

Development Services

From Concept to Construction

Phone: 503-823-7300 Email: bds@portlandoregon.gov 1900 SW 4th Ave, Portland, OR 97201

More Contact Info (<http://www.portlandoregon.gov/bds/article/519984>)



APPEAL SUMMARY

Status: Decision Rendered - Held over from ID 23300 (1/15/20) for additional information

Appeal ID: 23379	Project Address: 5060 N Greeley Ave
Hearing Date: 1/29/20	Appellant Name: Eric Mishler
Case No.: B-008	Appellant Phone: 5033077232
Appeal Type: Building	Plans Examiner/Inspector: Brian McCall
Project Type: commercial	Stories: 11 Occupancy: Type IA, III-A Construction Type: Commercial
Building/Business Name: adidas North Building	Fire Sprinklers: Yes - Level B4 - 6
Appeal Involves: Erection of a new structure, Reconsideration of appeal	LUR or Permit Application No.: 18-188494-CO
Plan Submitted Option: pdf [File 1]	Proposed use: Business

APPEAL INFORMATION SHEET

Appeal item 1

Code Section	703.2
Requires	<p>Requirements:</p> <p>Where materials, systems or devices that have not been tested as part of a fire- resistance-rated assembly are incorporated into the building element, component, or assembly, sufficient data shall be made to the building official to show that the required fire-resistance rating is not reduced.</p> <p>Provide a tested and rated assembly for angles plates, and HSS steel in a horizontal assembly or provide an approved building code appeal for the proposed installations.</p>
Code Modification or Alternate Requested	Reconsideration Text: 2D detail drawings, pictures and special inspection frequency included in this Appeal 083300 Reconsideration as requested by John Butler. Reference Page 1 in attachment.
Proposed Design	<p>Four different configurations for protection of the structural members are proposed for installation at this facility:</p> <p>Option #1) CAFCO 300 troweled on with CAFCO FIBER-PATCH in gaps</p> <p>Option #2) CAFCO 300 troweled on with mineral wool and Hilti CP 606 Silicone Sealant or Hilti CFS-SP Firestop Spray in gaps.</p> <p>Option #3) CAFCO BOARD with CAFCO FIBER-PATCH</p> <p>Option #4) CAFCO BOARD with mineral wool and Hilti CP 606 Silicone Sealant or Hilti CFS-SP Firestop Spray in gaps.</p>

Gaps less than 1/8" in width between the CAFCO 300 or CAFCO BOARD and the concrete surface do not need to have CAFCO FIBER-PATCH installed, as per Isolatek Engineering Judgment 05BC9311, dated 7 November 2019.

For Options #1 and #3, gaps between 1/8" and 4" must be patched or sealed with CAFCO FIBER-PATCH or SFRM (CAFCO 300). The patch material shall taper from the edge of the top surface of the board to the existing SFRM and overlap a minimum of 3" onto the surface of the CAFCO 300 or CAFCO BOARD. This process is allowed in areas not exceeding 432 sq. in. (3 sq. ft.).

For Options #2 and #4, in lieu of FIBER-PATCH, minimum 6 pcf density mineral wool can be used for gaps up to 4" in width. The mineral wool must be friction fit (tightly packed) into the gap, flush with the surface of the concrete/ steel member. A UL Classified elastomeric spray, such as Hilti CFS-SP SIL Silicone Firestop Joint Spray shall be applied over the mineral wool in accordance with the firestop spray manufacturer's instructions providing a minimum 2 mm wet thickness and overlapping onto the surrounding substrates a minimum of 2". This is allowed in areas not exceeding 144 sq. in. (1 sq. ft.). If Hilti CP 606 Silicone Firestop Sealant is used, the mineral wool will be required to be recessed from the surface of the concrete to accommodate the required depth of sealant as indicated by the manufacturer's installation instructions, to achieve the required rating.

For gaps exceeding the limits outlined above, minimum 6 pcf density mineral wool shall be tightly fit into the gap between the concrete and the CAFCO 300 or CAFCO BOARD. A minimum 3.4 lb./sq. yd. diamond mesh expanded steel should be fastened to the concrete and steel member covering the gap. The mesh should be fastened with welds, self-tapping screws, or powder actuated fasteners, with steel washers, spaced on maximum 6" centers. The minimum thickness of CAFCO 300 or CAFCO BOARD should then be applied over the mesh. This is only required where the area limitations as indicated above for the options, are exceeded.

Reason for alternative Gaps located at the interface of the column and the deck as indicated in the attached detail range from flush, up to 4" in width. It is desired that the gaps between the column and the deck be protected, that the required hourly fire-resistance rating of the members is maintained, in accordance with ASTM E119/UL 263, "Standard Test Methods for Fire Tests of Building Construction and Materials," as well as the 2014 Oregon Structural Specialty Code.

Pursuant to Global Fire Protection review of the evaluation presented, GFPG finds the report provides substantial justification to support the conclusions drawn that the required fire-resistance rating in accordance with ASTM E119 would be obtained, provided that the CAFCO BOARD is installed in accordance with manufacturer's written application installation instructions and methods.

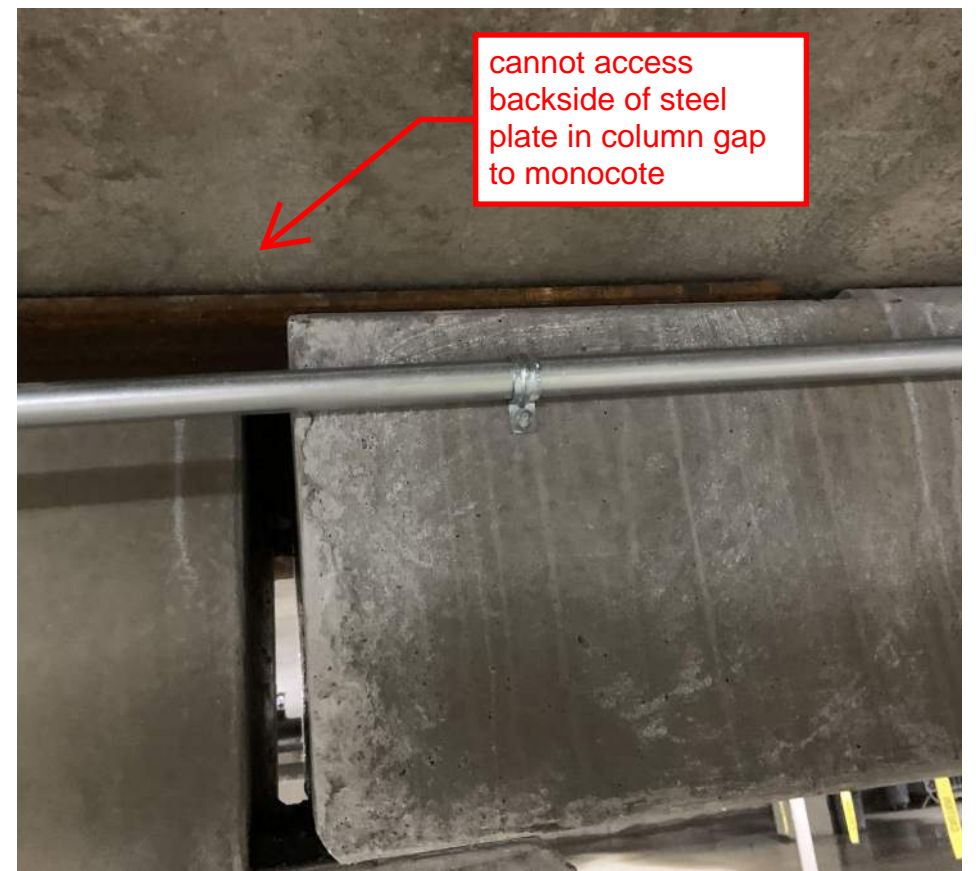
APPEAL DECISION

Use of material not part of a tested assembly with engineering analysis: Granted as proposed.

