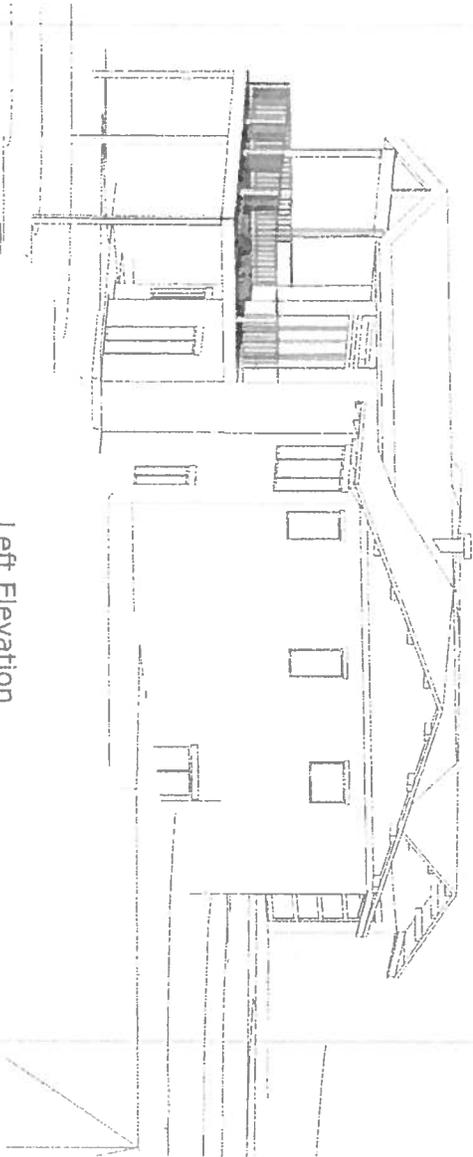
Sheet No
A.2

Right Elevation



IGNITION RESISTANT
CONSTRUCTION
FUEL MANAGEMENT
REQUIRED

Left Elevation



RELEASED FOR PERMIT
NOV 03 2015
MAY
AND CONSTRUCTION

Slavens Residence
715 Orion Starview

Colorado Springs, CO 80908

Version
1.1

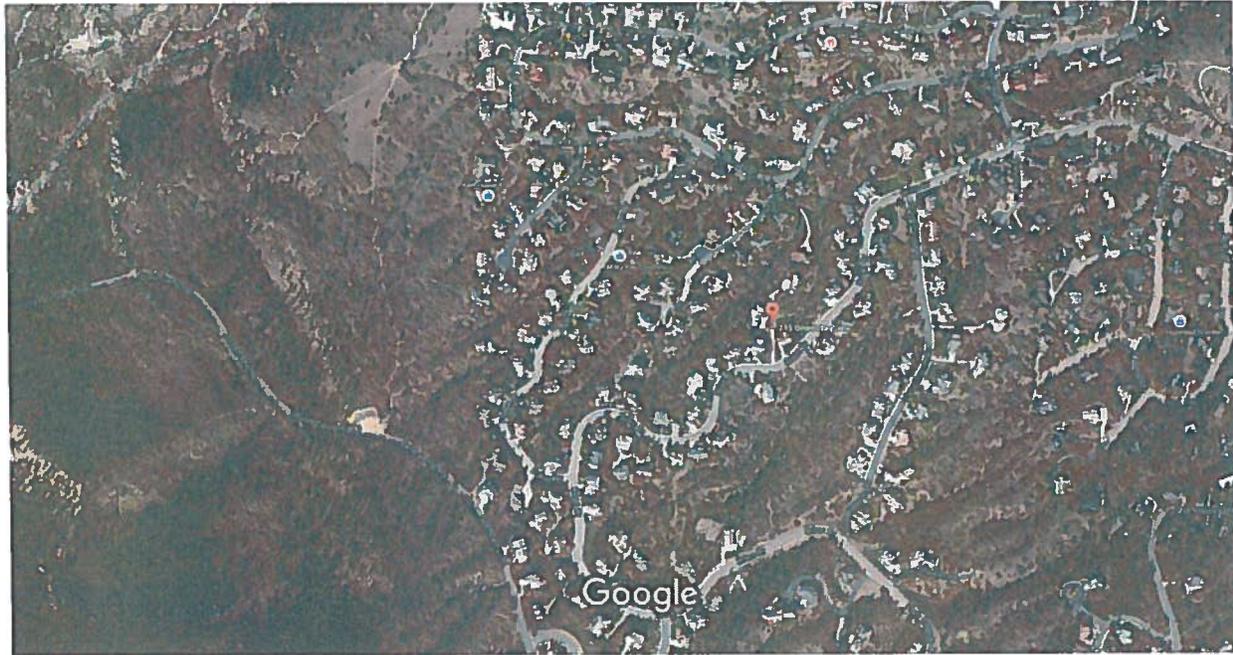
Designed by
Lu Construction LLC
220 West Del Norte
Colorado Springs,
CO 80907
719-200-9828
Checked by
John B
NOV 3, 2015

