CANNONDESIGN

SUBMITTAL IDENTIFICATION SHEET

To be completed by Contractor/CM

WEBSTER UNIVERSITY ISB
PROJECT NAME

8274 BIG BEND BLVD
ADDRESS

NUMBER

WEBSTER UNIVERSITY
OWNER

CANNON DESIGN
ARCHITECT / ENGINEER

Joe Voypick
SUBMITTED BY

092900-007
CONTRACTOR / CM SUBMITTAL NO.

CANNON DESIGN SUBMITTAL NO.

DRAWING / DETAIL REFERENCE

092900
SPECIFICATION SECTION / PARAGRAPH

Marino Ware
MANUFACTURER / SUPPLIER

ITEM / PRODUCT ID

REQUIRED DATE

PRIORITY

CRITICAL

ITEM BEING SUBMITTED (check only one)

- ○ Shop Drawings
- ○ Samples (_____ copies)
- ○ LEED Submittal
- ○ Certification / Qualifications
- ○ Record Documents
- ◉ Product Data
- ○ Coordination Drawing
- ○ Calculations
- ○ Schedules
- ○ O&M Manuals
- ○ Other _____

ITEM BEING SUBMITTED FOR (check only one)

◉ Action ○ Information Only ○ Record

REMARKS OR DEVIATIONS

CONTRACTOR / CM CERTIFICATION
(SUBMITTALS NOT CERTIFIED WILL BE RETURNED WITHOUT REVIEW)

PARIC

PARIC CORPORATION
SUBMITTAL STAMP

THIS SHOP DRAWING HAS BEEN REVIEWED BY PARIC CORPORATION

Subcontractor remains responsible for dimensions, quantities, coordination with other trades and compliance with contract documents.

By:
Devin D. Gates

Joe Voypick
REVIEWED BY

9/7/16
DATE

To be completed by Reviewer

09 2900-007
CANNON DESIGN SUBMITTAL NUMBER

9/8/16
RECEIVED DATE

- ◉ A. No Exceptions Taken
  No further review of submittal is required.
- ○ B. Make Corrections Noted
  Incorporate corrections in work; resubmission is not required.
- ○ C. Revise and Resubmit
  Revise as noted, and resubmit for review.
- ○ D. Rejected
  Submittal is not in compliance with Contract Documents; provide new submittal.
- ○ E. For Record / Information Only
  Submittal was reviewed for Record / Information purposes only.
- ○ F. Not Required for Review
  Submittal is not required by Contract Documents and has not been reviewed.

Review is for conformance with the design concept of this project and for general compliance with contract documents. Contractor is responsible for quantities, dimensions and compliance with contract documents and for information that pertains to fabrication processes, construction techniques and coordination of this work with all trades which will be affected thereby. This review is null and void if submittal deviates from contract documents and does not indicate or note deviations.

A/E COMMENTS

○ See attached sheet(s) for additional comments

Kelvin Patel
Digitally signed by Kelvin Patel
Date: 2016.09.16 15:53:51-05'00'
REVIEWED BY

09/16/16
DATE

PARIC
EXPERIENCE. EXCELLENCE.
77 Westport Plaza
Suite 250
St. Louis, MO 63146

TRANSMITTAL

No. 15051-0211

Paric Corporation

PROJECT: 15051-Webster University Interdisciplinary Science Building

DATE: 09/07/2016

TO: Cannon Design
1100 Clark Ave
St Louis MO 63102

RE: USG Durock Cement Board

ATTN: Kelvin Patel

JOB: 15051

WE ARE SENDING:	SUBMITTED FOR:	ACTION TAKEN:
☐ Shop Drawings	☑ Approval	☐ Approved as Submitted
☐ Letter	☐ Your Use	☐ Approved as Noted
☐ Prints	☐ As Requested	☐ Returned After Loan
☐ Change Order	☐ Review and Comment	☐ Resubmit
☐ Plans		☐ Submit
☐ Samples	**SENT VIA:**	☐ Returned
☐ Specifications	☐ Attached	☐ Returned for Corrections
☑ Other: Product Data	☐ Separate Cover Via:	☐ Due Date:

Item	*Package*	*Code*	*Rev.*	*Copies*	*Date*	*Description*	*Status*
Submittal		092900-007	1		09/07/2016	USG Durock Cement Board	Submitted

NOTES:

CC:

Signed: _____
Devin Gates

USG Tile & Flooring Solutions

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SUBMITTAL SHEET

USG DUROCK® BRAND CEMENT BOARD

Backerboard for tile and exterior finish systems

- Lightweight cement tile backerboard
- Water-durable, mold-resistant substrate for high-moisture areas
- Suitable for use in interior or exterior applications
- Will not rot, warp, delaminate or disintegrate
- Easy to cut and fasten
- Noncombustible

DESCRIPTION

USG Durock® Brand Cement Board offers architects, builders and tile contractors a strong, water-durable tile base for tub and shower areas. Also an ideal underlayment for tile on floors and countertops in new construction and remodeling. Board is readily applied over wood or steel framing spaced 16" o.c. with corrosion-resistant wood, steel screws or hot-dipped galvanized roofing nails. After joints are treated, wall or floor tile is applied using latex-fortified mortar or Type I organic adhesive.

USG Durock® cement board is preferred by many applicators as a base for directly applied finishes, tile, stone and thin brick used in building exteriors.