The Administrative Appeal Board finds that the information submitted by the appellant demonstrates that the approved modifications or alternate methods are consistent with the intent of the code; do not lessen health, safety, accessibility, life, fire safety or structural requirements; and that special conditions unique to this project make strict application of those code sections impractical.

Pursuant to City Code Chapter 24.10, you may appeal this decision to the Building Code Board of Appeal within 90 calendar days of the date this decision is published. For information on the appeals process, go to www.portlandoregon.gov/bds/appealsinfo, call (503) 823-7300 or come in to the Development Services Center.

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City of Portland, Oregon - Bureau of Development Services

1900 SW Fourth Avenue • Portland, Oregon 97201 | 503-823-7300 | www.portlandoregon.gov/bds



Deferred Submittal Requirements and Application

Applicants will provide:

- ☒ A copy of this application
- ☒ Three (3) sets of plans
- ☒ Two (2) set of calculations
- ☒ Two (2) sets of product information
- ☒ Drawings and calculations must be stamped and signed by an Engineer registered in Oregon and approved by the Architect/Engineer of record for the building.
- ☒ Permit fee (paid at time of submittal)
- ☒ If the DFS includes exterior elements, plan views and elevations identifying the location(s) as approved by the Architect and Engineer of Record must be submitted.
- ☒ One (1) copy of your main building permit approved plans (NOTE: Approved plans do not need to be submitted if your project has a development liaison assigned.)

Contractor submittal information:

Contact name Eric Mishler

Address 5215 N Delaware Ave.

City Portland State Oregon Zip Code 97217

Phone 503.307.7232 E-mail emishler@tcco.com

Value of deferred submittal \$119,863 Issued main building permit # 18-188494-000-00-CO

Job Site Address 5215 n Delaware Ave, Portland, OR 97217

Description/Scope of work North Building Fireproofing - Supplemental Data - Column Angles

Fees

Deferred submittal (DFS) fees are collected in addition to the standard building review fee paid on the main building permit. DFS fees cover the cost of the additional processing and review time associated with the design build element.

The DFS fee for processing and reviewing deferred plan submittals is 10 percent of the building permit fee calculated using the value of the particular deferred portion of the project.,

Minimum fee: Residential, one and two family dwelling ...\$195 for DFS with valuation of less than or equal to \$222,000

Commercial and all other projects\$510 for DFS with valuation of less than or equal to \$680,000

The Bureau of Development Services (BDS) fee schedule is also available on the BDS web site at www.portlandoregon.gov/bds | select the Fees tab.

Helpful Information

Bureau of Development Services
1900 SW 4th Avenue, Portland, OR 97201

Submit your plans to:

Development Services Center (DSC), First Floor,
For Hours Call 503-823-7310 | Select option 1
or visit www.portlandoregon.gov/bds

Important Telephone Numbers

BDS main number 503-823-7300
DSC automated information line 503-823-7310
Building code information 503-823-1456
BDS 24 hour inspection request line 503-823-7000
Residential information for
one and two family dwellings 503-823-7388
City of Portland TTY 503-823-6868

DEFERRED SUBMITTAL REQUIREMENTS AND APPLICATION

Information is subject to change.

TCCo Portland
1155 SW Morrison St., Suite 600
Portland, Oregon 97205
Phone: (503) 226-9825

Project: 180790 - adidas EVE
5060 N. Greeley Ave
Portland, Oregon 97217

NB_078100-3_Applied Fireproofing - Supplemental Data - Column Angles

SPEC SECTION:	07 81 00 - Applied Fireproofing	SUBMITTAL MANAGER:	Eric Mishler (Turner - Portland)
STATUS:	Open	DATE CREATED:	12/9/2019
ISSUE DATE:	12/9/2019	REVISION:	0
RESPONSIBLE CONTRACTOR:	Performance Contracting, Inc. (PCI)	RECEIVED FROM:	Toby Schussler
RECEIVED DATE:	12/6/2019	SUBMIT BY:	12/9/2019
FINAL DUE DATE:	12/13/2019	LOCATION:	NORTH Building
SUB JOB:		COST CODE:	
LEAD TIME:		TYPE:	Submittal
APPROVERS:	Lever adidas Team (Lever Architecture), O+A adidas Team (O+A), Jason Rea (KPFF Engineers), Lever adidas Team (Lever Architecture)		

BALL IN COURT:
Eric Mishler (Turner - Portland)

DISTRIBUTION:
Andrew Yungert (Turner - Portland), Tyrone Williams (Performance Contracting, Inc. (PCI)), Dennis Welsh (Turner - Portland), Bo Walker (Turner - Portland), Turner & Townsend adidas Team (Turner & Townsend), Tyson Standcliff (Turner - Portland), Toby Schussler (Performance Contracting, Inc. (PCI)), Brian Rodriguez (Turner - Portland), Jason Rea (KPFF Engineers), Khang Nguyen (Turner - Portland), Andy Nelson (Turner - Portland), Blake Moser (Performance Contracting, Inc. (PCI)), Anne Monnier (KPFF Engineers), Eric Mishler (Turner - Portland), Jack McCutcheon (KPFF Engineers), Akos Kondor (Turner - Portland), Andy Kavanaugh (Turner - Portland), Michael Houghten (Turner - Portland), Lee Glassford (KPFF Engineers), Vy Duong (Turner - Portland), Ben Dominguez Jr (Performance Contracting, Inc. (PCI)), BIM Docs (Cochran), Adam Davis (EC Electric), Declan Cunningham (Performance Contracting, Inc. (PCI)), Ben Charlton (Turner - Portland), David Capra (Performance Contracting, Inc. (PCI))

DESCRIPTION:
See attached Submittal NB_078100-3_Applied Fireproofing - Supplemental Data - Column Angles.

Submittal includes data for the angles in the North parking garage columns using Cafco board, firecaulking and firestopping. Also included is letter from design engineer proposing to take the place of the Cafco 300 that has been approved per the deferred submittal at these locations.

NOTE: Lever to confirm if Submittal to City of Portland is required. If required, please include Lever and KPFF stamp on returned submittal.