Sheet No
A.2



715 Orion Star View

Overall view



Imagery ©2015 DigitalGlobe, USDA Farm Service Agency, Map data ©2015 Google 200 ft

715 Orion Star View
Colorado Springs, CO 80906



715 Orion Star View
Culd-de-Sac Distance



Map data ©2015 Google 20 ft

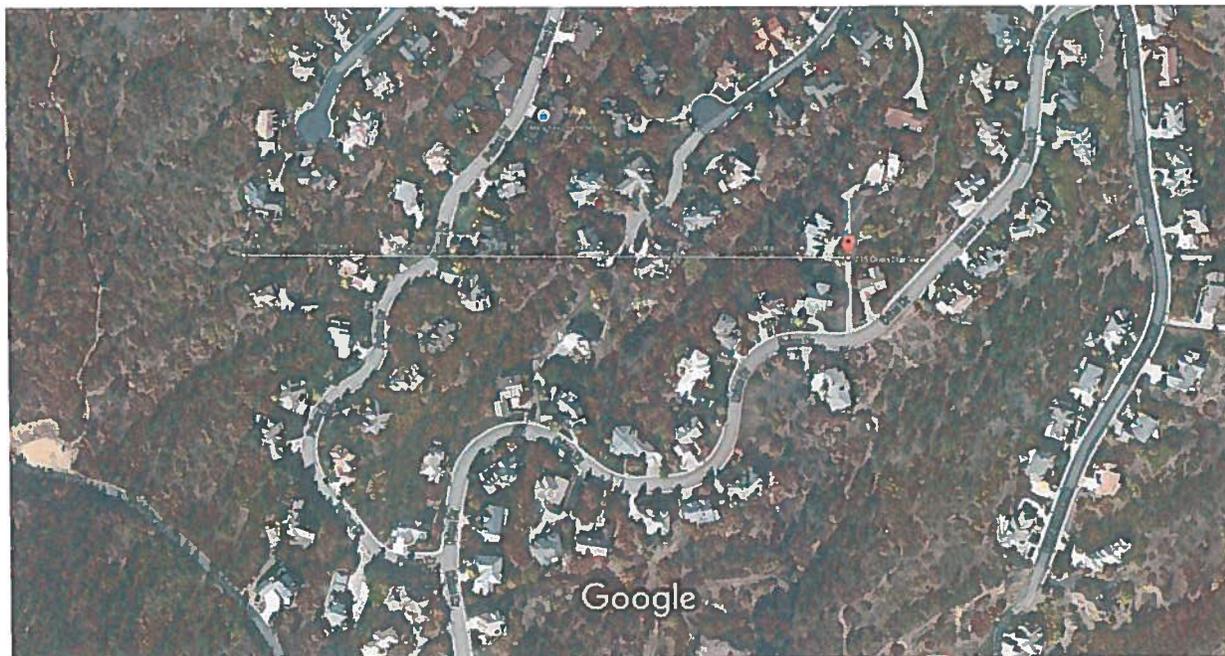
715 Orion Star View
Colorado Springs, CO 80906

Measure distance
Total distance: 183.77 ft (56.01 m)



715 Orion Star View

Forest Boundary distance



Imagery ©2015 DigitalGlobe, USDA Farm Service Agency, Map data ©2015 Google 100 ft

715 Orion Star View
Colorado Springs, CO 80906

Measure distance
Total distance: 1,393.64 ft (424.78 m)



