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Project: 4120050-003 PSU Vernier Science Center
1025 SW Mill Street
Portland, Oregon 97201

RFI #206: Applied Fire Protection Product Selection and UL Listing

Status	Closed on 06/01/23		
To	Matthew Robinson (Bora Architects) Leina Naversen (Bora Architects) *(Response Required)*	**From**	Ryan Bradley (Skanska USA Building Inc. (OR)) 1010 NW Flanders St Suite 500 Portland, Oregon 97209
Date Initiated	May 31, 2023	**Due Date**	Jun 7, 2023
Location	VSC	**Project Stage**	Construction
Cost Impact	TBD	**Schedule Impact**	Yes (Unknown)
Spec Section	078100 - Applied Fire Protection	**Cost Code**	
Drawing Number	A002, A005	**Reference**	
Linked Drawings	A002		
Received From	Neil Ochs (Western Partitions Inc.)		
Copies To	Kelly Aust (Skanska USA Building Inc. (OR)), YASSIR BAZA (Portland State University), Troy Boardman (Skanska USA Building Inc. (OR)), Ryan Bradley (Skanska USA Building Inc. (OR)), Jason Edwards (Skanska USA Building Inc. (OR)), Cameron Patterson (Portland State University), Zosia Wiatr (Bora Architects)		
Posted	No		

ADDITIONAL RFI DETAILS

RFI Category	Confirming	**RFI Discipline**	Architectural
Subcontractor RFI #	WPI 008	**Urgency**	

Activity

Question

Question from Ryan Bradley Skanska USA Building Inc. (OR) *on Wednesday, May 31, 2023 at 01:38 PM PDT*

1. Spec Section 078100 calls out several approved manufacturers, including GCP Monokote Z106G.

There is a concern that Monokote Z106G is not the correct product to be used on this project due to the interaction with the existing encased ACM fireproofing. A proposed solution is to use GCP Retro-Guard Replacement Fireproofing for the scope of the project. See attached GCP product selection guide. See page 4 of the submittal for fireproofing product submittal notes.

Please confirm proposed solution is acceptable.

2. Fireproofing Legend on A002 calls out to see UL D902 for floor fireproofing. D902 is additionally called out on A005 under UL 263 Fire-resistance Ratings. Spec Section 078100 calls out the Fire Resistance Design as indicated on drawings, tested according to ASTM E119 or UL 263 and calls out several approved manufacturers, including GCP Monokote Z106G.

Bora response on page 1 and 4 of returned submittal *#078100-1 Revision 1: 078100 Applied Fire Protection* dated 05/26/2023 notes that UL D925 and UL N852 are not listed on A002 and A005 for applied fireproofing applications.

Per subcontractor the UL D902 is a product specific UL listing for the Isolatek Cafco Product. The UL listings included in the submittal are the equivalent UL types for the GCP Retro-Guard.
Submittal does include verification that UL 263 is being met with the D925, N852 and Y710 listings as required in the spec section.

Please confirm that the UL types submitted on for the GCP Retroguard are acceptable equivalents to UL D902.

Attachments
GCP Prod_Select_Guide_MK-288.pdf, WPI RFI #8 - UL Design 07 81 00 Applied Fire Protection.pdf

Official Response

Response from Leina Naversen Bora Architects *on Thursday, Jun 1, 2023 at 01:07 PM PDT*

1. The proposed product is acceptable.
2. Proposed UL types are acceptable equivalents.
-LBN Bora 06/01/2023

All Replies

Response from Leina Naversen Bora Architects *on Thursday, Jun 1, 2023 at 01:07 PM PDT*

1. The proposed product is acceptable.
2. Proposed UL types are acceptable equivalents.
-LBN Bora 06/01/2023

gcp applied technologies

MONOKOTE® SPRAY-APPLIED FIREPROOFING
Product selection guide

For over 50 years, GCP Applied Technologies has developed a series of Monokote® technologies to meet the ever-changing needs of the spray-applied fire protection market.

The selection chart and brief descriptions below will help the architect/engineer or building owner make a preliminary selection of the Monokote fireproofing product with those characteristics most suited to the anticipated end use. Full product literature is available for each of these products from your local GCP Applied Technologies sales office or on the web at www.gcpat.com.