ATTACHMENTS:
[NB_078100-3_Applied Fireproofing - Supplemental Data - Column Angles.pdf](#)

SUBMITTAL WORKFLOW

NAME	SUBMITTER/ APPROVER	SENT DATE	DUE DATE	RETURNED DATE	RESPONSE	ATTACHMENTS	COMMENTS
Lever adidas Team	Approver	12/9/2019	12/13/2019	12/20/2019	Approved	NB_078100-3_Applied Fireproofing - Supplemental Data - Column Angles - LEVER.pdf	
O+A adidas Team	Approver	12/9/2019	12/13/2019	12/20/2019	Pending		Not reviewed by O+A. Please refer to KPFF / LEVER response.

Submittal #07 81 00-3.0

07 81 00 - Applied Fireproofing

NAME	SUBMITTER/ APPROVER	SENT DATE	DUE DATE	RETURNED DATE	RESPONSE	ATTACHMENTS	COMMENTS
							-CWL
Jason Rea	Approver	12/9/2019	12/13/2019	12/20/2019	Approved	NB_078100-3_Applied Fireproofing - Supplemental Data - Column Angles - kpff.pdf	
Lever adidas Team	Approver	12/20/2019	12/13/2019	12/20/2019	Approved	NB_078100-3_Applied Fireproofing - Supplemental Data - Column Angles - Return.pdf	

BY

DATE

COPIES TO



TRANSMITTAL PAGE

Project
adidas EVE

Architect
LEVER and O+A

Date
12/09/2019

Division
07 81 00 Applied
Fireproofing

Description
NB_078100-3_Applied
Fireproofing - Supplemental
Data - Column Angles

Submittal includes data for the angles in the North parking garage columns using Cafco board, firecaulking and firestopping. Also included is letter from design engineer proposing to take the place of the Cafco 300 that has been approved per the deferred submittal at these locations.

Submittal Package Contents

1.3 Submittals
North Building

Reviewer's Stamps

☒ NO EXCEPTIONS TAKEN ☐ REVISE AND RESUBMIT
☐ MAKE CORRECTIONS NOTED ☐ REVIEW NOT REQUIRED

This review is only for general conformance with the design concept and the information given in the Construction Documents. Corrections or comments made on the submittal during this review do not relieve the contractor from compliance with the requirements of the plans and specifications. Review of a specific item shall not include review of an assembly of which the item is a component. The Contractor is responsible for: dimensions to be confirmed and correlated at the jobsite; information that pertains solely to the fabrication processes or to the means, methods, techniques, sequences and procedures of construction; coordination of the Work with that of all other trades and performing all Work in a safe and satisfactory manner.

TURNER CONSTRUCTION CO.

REVIEWED BY: Eric Mishler DATE: 12/09/2019

Reviewed by Turner for General Compliance with the contract documents only. This review does not relieve the subcontractor of the responsibility for making the work conform to the requirements of the contract. The subcontractor is responsible for all dimensions, correct fabrication, and accurate fit with the work of other trades.

SUBMITTAL # NB_078100-3_Applied Fireproofing
-Supplemental Data - Column Angles



KPFF Consulting Engineers

Date 12/20/2019

By J. Rea

LEVER

☒ NO EXCEPTIONS TAKEN
☐ MAKE CORRECTIONS NOTED
☐ REVISE & RESUBMIT
☐ RECORD ONLY

Submittal is reviewed only for general conformity with design concept of the project and general compliance with the information provided in the project's Contract Documents and does not extend to means, methods, techniques, sequence of construction, dimensions or safety precautions. Review of this submittal does not relieve the contractor of responsibility for conformance with the Contract Documents, applicable codes, or laws - all of which have priority over this submittal. The design professional does not warrant or represent that the information within the submittal is either accurate or complete. Sole responsibility for correct design, details, dimensions, errors and omissions shall remain with the party providing the submittal. Contractor is responsible for the following: All dimensions, quantities, and performance requirements to be confirmed and correlated at the job site; All information that pertains solely to the fabrication processes or to techniques of construction; All coordination of the work of all trades; For assuring consistency with the Contract Documents; and for performing the work in a safe and satisfactory manner.

Reviewed By:

Date:

CHRIS GROSSE

12.13.2019

NOTE: Lever to confirm if Submittal to City of Portland is required. If required, please include Lever and KPFF stamp on returned Submittal.



25 November 2019

Toby Schussler
Project Manager
Performance Contracting, Inc.
2455 NW Nicolai Street
Suite A
Portland, OR 97210
O: 503-684-5533/M: 503-209-8893
Email: toby.schussler@pcg.com

TURNER CONSTRUCTION CO.

REVIEWED BY: Eric Mishler

DATE: 12/09/2019

Reviewed by Turner for General Compliance with the contract documents only. This review does not relieve the subcontractor of the responsibility for making the work conform to the requirements of the contract. The subcontractor is responsible for all dimensions, correct fabrication, and accurate fit with the work of other trades.

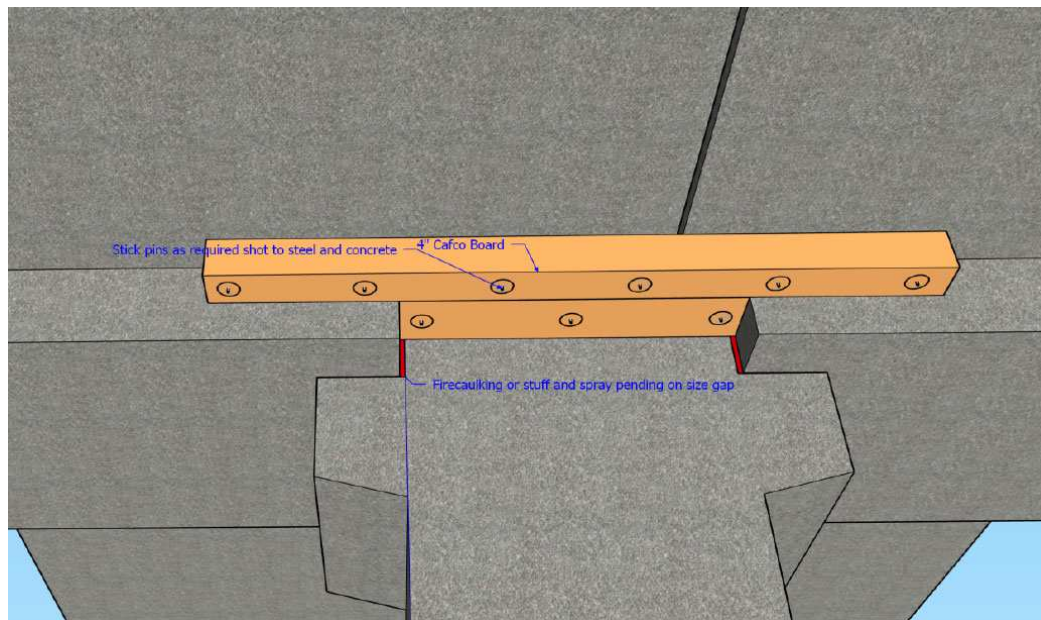
SUBMITTAL # NB_078100-3_Applied Fireproofing

- Supplemental Data - Column Angles

RE: Project: Adidas – East Village Expansion
Location: Portland, OR
Contractor: PCI
Engineering Judgment: GFPG_ADIDAS EVE_PORTLAND OR_001b

Dear Mr. Schussler:

We have received and reviewed the documentation provided via email, regarding the use of CAFCO BOARD Rigid Board Fireproofing on structural members at the above referenced project, along with all pertinent data. Gaps located at the interface of the column and the deck as indicated in the following detail range from flush, up to 4" in width. It is desired that the gaps between the column and the deck be protected so that the required hourly fire-resistance rating of the members is maintained, in accordance with ASTM E119/UL 263, "Standard Test Methods for Fire Tests of Building Construction and Materials," as well as the 2014 Oregon Structural Specialty Code.