715 Orion Star View

Building Site is on the east side of Orion Star View



Map data ©2015 Google 20 ft

715 Orion Star View

Colorado Springs, CO 80906

**COLORADO SPRINGS FIRE PREVENTION
PLAN REVIEW REPORT**

December 23, 2015

Tax Id: 7422109024 DSN:

Project Description: New Private Residence, 715 Orion Starview

SYSTEMS:

CN:Code: IBC -09 IFC -09 PPRBC 11/Class: R3/Const: VB/Stories: 2/Size: 4847/OL:

FH:Required Flow: gpm 2000/# Hydrants 2/On site flow: 2100

DV:

Additional Comments:

Business Name: PRIVATE RESIDENCE

Address: 00715 ORION STARVIEW,

Plan Id: 20151112-HS-1

Plan Description: NEW RES HOME/HILSID

Plan Status: Approved/Corrected

Contractor: LUS CONSTRUCTION

Review Status: APP/CORRECTED

Plan Reviewer: Taylor II, Wyman L

Review Date: 11/9/2015

Status
FYI

Comment
*****(STANDARD COMMENT 1) This project is: New Private Residence, 715 Orion Starview

Date of Plans: 11/3/15

You can access our web site for the latest fire department plan review comments:

1. From www.pprbd.org, select PLAN REVIEW then FIND PLANS next COLORADO SPRINGS
2. Scroll down to the correct address. You may then select APPROVED/DISAPPROVED to view comments associated with that particular project.

Attention
ATTENTION-ATTENTION Your assistance is needed regarding these plan review comments. The Division of the Fire Marshal is asking you to help them improve upon the plan review comments generated for reviews.

Please take a few minutes to complete the survey at:

<http://goo.gl/forms/oTglzm8gzx>

Thank you very much for your participation and assistance.

*****(STANDARD COMMENT) RED-LINED COMMENTS

The following RED-LINED items are to be corrected prior to final inspection:

1. Decorative wood accents must be stained/sealed to prevent cracking.

(STANDARD COMMENT) TIMING OF INSTALLATION OF ACCESS ROADS

Fire department access roads shall be made serviceable prior to and during the time of construction except when approved alternative methods of protection are provided. (2009 IFC 501.4)

F

Colorado Springs Fire Department plan reviews are based upon information provided on the drawings and/or the attached reference material. Issues or features that are not presented within the construction documents are assumed to be complaint with applicable codes/standards. It is the responsibility of the building owner to ensure that minimum code requirements are met as established by the Authority Having Jurisdiction, whether or not the requirements are specifically indicated on the submitted construction documents.

The CSFD has reviewed the submittal in accordance with the adopted fire code requirements, CSFD local amendments, City Code Standards, and applicable NFPA Standards. All plan review comments are subject to final on-site field inspections, and testing by the CSFD. Review and approval by the CSFD shall not relieve the applicant of the responsibility of compliance with the International Fire Code. (105.4.4)

FYI (STANDARD COMMENT 10) INSPECTIONS

Please call 719-385-5982 Extension 2 to schedule all construction related inspection activities. You will need to schedule an inspection at the time of framing and a final inspection near completion.

Due to the dynamic nature of inspectors schedules, PLEASE call your inspection requests in with ample time to allow scheduling. When calling, please have your complete CSFD plan review number(s) ready for each inspection request. (i.e. 2013-1234 - HS-1)

The CSFD Approved sets of plans are to be on site for all inspections.

FYI *****STANDARD COMMENT) DISAPPROVED ITEMS ADDRESSED

The plans have been resubmitted and all the disapproved comments have been addressed and/or corrected as follows:

1. CSU Fire Flow report provided showing 2100 gpm available.
2. Revised Residential Review form provided.
3. Note provided on Sheet A1 showing ignition resistant material to be used.