Commercial Buildings*							
Product	Density	<75Ft	>75Ft & <420 Ft	>420 Ft	Parking Garages	Swimming Pool Areas	Exterior Exposure
Monokote® MK-6/HY, MK-6s, MK-6 GF[(a)]	15	•					
Monokote MK-10/HB	15	•	•				
Monokote MK-1000/HB	18	•	•	•			
Monokote Z-106/G	22	•	•				
Monokote Z-106/HY	22	•	•	•	•	•	
Monokote Z-146, Z-146T	40	•	•	•	•	•	•
Monokote Z-156, Z-156T	50	•	•	•	•	•	•
Other Specialty Products							
Retro-Guard® - a 18 pcf product that is used for respray applications							
Monokote Z-3306 Thermal Barrier (cement-based) - a 22 pcf product used to spray over foam plastics							
Monokote Z-3306/G Thermal Barrier (gypsum-based) - a 15 pcf product used to spray over foam plastics							

* Includes offices, stores, schools, hospitals, etc.
(a) Monokote MK-6/HY, MK-6s, MK-6 GF can be used on buildings greater than 75Ft in height in markets that have not adopted the 2009 International Building Code (IBC) or later version of the IBC.

Standard Density Products -

For Interior Locations, Concealed Conditions

Monokote® MK-6® Fireproofing

Monokote MK-6 fireproofing has the highest combination of performance and value for fireproofing steel and concrete structures.

MK-6/HY® and MK-6s, MK-6 GF fireproofing products bond tightly to steel and concrete substrates, forming a uniform, durable material which does not spall, dust or flake. MK-6 fireproofing, being gypsum-based, is not designed for continuous long term exposure to weather or water. If regular exposure to moisture, or repeated physical contact is likely, specify Monokote® Z-106/HY Fireproofing to provide increased durability.

Retro-Guard® Replacement Fireproofing

Retro-Guard replacement fireproofing has been specifically developed for use in the abatement market.

Retro-Guard replacement fireproofing has the time-tested, in-place superiority of cementitious fireproofing. With superior bond and a hard, dust free surface, Retro-Guard replacement fireproofing provides the benefits and in-place performance expected of GCP Applied Technologies' Fireproofing Products.

Intermediate Durability -

Interior Locations, Exposed to View Only or for Buildings Between 75 and 420 Feet Tall

Monokote® MK-10/HB Fireproofing

Monokote MK-10/HB fireproofing provides a cost effective, high yield option for meeting the IBC bond strength requirements.

MK-10/HB fireproofing is a gypsum- based, cementitious fireproofing product designed to achieve higher bond strengths than traditional standard density products and is an excellent option for meeting the IBC building requirements for bond strength in excess of 430 psf for buildings in excess of 75' tall but less than 420 feet tall. Combining its ability to meet the IBC bond strength requirements with its high yield capabilities makes Monokote MK-10 HB fireproofing a cost effective option. It is also suitable for interior conditions that are exposed to view only where greater durability and bond strength are desired, such as exposed roof assemblies.

Monokote® Z-106/G Fireproofing

Z-106/G fireproofing can be used for interior, exposed applications where light abrasion, and damage resistance are desired

Z-106/G fireproofing is a is a low cost, medium density, gypsum-based cementitious fireproofing product for interior, dry environments subject to intermittent traffic and moderate physical exposure. Higher gypsum binder content improves damage resistance and helps maintain the fire resistance for the design life of the building. Typical applications include elevator shafts, high bay light manufacturing areas and high bay mechanical rooms.

Super High Rise Durability -
For Buildings Greater than 420 Feet Tall
Interior Locations

Monokote® MK-1000/HB Fireproofing

Monokote MK-1000/HB fireproofing provides a cost effective, high yield option for meeting the IBC bond strength requirements for Super High Rise Buildings

Monokote MK-1000/HB fireproofing is a gypsum- based, cementitious fireproofing product designed to achieve bond strengths in excess 1,000 psf, which exceeds the IBC requirements for bond strength for buildings in excess 420 feet tall. Combining its ability to meet the IBC bond strength requirements with its high yield capabilities makes Monokote MK-1000/HB fireproofing a cost effective option.

Medium Durability -
Interior Locations, Exposed Conditions to Abrasion/Moisture or Buildings Greater than 420 Feet Tall

Monokote® Z-106/HY Fireproofing

Z-106/HY fireproofing is extremely hard, moisture-resistant and suitable for high traffic areas which require resistance to repeated physical contact and/or high humidity.

Z-106/HY fireproofing is a Portland cement- based cementitious fireproofing product designed with increased durability to meet specific commercial and industrial fire protection requirements on structural steel members, floor/ceiling and roof/ceiling assemblies. Typical applications for this medium density (22 pcf) product include equipment rooms, parking garages, and swimming pool areas.

High Durability -
Interior or Exterior Locations, Exposed Conditions Subject to Impact or Continual Moisture

Monokote® Z-146 High Density Fireproofing

Z-146 fireproofing is designed to meet high durability standards for fire protection of interior and exterior applications.

Z-146 and Z-146T fireproofing are high density, Portland cement- based, cementitious fireproofing products. Typical applications include parking garages, industrial facilities, manufacturing facilities, and transportation terminals. Z-146T fireproofing contains an integral corrosion inhibitor as an increased measure of protection for applications such as roadway tunnels exposed to salt or other aggressive environmental conditions.