Global Fire Protection Group
P.O. Box 113 Avondale, PA 19311
855-456-2250 www.globalfpg.com



Four different configurations for protection of the structural members are proposed for installation at this facility:

- Option #1 – CAFCO 300 troweled on with CAFCO FIBER-PATCH in gaps
- Option #2 – CAFCO 300 troweled on with mineral wool and Hilti CP 606 Silicone Sealant or Hilti CFS-SP Firestop Spray in gaps
- Option #3 – CAFCO BOARD with CAFCO FIBER-PATCH
- Option #3 – CAFCO BOARD with mineral wool and Hilti CP 606 Silicone Sealant or Hilti CFS-SP Firestop Spray in gaps

Gaps less than 1/8" in width between the CAFCO 300 or CAFCO BOARD and the concrete surface do not need to have CAFCO FIBER-PATCH installed, as per Isolatek Engineering Judgment 05BC9311, dated 7 November 2019.

For Options #1 and #3, gaps between 1/8" and 4" must be patched or sealed with CAFCO FIBER-PATCH or SFRM (CAFCO 300). The patch material shall taper from the edge of the top surface of the board to the existing SFRM and overlap a minimum of 3" onto the surface of the CAFCO 300 or CAFCO BOARD. This process is allowed in areas not exceeding 432 sq. in. (3 sq. ft.).

For Options #2 and #4, in lieu of FIBER-PATCH, minimum 6 pcf density mineral wool can be used for gaps up to 4" in width. The mineral wool must be friction fit (tightly packed) into the gap, flush with the surface of the concrete/steel member. A UL Classified elastomeric spray, such as Hilti CFS-SP SIL Silicone Firestop Joint Spray shall be applied over the mineral wool in accordance with the firestop spray manufacturer's instructions providing a minimum 2 mm wet thickness and overlapping onto the surrounding substrates a minimum of 2". This is allowed in areas not exceeding 144 sq. in. (1 sq. ft.). If Hilti CP 606 Silicone Firestop Sealant is used, the mineral wool will be required to be recessed from the surface of the concrete to accommodate the required depth of sealant as indicated by the manufacturer's installation instructions, to achieve the required rating.

For gaps exceeding the limits outlined above, minimum 6 pcf density mineral wool shall be tightly fit into the gap between the concrete and the CAFCO 300 or CAFCO BOARD. A minimum 3.4 lb./sq. yd. diamond mesh expanded steel should be fastened to the concrete and steel member covering the gap. The mesh should be fastened with welds, self-tapping screws, or powder actuated fasteners, with steel washers, spaced on maximum 6" centers. The minimum thickness of CAFCO 300 or CAFCO BOARD should then be applied over the mesh. This is only required where the area limitations as indicated above for the options, are exceeded.

Pursuant to our review of the evaluation presented, we find the report provides substantial justification to support the conclusions drawn that the required fire-resistance rating in accordance with ASTM E119 would be obtained, provided that the CAFCO BOARD is installed in accordance with manufacturer's written application installation instructions and methods.



This review is limited to those specific assemblies depicted and only for use as part of the above referenced project and cannot be extended to other assemblies or projects. The rating of the fireproofing system is dependent on the performance of the surrounding structure under fire exposure. The contractor is responsible for the compliant installation of the referenced engineering judgment.

Reviewed by: John D. Campbell, P.E.

JOHN D CAMPBELL Digitally signed by JOHN D CAMPBELL
Date: 2019.11.25 20:09:31 -06'00'

A circular red seal for a Registered Professional Engineer. The outer ring contains the text "REGISTERED PROFESSIONAL ENGINEER" at the top and "JOHN D. CAMPBELL" at the bottom. The inner circle contains the text "74880PE", "OREGON", and "MAY 11, 2004".

EXPIRES: 12-31-2019

PRODUCT DESCRIPTION

CAFCO FIBER-PATCH is a versatile, hand-applied fire resistive material designed for patching damaged CAFCO Dry Mix and Wet Mix Spray-Applied Fire Resistive Materials (SFRMs). CAFCO FIBER-PATCH has excellent bonding characteristics and easily adheres to steel surfaces and the material being patched.

CAFCO FIBER-PATCH is easy to apply and requires no special equipment. Ideal for all areas, it can easily be mixed in a 5 gallon (19 liter) pail and applied by hand or trowel.

PRODUCT ADVANTAGES

- *Excellent bonding characteristics*
- *Readily adheres to steel surfaces and materials to be patched*
- *Single component mix*
- *Easily hand mixed*
- *Hand or trowel application*
- *Economical and easy to apply*

FIRE TEST PERFORMANCE

CAFCO FIBER-PATCH has been evaluated for fire resistance as a patching material.

- Classified by UL in accordance with ANSI/UL 263 (ASTM E119) for use in most UL designs.

LIMITATIONS

When patching CAFCO Dry Mix SFRMs, individual patches are limited to 432 in² (0.3 m²). When patching CAFCO Wet Mix SFRMs individual patches are limited to 144 in² (0.09 m²). For complete instructions, please refer to the CAFCO FIBER-PATCH Short Form Application Guide.

Physical Performance

Characteristic	ASTM Method	Industry Standard Performance
Density	E605	22 pcf (352 kg/m ³)
Combustibility	E136	Noncombustible
Cohesion/Adhesion	E736	150 psf (7.2 kPa)
Compressive Strength	E761	750 psf (35.9 kPa)
Air Erosion Resistance	E859	Less than 0.025 g/ft ² (0.27 g/m ²)
Coverage		13 Bd. Ft./Bag (30 m ² @ 1 mm)



ISOLATEK INTERNATIONAL is registered with the
AIA Continuing Education System (AIA/CES)



We support our customers with unsurpassed technical expertise and customer service, complemented by an extensive global network of experienced sales representatives and recognized applicators. For detailed product information or for the name of the sales representative in your area please contact us.

The performance data herein reflect our expectations based on tests conducted in accordance with recognized standard methods under controlled conditions. The applicator, general contractor, property owner and/or user MUST read, understand and follow the directions, specifications and/or recommendations set forth in Isolatek International's publications concerning use and application of these products, and should not rely merely on the information contained in this Technical Data Sheet. Isolatek International is not responsible for property damage, bodily injuries, consequential damages, or losses of any kind that arise from or are related to the applicator's general contractor's, or property owner's failure to follow the recommendations set forth in Isolatek International's publications. The sale of these products shall be subject to the Terms and Conditions set forth in the Company's invoices.