**COLORADO SPRINGS FIRE PREVENTION
PLAN REVIEW REPORT**

December 23, 2015

Tax Id: 7422109024 DSN:

Project Description: New Private Residence, 715 Orion Starview

SYSTEMS:

CN:Code: IBC-09 IFC-09 PPRBC 11/Class: R3/Const: VB/Stories: 2/Size: 4847/OL:

FH:Required Flow: gpm 2000/# Hydrants 2/On site flow: 2100

DV:

Additional Comments:

Business Name: PRIVATE RESIDENCE

Address: 00715 ORION STARVIEW,

Plan Id: 20151112-HS-1

Plan Description: NEW RES HOME/HLSID

Plan Status: Approved/Corrected

Contractor: LUS CONSTRUCTION

Review Status: DISAPPROVED

Plan Reviewer: Taylor II, Wyman L

Review Date: 11/9/2015

Status
FY1

Comment

*****(STANDARD COMMENT 1) This project is: New Private Residence, 715 Orion Starview

Date of Plans: 10/1/15

You can access our web site for the latest fire department plan review comments:

1. From www.pprbd.org, select PLAN REVIEW then FIND PLANS next COLORADO SPRINGS
2. Scroll down to the correct address. You may then select APPROVED/DISAPPROVED to view comments associated with that particular project.

ATTENTION-ATTENTION-ATTENTION Your assistance is needed regarding these plan review comments. The Division of the Fire Marshal is asking you to help them improve upon the plan review comments generated for reviews,

Attention

Please take a few minutes to complete the survey at:

<http://goo.gl/forms/oTglzm8gz1>

Thank you very much for your participation and assistance.

Disapproved

*****(STANDARD COMMENT) DISAPPROVED COMMENTS

The following information and/or corrections are needed prior to completing a full plan review. Please respond, in writing on letterhead, to each of the following comments:

1. Provide updated Residential Review Form.
2. Provide actual CSU fire flow report with map.
3. Correct required fire flow.
4. Provide materials used for soffits, eaves, patio decking materials, and ceilings for covered porches and patios on the new Review form and on your drawings. These material must be ignition resistant. Please consult the CSFD Hill Side Design Manual for allowable materials.

6

Also review the disapproved plans for additional written comments prior to submittal of new plans.

Disapproved

(DISAPPROVED) FIRE FLOW REPORT NOT PROVIDED

Provide confirmation on the fire flow results from Colorado Springs Utilities. A copy of their report for this area is required to be provided with your plan submittals.

When multiple fire flows are provided from CSU, please indicate all flows on your submitted plans.

NOTE - To request a fire flow report, please go to: <https://www.csu.org/Pages/construction-drawing-review.aspx>

FYI (STANDARD COMMENT) THE DISAPPROVED ITEMS MAY NOT CONSTITUTE A COMPLETE LIST OF VIOLATIONS.

It is the responsibility of the design professional to conduct a complete re-review of the plans for additional violations of the adopted codes/standards and incorrect information prior to resubmitting.

FYI (STANDARD COMMENT) CORRECTIONS

All corrections and comments are to be submitted back to CSFD in writing, or provid submittal sheets/drawings, etc as requested, to complete the review. Corrections are not accepted over the phone, via fax or verbally.

Our products

The original range of products from James Hardie has evolved from many years of research and development and are very durable and low maintenance which helps create buildings that are low in lifetime energy consumption.