Monokote® Z-156 Ultra High Density Fireproofing

Z-156 fireproofing is designed to meet the highest durability standards for fire protection of interior and exterior applications.

Z-156 and Z-156T fireproofing are ultra high density, Portland cement- based, cementitious fireproofing products used where superior durability is required. Typical applications include parking garages, industrial facilities, manufacturing facilities, and transportation terminals. Z-156T fireproofing contains an integral corrosion inhibitor as an increased measure of protection for applications such as roadway tunnels exposed to salt or other aggressive environmental conditions.

Specialty Products

Monokote® Z-3306 Thermal Barrier

Z-3306 Thermal Barrier is a cementitious, fire-protective coating formulated for application over rigid, urethane and polystyrene foam plastics.

Spray- applied to interior foam surfaces on walls and ceilings, Z-3306 fireproofing forms a hard, durable, monolithic thermal barrier against heat and fire. Typical applications include:

- Breweries, freezers and coolers
- Pig and dairy barns
- Indoor tennis courts and swimming pools
- Seed storage and processing
- Ice arenas and recreation centers
- Water treatment plants
- Controlled atmosphere apple, potato and vegetable storage

Monokote® Z-3306/G Thermal Barrier

Z-3306/G Thermal Barrier is a gypsum-based spray applied thermal barrier specifically formulated for application over sprayed polyurethane foam plastics (SPF) with nominal density of 0.5 pounds per cubic foot (pcf).

When applied, Z-3306/G fireproofing forms a well adhered, monolithic thermal barrier protecting the sprayed polyurethane foam plastics from the effects of heat and fire. This product is designed for interior use only. Z-3306/G thermal barrier should not be used for exterior applications or exposure to continuous unconditioned high humidity environments or where free water may condense.

Service Centers

To locate your local GCP Fireproofing representative, or to obtain additional product information, contact your local service center by dialing 866-333-3SBM (3726). This information is also located on the web at www.gcpat.com.

Worldwide Headquarters

GCP Applied Technologies
62 Whittemore Ave.
Cambridge, MA 02140
USA
Tel.: (866) 333-3SBM (3726)
Fax: (800) 778-2885

Hong Kong

GCP Applied Technologies
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www.gcpat.com

For technical assistance call toll free at 866-333-3SBM (3726)

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gcp applied technologies

REQUEST FOR INFORMATION

EST. 1972

PSU Vernier Science Center

GC **Skanska USA Building Inc.**
To:
Phone:
Fax:

PM Neil Ochs
Sup: Dree Warren
Date: 31-May-23
Ph 503-620-1600
Fax: 503-624-5781

WPI RFI # 8

Subject: UL Design 07 81 00 Applied Fire Protection

Contract Reference(s): 07 81 00

Submittal review notes that UL D925 and UL N852 are not listed on A002 and A005 for fireproofing applications. UL D925 and N852 are equivelant to UL D902 and are product specific to GCP Retro-Guard RG.

Potential Cost Impact__ No Cost Impact __

Time Impact _X Yes __ No

Critical to Schedule _X_Yes ___No

Please Reply By: 6/7/2023

Signed: Neil Ochs
Western Partitions, Inc.

Reply:

Date:

Signed:

Copy To:

PSU Vernier Science Center

Fireproofing Submittal Notes

PRODUCT

- We are submitting to apply the following fireproofing products at structural members as indicated on included shop drawings:
  - **GCP Retro-Guard RG Fireproofing** (Retro-Guard is tinted blue and allows easy identification for where new fireproofing has been applied. It is designed to be used when lock-down products are used in abatement situations, and can be used as new application as well.)

UL TESTING

- **Protected Floor:**

UL D925 – submitted for 2-hour floor assembly with 4 ½" concrete.
UL N852 – submitted for 2-hour beams into D925.

- **Columns:**

UL Y710 – submitted for 2-hour columns.

UL TYPES DIFFER FROM A002 & A005 UPDATED IN ASI 005: ULD902 USED FOR FLOOR TYPES F11 & F15 IN DRAWINGS APPROVED BY THE CITY. CONTRACTOR TO ENSURE THAT DESIGN IS EQUIVALENT.

UL D925 and UL D902 are equivalent. JC 5.30

GENERAL NOTES

Please reference submitted documentation and drawings for thickness requirement and application intent for further clarification.

Abatement Repair identified only for reference to patch existing where necessary.

All steel that is to receive spray applied fireproofing should be raw, unprimed, and unpainted.

If you should have any questions, please feel free to call me direct at (503)-502-2309

Sincerely,

Jeremiah Carlson

Fireproofing Department PM/Estimator

local: 503.620.1600 toll free: 800.783.0315 fax: 503.624.5781 | 26055 SW Canyon Creek Road, Wilsonville, OR 97070
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