Isolatek International provides passive fireproofing materials under the CAFCO® and FENDOLITE® trademarks throughout the Americas and under the ISOLATEK® trademark throughout the remainder of the world.

800.631.9600 or 973.347.1200
www.isolatek.com | technical@isolatek.com



Fire Containment Insulation

Thermafiber® Safing™

- + Exceptional performance in Perimeter Fire Containment Systems
- + Provides life saving fire protection in rated assemblies
- + Fire resistant to temperatures above 2,000°F (1,093°C)
- + Easy to fabricate for through penetrations and firestopping
- + Conserves energy, reduces greenhouse gas emissions
- + Resists moisture
- + Controls noise and sound

LEED® v2009 Green Building Credits

Minimum
70%
Recycled
Content¹

Energy &
Atmosphere

1

Materials
& Resources

2.1, 2.2
4.1, 4.2
5.1, 5.2

Indoor
Environmental
Quality

9

Innovation in
Design

1



Thermafiber



Made in the USA



Thermafiber Safing and FireSpan® insulation provide the critical components of the perimeter fire containment system in the 111 South Wacker Building in Chicago, IL. Thermafiber insulation also contributed to the building's LEED® Gold Rating.



Thermafiber® Safing™ is compression fitted between FireSpan® insulation and the concrete slab edge to create a perimeter fire containment system.

Thermafiber® Safing™ Insulation

Description:

THERMAFIBER Safing™ products are designed to provide life saving fire protection in perimeter fire containment systems, floor and wall penetrations, construction joints, and other firestopping applications. These products are noncombustible, moisture-resistant, noncorrosive, nondeteriorating, mildew-proof and vermin-proof. Thermafiber Safing provides thermal insulation, fire protection, and acoustical control in many different UL and Intertek (formerly OPL) listed fire containment assemblies of 1, 2, and 3-hr ratings.

Product Options:

- Safing 4.0 pcf, 2" or greater thickness, is available with or without a vapor retarding foil facing.
 - Safing 6.0 pcf, 1.5" or greater thickness, is available with or without a vapor retarding foil facing.
 - Recycled Content Options¹:
 - EPA Choice Fiber (US Government Buildings)..... Minimum 75%
 - Standard Fiber..... 70%
- ¹Recycled content options other than Standard must be specified at time of order.

Installation:

All firestopping insulation should be installed per the architectural specification or system specific test description. All compressed Safing insulation should be installed per the listed assembly.

- Perimeter Installation: Safing™ insulation should be compression fitted between the slab edge and the FireSpan curtain wall insulation, leaving no voids.
- Penetration Application: Safing insulation should be cut slightly larger than the opening and compression fitted into the opening, leaving no voids.
- Construction Joint Application: Safing insulation should be compression fitted into the joint opening, leaving no voids.

Standard Sizes:

	Thickness*	Widths**	Lengths**
Safing 4.0 pcf	1" - 7"	16", 24", 36"	48", 60"
Safing 6.0 pcf	1" - 7"	16", 24", 36"	48", 60"
Tolerances	+1/4" - 1/8"	±1/8"	±1/2"

*Thicknesses are available in 1/2" increments. **Custom sizes are available upon request.

Technical Data:

Product Designation	Actual Density	Tested to ASTM C 518		Tested to ASTM E 84			
		"k" @ 75° [24°C] BTU.in/hr.sq. ft. °F	"R" value per inch of thickness***	Unfaced		Foil Faced	
				Flame Spread	Smoke Developed	Flame Spread	Smoke Developed
Safing	4.0 pcf	0.24	'R' = 4.2	0	0	25	0
Safing	6.0 pcf	0.24	'R' = 4.2	0	0	25	0

***R = thickness divided by 'k'

Fire-Containment Tests Per ASTM E 2307

Safing™ insulation is a critical component of any perimeter fire containment system. Thermafiber® has performed decades of testing in all of the containment systems listed below. For more complete test information, see SA707, THERMAFIBER Life-Safety Fire Containment Systems technical catalog or UL® and Intertek® (formerly OPL) Directories. For a full listing of containment systems visit www.thermafiber.com and click on Fire Rated Assemblies. UL Reference = TYPE SAF

- Aluminum Spandrel Curtain Wall Fire Containment
- Steel Stud-Framed/Gypsum Sheathing Curtain Wall Fire Containment
- Glass Spandrel Curtain Wall Fire Containment
- Granite Spandrel Curtain Wall Fire Containment
- Precast Concrete Spandrel

Standards Compliance:

Safing™ Insulation meets the following:

ASTM C 665	Non-corrosive, Type I, III
ASTM C 612	Type IA, IB, II
ASTM E 136	Rated Non-combustible per NFPA Standard 220
CAN/ULC S114	Complies
ASTM E 96	Unfaced, 50 Perms as tested
ASTM E 96	Foil Faced, 0.02 Perms as tested
ASTM C 1104	Absorbs less than 1% by volume
CAN/ULC S102	Flame Spread 0, Smoke Developed 0
ASTM E 814 or UL 1479	Safing Insulation used in conjunction with an approved fill, void, or cavity material sealant or other approved material in through - penetration firestop systems - Complies
UL 2079	Safing Insulation used in conjunction with an approved fill, void or cavity material in construction joint systems - Complies
CAN/ULC S115	Complies

Safing products are approved by: **New York City Board of Standards & Appeals** – (under BSA 39-74-SM & accepted by MEA-209-82-M, Vol. 4).

Thermafiber® Insolutions®:

Thermafiber offers industry leading technical and engineering assistance to architects, specifiers, and contractors. These services include CAD drawings, engineering judgments, LEED® Credit Information, product recommendations, and customized products. Contact our technical services department at 1-888-834-2371, or email technicalservice@owenscorning.com

For Further Information:

For additional information about these or other Thermafiber products contact us at 1-888-834-2371 or visit our website www.thermafiber.com.

Notice:

THERMAFIBER, Inc. shall not be liable for incidental and consequential damages, directly or indirectly sustained, nor for any loss caused by application of these goods not in accordance with current printed instructions or for other than the intended use. THERMAFIBER liability is expressly limited to replacement of defective goods. Any claim shall be deemed waived unless made in writing within thirty (30) days from date it was or reasonably should have been discovered.