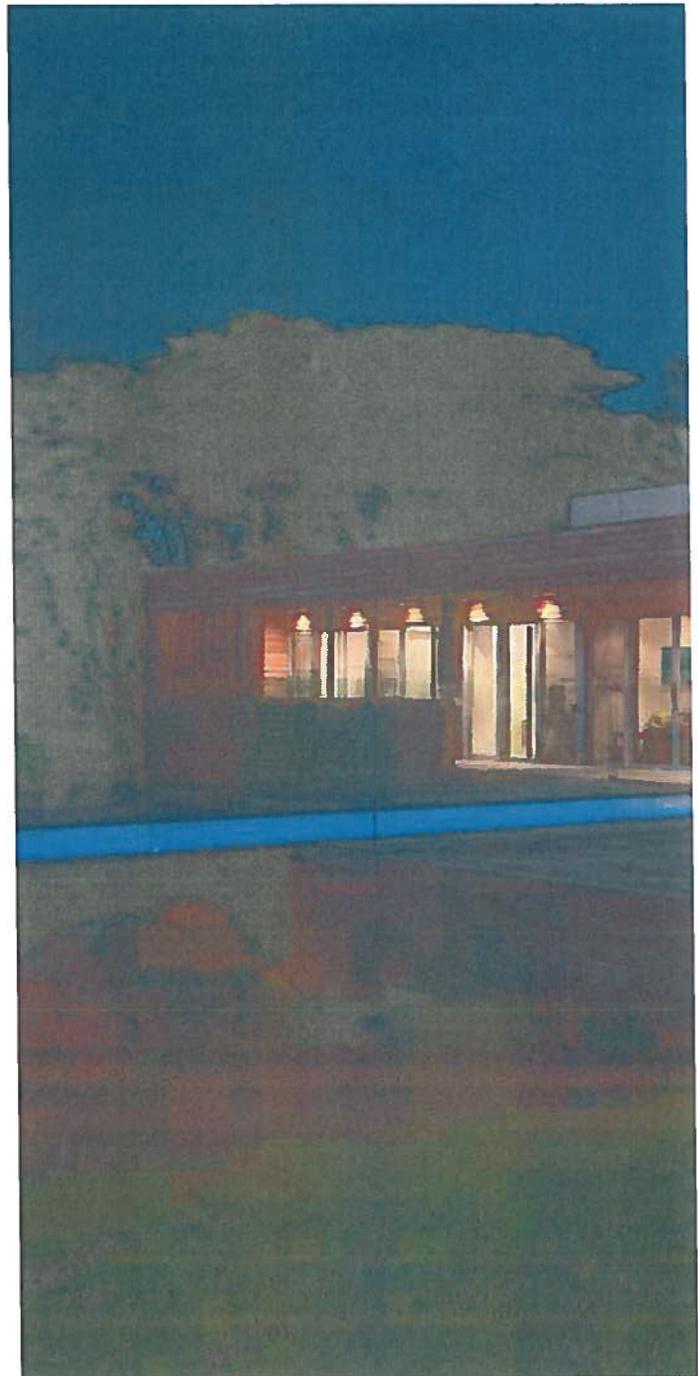
Our extensive range gives you design freedom and the opportunity to create the look you want for your home.

And our legendary durability means you can build with the peace of mind that comes from knowing that your home will keep its good looks for many years.

Builders Australia-wide use and trust James Hardie products because they know from experience how well they perform.

When installed and maintained correctly, James Hardie warrants its products to be resistant to fire, impact, moisture damage, rotting and termites*.

Our products are also designed and manufactured to resist shrinking, swelling and cracking which results in the ability to hold paint longer to minimise ongoing maintenance.



When installed and maintained correctly, all James Hardie products are*:



*To the extent set out in James Hardie's published literature current at the time of installation.

Products and applications

Product	Page	Application																			
		Bathroom constructions	Bracing	Building wrap	Columns	Structural flooring	Cavity construction	Commercial facades	Decking	Decorative	Eaves	Soffits	External cladding	Fencing	Fire and acoustically rated wall	Internal lining	Jointing compound	Thermal break	Trim	Underlays	Commercial Flooring
Artista® column	48				■				■												
CornTex® facade panel and fixing system	26						■	■				■		■							
EasyLap™ panel	10		■				■			■	■	■		■							
ExoTec® facade panel and fixing system	27						■	■		■	■	■		■							
HardieBrace™ sheet	46		■																		
HardieBreak™ thermal strip	34						■										■				
HardieFence™ EasyLock® system	47												■								
HardieFlex™ sheet	11		■				■			■	■	■		■							
* HardieGroove™ lining	29	■								■	■			■	■						
* HardiePanel™ compressed sheet	39	■			■			■						■							■
HardiePlank™ weatherboard	12		■				■			■	■	■		■							
HardieScreen™ lattice	49							■													
HardieTex™ system	14		■				■					■		■							
HardieWrap™ weather barrier	36			■																	
James Hardie™ ceramic tile underlay	44	■																			■
James Hardie™ vinyl and cork underlay	45	■																			■
PanelClad® sheet	15		■				■			■	■	■		■							
PineRidge® lining	30	■	■												■						
PrimeLine® weatherboard	16						■			■	■	■		■							
Scyon™ Axent™ trim	38																			■	
Scyon™ Axon™ cladding	18		■				■			■	■	■		■							
Scyon™ Linea™ weatherboard	20		■				■					■		■							
Scyon™ Matrix™ cladding	22						■			■	■	■		■							
Scyon™ Stria™ cladding	24		■				■			■	■	■		■							
Scyon™ Secura™ exterior flooring	40	■				■		■													
Scyon™ Secura™ interior flooring	42	■				■															■
Versilux® lining	31	■	■							■	■			■	■						
Villaboard® lining	32	■	■							■	■			■	■						

HardieGroove™ lining



What is it?