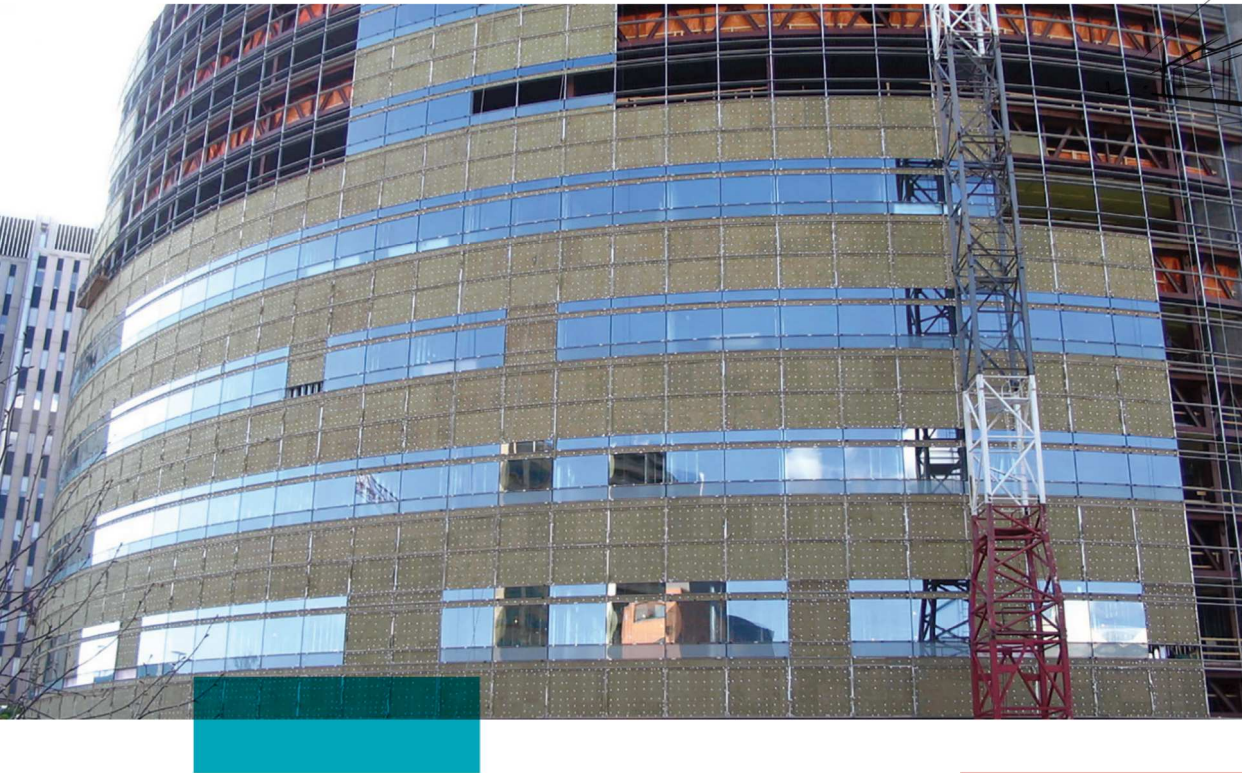
Submittal Approvals:

Job Name	
Contractor	Date



ROXUL SAFE™

Fire Safing Insulation



ROCKWOOL ROXUL SAFE™ is a lightweight, semi-rigid stone wool insulation that provides fire-stopping and acoustical properties. It is designed to fill perimeter gaps between concrete floor slabs and exterior wall systems, between firewalls and ceiling slabs, and around conduit pipes and duct openings through walls and floor slabs.

It is non-combustible and fire resistant, and will not develop toxic smoke or promote flame spread, even when exposed directly to a fire. When ROXUL SAFE™ is used with CURTAINROCK® 40/80, it provides a comprehensive fire-stopping system that has been UL/ULC/Intertek tested and approved for perimeter fire containment systems.

ROXUL SAFE™ also helps to increase energy efficiency, improve thermal stability and reduce noise transmission into and out of the building for overall occupant comfort.

Learn more at rockwool.com

Fire-stopping Material

ROXUL SAFE™ is always used in conjunction with a fire sealant to prevent passage of fire and smoke from one area to the next.



ROXUL SAFE™

Fire Safing Insulation

Technical Data Sheet

Firestopping 07840* • Firestopping 07 84 00**
Fibrous Fire Safing 07 84 56.13** • Curtain wall & glazed assemblies 08 44 00**

ROCKWOOL ROXUL SAFE™ is semi-rigid, mineral wool batt insulation approved for use in fire rated joints, through penetrations and perimeter fire containment systems.

	Performance	Test Standard
Compliance	Mineral Fiber Block and Board Thermal Insulation - Type IVA Compliant MEA Approval, New York City Approval	ASTM C612 339-97-M
Reaction to Fire	Flame spread index = 0; Smoke developed index = 0 Flame spread index = 0; Smoke developed index = 0 Determination of Non Combustibility of Building Materials - Non Combustible Test for Non-Combustibility - Non Combustible Fire Tests of Firestop Systems Fire Tests of Penetration Firestop Systems Tests for Fire Resistance of Building Joint Systems Perimeter Fire Barrier Systems Smoulder Resistance - 0.01% Consult UL, ULC and Intertek Directories for fire rated designs	ASTM E84 (UL 723) CAN/ULC S102 CAN/ULC S114 ASTM E136 CAN/ULC S115 ASTM E814 (UL 1479) UL 2079 ASTM E2307/E119 CAN/ULC S129
Density	Actual Density - 4.5 lbs/ft ³ (72 kg/m ³)	ASTM C303
Corrosion Resistance	Stress Corrosion Cracking Tendency of Austenitic Stainless Steel - Passed Corrosion of Steel - Passed	ASTM C795 ASTM C665
Reaction to Moisture	Moisture Sorption by weight - 0.04% Determination of Fungi Resistance - Passed	ASTM C1104 ASTM C1338
Thickness Dimensions	Product is available in 2", 3" and 4" (50.8 mm, 76.2 mm and 101.6 mm) 24" x 48" (610 mm x 1219 mm)	



Please contact ROCKWOOL for
Declare labels for other ROCKWOOL
manufacturing facilities.

Issued 01-01-18
Supersedes 08-23-17

NOTE: *Master Format 1995 Edition **Master Format 2004 Edition. As ROCKWOOL has no control over installation design and workmanship, accessory materials or application conditions, ROCKWOOL does not warranty the performance or results of any installation containing ROCKWOOL's products. ROCKWOOL's overall liability and the remedies available are limited by the general terms and conditions of sale. This warranty is in lieu of all other warranties and conditions expressed or implied, including the warranties of merchantability and fitness for a particular purpose.

The quick cure.

Firestop silicone joint spray CFS-SP SIL

The fast curing properties of the new Hilti Firestop silicone joint spray CFS-SP SIL allow contractors to reduce delays caused by weather, while improving their productivity and reducing the risk of water damage.

This low slump formulation combines superior sprayability and coverage characteristics which also limits runs in vertical surface applications.



Technical Data	CFS-SP SIL
Density	Approx. 11 lb/gal
Color	Off-white
Application temperature	40°F to 104°F (4°C to 40°C)
Temperature resistance	-30°F to 250°F (-35°C to 120°C)
Consistency	Sprayable liquid
Chemical basis	Neutral cross-linking silicone
Rain resistance (ASTM D6904)	Passed (2 hour rain resistance after 160 min. cure time)
Tack free time (ASTM C679)	55 min at 73°F, 50% humidity
Curing time	Approx. 5 hours at 73°F, 50% humidity for 2 mm depth
Surface burning characteristics (ASTM E84)	Flame spread: 0 Smoke development: 50
Sound transmission classification (ASTM E90)	61 (per tested construction type)
Elongation at break	>200%
VOC	72 g/l
Shelf life	12 months
Tested in accordance: • ASTM E2307 • ASTM E 84 • ASTM E90	

Order Information

Description	Qty	Item No.
Firestop silicone joint spray CFS-SP SIL	1	2095007
Firestop silicone joint spray CFS-SP SIL Pallet (18 pails)	18	3517095
Pallet CFS-SP SIL w/ Graco Ultra Max II 595 Sprayer	18	3517096
Pallet CFS-SP SIL w/ Graco Ultra Max II 695 Sprayer	18	3517097
Graco Ultra Max II 595 Sprayer	1	3509241
Graco Ultra Max II 695 Sprayer	1	3509242

Outperform and Outlast

- A fast curing spray coating with a short tack-free time
- Tested in accordance with ASTM D6904 (modified) proves rain and wash out resistance within a few hours
- Both sprayable and brushable
- Quick and easy installation with Graco Ultra Max II 595 and 695 Sprayers can help save you time and money
- Contains no halogens, solvents or asbestos
- One 5 gal bucket will yield approx. 245 lf. (@4" gap)
- Mold and mildew resistance rating 1 (ASTM G21)

Applications

- Curtain wall/edge of slab



Hilti. Outperform. Outlast.

Hilti, Inc. (U.S.) | 1-800-879-8000 | en español 1-800-879-5000 | www.us.hilti.com



Flexible Firestop Sealant (CP 606)

Product description

- An acrylic based firestop sealant that provides movement capability in fire rated joints and seals through-penetrations applications

Product features

- Silicone free
- Halogen, asbestos and solvent free
- Paintable
- Tested up to 33% movement with 500 cycles in accordance to UL 2079 and ASTM 1966
- Smoke and fume resistant
- Easy clean up with water
- Single component systems available
- Meets LEED™ requirements for indoor environmental quality credit 4.1 Low Emitting Materials, Sealants and Adhesives and 4.2 Paints and Coatings

Areas of application

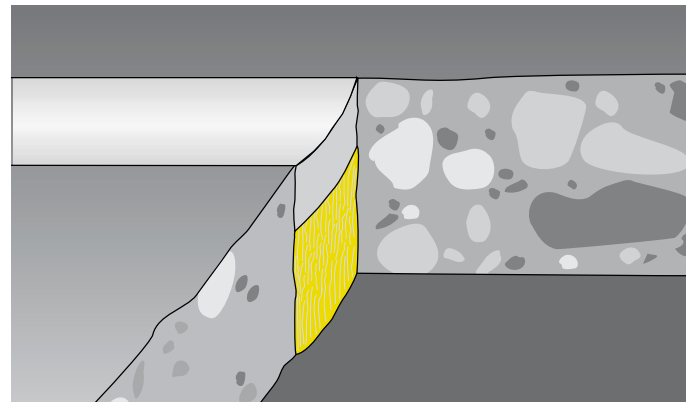
- Sealing construction/expansion joints
- Top-of-wall joints
- Metal pipes
- Cable bundles
- HVAC penetrations

For use with

- Various base materials such as masonry, concrete, gypsum, etc.
- Wall and floor assemblies rated up to 3 hours

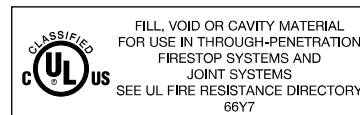
Examples

- Where a gypsum wall assembly meets the underside of a metal or concrete deck
- Sealing expansion joints to impede the passage of fire, smoke and toxic fumes
- Sealing around HVAC penetrations through fire-rated assemblies



Technical Data*	CP 606
Chemical basis	Acrylic based firestop sealant
Color	Available in red, white and gray
Application temperature	40°F to 104°F (5°C to 40°C)
Skin-forming time	Approx. 15 min
Curing time	Approx. 3 mm / 3 days
Average volume shrinkage (ASTM C1241)	22.2%
Movement capability	Approx. 10%
Temperature resistance	-22°F to 176°F (-30°C to 80°C)
Surface burning characteristics (ASTM E 84-96)	Flame Spread: 10 Smoke Development: 0
Sound transmission classification (ASTM E 90-99)	56 (Relates to specific construction)
Tested in accordance with	
<ul style="list-style-type: none"> • UL 2079 • ASTM E 84 	<ul style="list-style-type: none"> • ASTM E 814 • UL 1479 • ASTM E 1966 • ASTM G21

*At 73°F (23°C) and 50% relative humidity



Installation instructions for CP 606

Notice

- Before handling, read Material Safety Data Sheet and product label for safe usage and health information.
- Instructions below are general guidelines — always refer to the applicable drawing in the UL Fire Resistance Directory or Hilti Firestop Systems Guide for complete installation information
- The use of backing material is recommended to control the sealant depth and help ensure assembly seal is complete

Opening

1. Clean the opening. Surfaces to which CP 606 will be applied should be cleaned of loose debris, dirt, oil, wax and grease. The surface should be moisture and frost free.

Application of firestop

2. Insert fill of mineral wool or backer (as required).
3. Apply firestop over backer.
4. Smooth firestop sealant with a trowel before the skin forms. Once cured, CP 606 can only be removed mechanically.
5. For maintenance reasons, a penetration seal can be

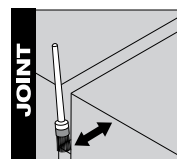
permanently marked with an identification plate and fastened in a visible position next to the seal.

Not for use

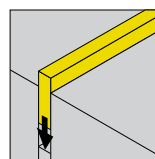
- On areas immersed in water

Storage

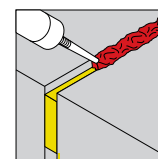
- Store only in the original packaging in a location protected from moisture at a temperature of 40°F to 77°F (5°C to 25°C)
- Observe expiration date on package



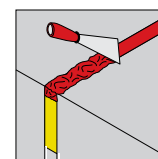
1. Clean opening



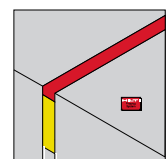
2. Insert backing material compressed per UL System



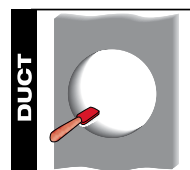
3. Apply CP 606



4. Smooth CP 606



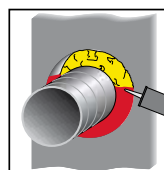
5. Fasten identification plate (if required)