A flat sheet that has vertical V-shaped grooves carved into its face. Sanded smooth, it's site-painted to create the traditional look of tongue-and-groove timber panels.

Where do you use it?

As an internal wall lining in residential living areas, hallways, bathrooms (excluding showers) and garages and on soffits where a durable, tongue-and-groove timber panel look is required. It can be used on either timber or light gauge steel framed homes.

What are the key benefits?

DURABILITY. The high impact resistance of HardieGroove lining, compared to timber, makes it the smart choice for high-traffic areas that are prone to wear and tear.

FAST INSTALLATION. The sheet with V-shaped grooves carved into its face gives a look of individual tongue-and-groove panels with the benefit of fast broadwall coverage. To add to this, the sheet edges are finished with a half groove to conceal butt jointing and make it easy to do.

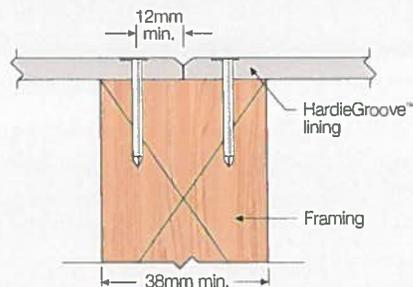
SECURITY. HardieGroove lining is resistant to damage from termites, rot and fire.*

MADE IN NEW ZEALAND.

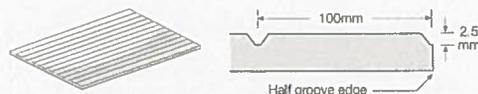


Closeup detail

Butt joint



HardieGroove™ lining



What are the sizes?

Product code	Length (mm)	Width (mm)	Thickness (mm)	Mass (kg/m ²)
400245	2,700	1,200	7.5	11.7

Selling units per pack: 20 sheets, or half packs of 10 sheets

What are the accessories?

Accessory	Code	Page
HardieBlade™ Saw Blade 185mm	300660	51
HardieBlade™ Saw Blade 254mm	303375	51
HardieDrive™ Screws 32mm long	305532	51
HardieDrive™ Screws 40mm long	305533	51
James Hardie™ Fibreshears	300653	53
James Hardie™ Score and Snap Knife	305576	55

Note All dimensions and masses provided are approximate only and subject to manufacturing tolerances. Masses are based on equilibrium moisture content of product.
* When installed and maintained correctly and to the extent set out in James Hardie's published literature current at the time of installation.

PanelClad™ sheet



What is it?

A pre-textured, site-painted sheet in two modern styles:

PanelClad® Stucco sheet. A hand-trowelled cement-rendered look, reminiscent of a Mediterranean style

PanelClad® TextureLine sheet. A rough-hewn, vertical board and batten surface that gives the effect of bandsawn timber.

Where do you use it?

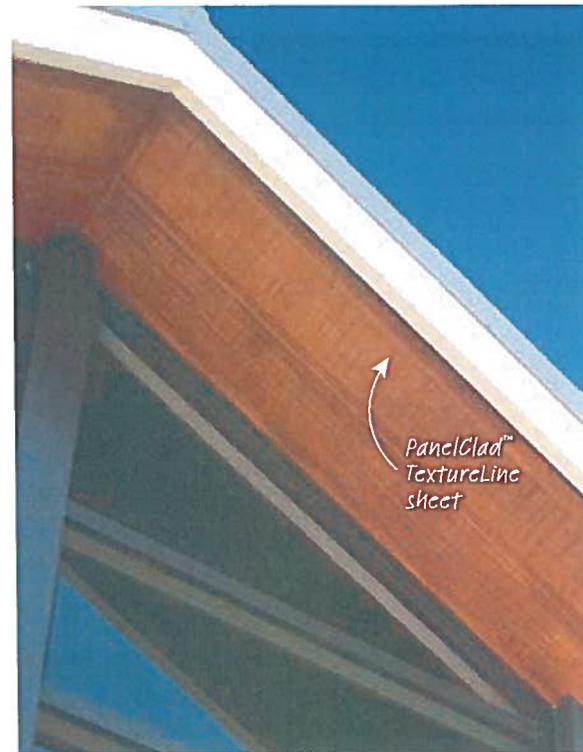
As an external or internal wall cladding in residential single and medium-density homes, including alterations and additions, where a textured feature panel is required. Ideal for creating whole walls of interest or to emphasise design features such as gable ends, on either timber or light gauge steel framed homes.