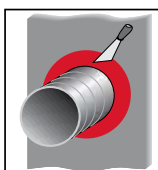
1. Clean opening



2. Insert backing material



3. Apply CP 606

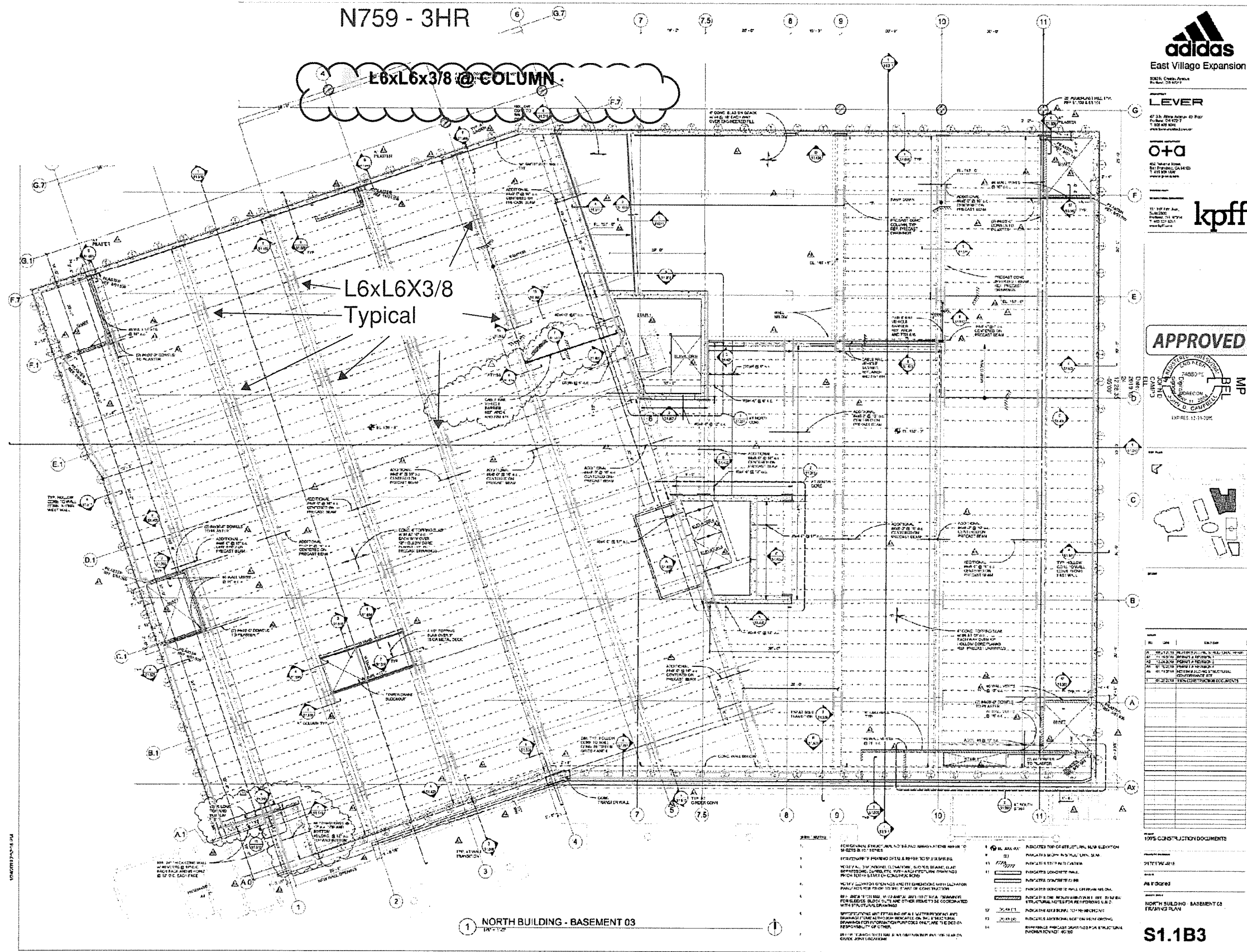


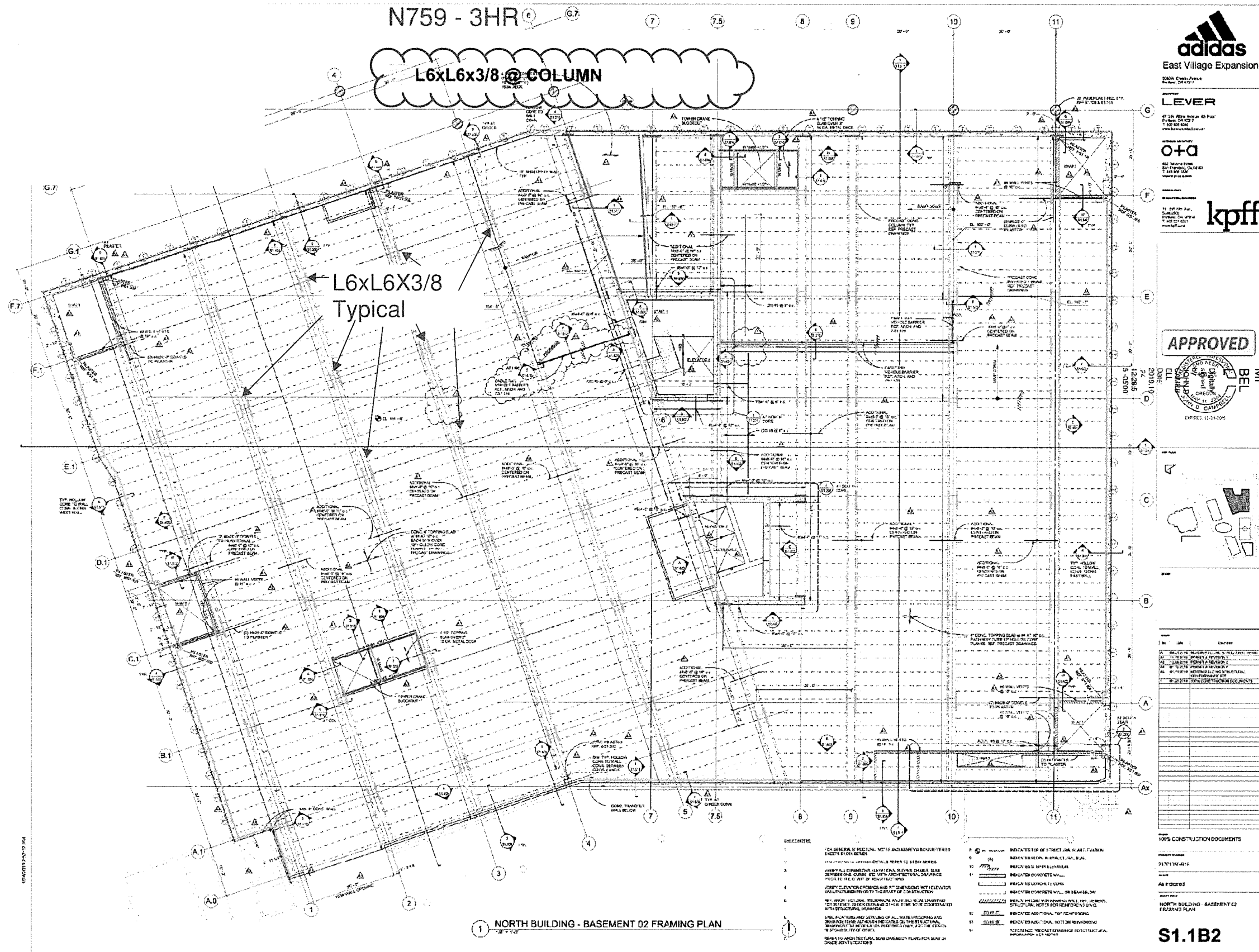
4. Smooth CP 606



5. Fasten identification plate (if required)

Hilti. Outperform. Outlast.





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