What are the key benefits?

FAST INSTALLATION. PanelClad sheet is lightweight and its square edges, together with the wide range of James Hardie™ accessories, make it easy and fast to install by tradespeople, owner-builders and renovators.

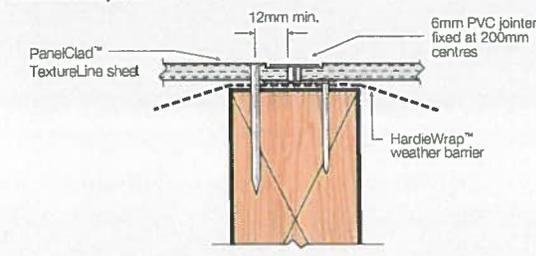
VERSATILITY. PanelClad sheet can also be used as bracing.*

SECURITY. PanelClad sheet is resistant to damage from termites, rot and fire.**



EXTERNAL CLADDING

TextureLine joint



PanelClad® Stucco sheet a hand-trowelled cement-rendered finish



PanelClad® TextureLine sheet a rough-hewn, board and batten finish



What are the sizes?

Product code	Profile	Length (mm)	Width (mm)	Thickness (mm)	Mass (kg/m ²)
400404	Stucco	2,440	1,200	6	9.32
400417	TextureLine	2,700	1,198	6	9.28

Selling units per pack: 30 sheets or each

What are the accessories?

Accessory	Code	Page
HardieBlade™ Saw Blade 185mm	300660	51
HardieBlade™ Saw Blade 254mm	303375	51
HardieDrive™ Screws 32mm long	305532	51
HardieDrive™ Screws 40mm long	305533	51
James Hardie™ Fibreshears	300653	53
James Hardie™ Joint Sealant* 300ml cartridge	305534	54
James Hardie™ Joint Sealant* 600ml sausage	305672	54
James Hardie™ PVC Cap Mould 3,000mm x 6.0mm	305543	54
James Hardie™ 45x45mm PVC Corner Angle Mould	305554	54
James Hardie™ PVC External Corner Angle for 6mm thick sheets	305544	54
James Hardie™ PVC Flashing Mould for 6mm thick sheets	305552	55
James Hardie™ PVC Internal Corner Angle for 6mm thick sheets	305545	55
James Hardie™ PVC Straight Jointer for 6mm thick sheets	305546	55
James Hardie™ Score and Snap Knife	305576	55
PineRidge® & PanelClad® TextureLine PVC Straight Jointer	305780	56

Note All dimensions and masses provided are approximate only and subject to manufacturing tolerances. Masses are based on equilibrium moisture content of product.

* When installed in accordance with James Hardie's Structural Bracing Application Guide.

** When installed and maintained correctly and to the extent set out in James Hardie's published literature current at the time of installation. ^ Not to be used in fire applications.

CERTIFICATE OF PHYSICAL PROPERTIES

PanelClad® Sheets

PanelClad® sheet has been comprehensively tested and displays the following typical physical properties.

STRENGTH AND MOISTURE RELATED			
PHYSICAL PROPERTY	SATURATED CONDITION	EQUILIBRIUM CONDITION 23°C – 50% RH	STANDARD
Minimum Bending Strength Category	>7.0 Mpa		AS/NZS 2908.2
Type	3 A		
Average Density in kg/m ³ (Oven Dry)	1298		AS/NZS 2908.2
Watertightness		Passes	AS/NZS 2908.2
Water Absorption		34.2%	ASTM C1186
EQ Moisture Content		3.4%	ASTM C1186
Moisture Movement 30-90% relative humidity*		A direction 0.04% B direction 0.03%	ASTM C1186
Dimensional Conformance		Passes	AS/NZS 2908.2

DURABILITY			
Heat-Rain Durability		Passes	AS/NZS 2908.2
Warm Water Resistance		Passes	AS/NZS 2908.2
Freeze-Thaw Resistance		Passes	AS/NZS 2908.2
Soak-Dry		Passes	AS/NZS 2908.2

MISCELLANEOUS PROPERTIES		
Termite resistance	Resistance to damage from termite attack.	Based on testing completed by CSIRO Division of Forest Products and Ensis Australia James Hardie building products have demonstrated resistance to termite attack.

*The way fibre cement sheets are produced, the grain direction of the cellulose fibre is typically along the direction of the sheet. That means that typically the fibre direction is in the same direction as the long edge of the sheet. The characteristic flexural strength in the 'a' direction is typically stronger, as the rupture is occurring across the grain length. The 'b' direction is tested along the length of the cellulose fibres, therefore is typically lower than the 'a' direction.

THERMAL PROPERTIES		
Combustibility	Suitable where non-combustible materials are required in accordance with C1.12 of the BCA	Deemed to comply with BCA
Sample Classification	Group 1	AS/NZS 3837
Average Specific Extinction Area	6.8m ² /Kg	
Fire Propagation Index	0	BS476.6
Spread of Flame Index	Class 1	BS476.7
Surface Burning Characteristics	Lower Values Are Better	ASTM E84
Flame Spread Index	0	
Fuel Contributed	0	
Smoke Developed Index	5	
Class	A	
Thermal Conductivity	0.23W/m °K	ASTM C 518

NOTE

In addition to the above product properties, building assemblies incorporating this product have been tested for fire, acoustic and impact performance. Additional installation information, warranties, and warnings are available at www.jameshardie.com.au

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www.jameshardie.com.au



CERTIFICATE OF PHYSICAL PROPERTIES

HardieGroove™ Lining

HardieGroove™ Lining has been comprehensively tested and displays the following typical physical properties.

STRENGTH AND MOISTURE RELATED			
PHYSICAL PROPERTY	SATURATED CONDITION	EQUILIBRIUM CONDITION 23°C – 50% RH	STANDARD
Average Bending Strength Category		>10MPa	AS/NZS 2908.2
Type		3 B	
Density in kg/m ³ (Oven Dry)	1285		AS/NZS 2908.2
Watertightness		Passes	AS/NZS 2908.2
Water Absorption	29.9%		ASTM C1186
EQ Moisture Content		2.4%	ASTM C1186
Moisture Movement 30-90% relative humidity*		A direction 0.04% B direction 0.04%	ASTM C1186
Dimensional Conformance	N.A	Passes	AS/NZS 2908.2

DURABILITY			
Heat-Rain Durability		Passes	AS/NZS 2908.2
Warm Water Resistance		Passes	AS/NZS 2908.2
Freeze-Thaw Resistance		Passes	AS/NZS 2908.2
Soak-Dry		Passes	AS/NZS 2908.2

MISCELLANEOUS PROPERTIES		
Termite resistance	Resistance to damage from termite attack.	Based on testing completed by CSIRO Division of Forest Products and Ensis Australia James Hardie building products have demonstrated resistance to termite attack.

*The way fibre cement sheets are produced, the grain direction of the cellulose fibre is typically along the direction of the sheet. That means that typically the fibre direction is in the same direction as the long edge of the sheet. The characteristic flexural strength in the 'a' direction is typically stronger, as the rupture is occurring across the grain length. The 'b' direction is tested along the length of the cellulose fibres, therefore is typically lower than the 'a' direction.

THERMAL PROPERTIES		
Combustibility	Suitable where non-combustible materials are required in accordance with C1.12 of the BCA	Deemed to comply with BCA
Sample Classification	Group 1	AS/NZS 3837
Average Specific Extinction Area	17.7m ² /Kg	
Fire Propagation Index	0	BS476.6
Spread of Flame Index	Class 1	BS476.7
Surface Burning Characteristics	Lower Values Are Better	ASTM E84
Flame Spread Index	0	
Fuel Contributed	0	
Smoke Developed Index	5	
Class	A	
Thermal Conductivity	0.553W/m °K	ASTM C 518

NOTE

In addition to the above product properties, building assemblies incorporating this product have been tested for fire, acoustic and impact performance. Additional installation information, warranties, and warnings are available at www.jameshardie.com.au

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