PRODUCT DATA

SIZES AND PACKAGING

Size (thickness x width x length)[1]	Units (pcs)[2]
1/4" x 3' x 5'	60
1/2" x 32" x 5'	50
1/2" x 3' x 5'	50
1/2" x 32" x 8'	30
1/2" x 4' x 8'	40
5/8" x 3' x 5'	40
5/8" x 4' x 8'	32

1. Other lengths available. Contact your USG Sales Representative.
2. Shipped in packaging units as shown.

STANDARDS

USG Durock® cement board exceeds ANSI standards for cementitious backer units (CBU). See ANSI A118.9 for test methods and specifications for CBU and ANSI A108.11 for interior installation of CBU. Exceeds industry standards as an exterior substrate for exterior finishes. Exceeds ASTM C1325 standards for nonasbestos fiber-mat reinforced cementitious backer units.

AVAILABILITY

USG Durock® cement board is distributed throughout the United States. Contact a USG sales office or sales person for additional information.

COMPOSITION AND MATERIALS

USG Durock® cement board is formed in a continuous process of aggregated portland cement slurry with polymer-coated, glass-fiber mesh completely encompassing edges, back and front surfaces. The edges are formed smooth. The ends are square cut.

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DEILIVERY AND STORAGE OF MATERIALS

All materials should be delivered and stored in their original unopened package and stored in an enclosed shelter providing protection from damage and exposure to the elements. Even though the stability and durability of USG Durock® cement board is unaffected by the elements, moisture and temperature variations may have an effect on the bonding effectiveness of basecoats and adhesives. Store all USG Durock® cement board panels flat.

ENVIRONMENTAL CONDITIONS

In cold weather and during USG Durock® cement board panel and tile installation, temperatures within the building shall be maintained within the range of 40 to 100°F. Adequate ventilation shall be provided to carry off excess moisture.

INTERIOR APPLICATIONS

The building shall be enclosed and the HVAC system operating so that wood framing shall reach the moisture content it will reach in service. Do not install board when the board is wet.

EXTERIOR APPLICATIONS

In exterior applications, USG Durock® cement board should not be left uncovered for a period of time exceeding 90 days. Discoloration or staining may occur due to exposure to the elements which will not affect performance of the panel. Finishes, leveling/skim coats and basecoats should not be applied to USG Durock® cement board panel that is wet or frozen or that contains frost. After application, and for at least 24 hours, finishes, leveling/skim coats and basecoats should be effectively protected from rain and excessive moisture. In cold weather and during finish applications, USG Durock® cement board panel, skim or basecoat, mortar, finish material and air temperature must be at least 40°F and must remain at this temperature or higher for at least 24 hours after application. Hot and dry weather may affect working time of leveling/skim or basecoat and finish materials. Under rapid drying conditions, dampening or light fogging of board, leveling/skim or basecoat surface may be required to improve workability.

PANEL MICROCRACKING

USG Durock® cement board is formulated to develop fine microcracking (also called as multiple cracking) in the panel. The microcracking process helps to evenly relieve the stored strain energy in the product due to handling and installation, external loads and/or panel restrained movement. The presence of microcracks in the panel should not be considered a product defect.

INSTALLATION

A. Install cement board with ends and edges closely abutted, but not forced together. Stagger end joints in successive courses.

B. For flooring applications over a wood-based substrate, laminate USG Durock® cement board to subfloor using Type 1 organic adhesive or latex-modified thin-set mortar suitable for bonding cement board. Fasten to subfloor with 1-1/4" USG Durock™ Brand Tile Backer Screws for wood framing (or equivalent) or 1-1/2" hot-dipped galvanized roofing nails spaced 8" o.c. in both directions with perimeter fasteners at least 3/8" and less than 5/8" from ends and edges. Drive nails and screws so that bottoms of heads are flush with panel surface to ensure firm panel contact with subfloor. Do not overdrive fasteners. Prefill joints with tile-setting mortar or adhesive and then immediately embed USG Durock™ Brand Tile Backer Tape and level joints.

C. For wall application, fasten USG Durock® cement board panels to framing with specified fasteners. Drive fasteners into field of panels first, working toward ends and edges. Hold panels in firm contact with framing while driving fasteners. Space fasteners maximum 8" o.c. for walls, 6" o.c. for ceilings, with perimeter fasteners at least 3/8" and less than 5/8" from ends and edges. Drive nails and screws so bottoms of heads are flush with panel surface to ensure firm panel contact with framing. Do not overdrive fasteners. Approved fasteners include: USG Durock™ tile backer screws for steel framing (or equivalent), 1-1/4" and 1-5/8" for 14- to 20-gauge steel framing; USG Durock™ tile backer screws for wood framing (or equivalent), 1-1/4", 1-5/8" and 2-1/4" for wood framing. Nails (1-1/2" hot-dipped galvanized roofing nails). Prefill joints with tile-setting mortar or adhesive and then immediately embed USG Durock™ tile backer tape and level joints.

D. Cement board should be cut to size with a knife and straight edge. A power saw should be used only if it is equipped with a dust-collection device. Installer should wear NIOSH/MSHA-approved dust mask.

E. If waterproofing is desired, use USG Durock™ Brand Waterproofing Membrane. See *USG Durock™ Brand Waterproofing Membrane* (CB595) for product information.

Refer to *USG Durock® Brand Cement Board System Guide* (SA932) for complete installation information, including good design practices. For technical assistance, call USG Technical Service at 800 USG.4YOU (874-4968).

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LIMITATIONS

1. Designed for positive or negative uniform loads up to 60 psf. For complete information on the use of USG Durock® Brand panels in exterior systems, consult uniform load table on Page 4 for applicable positive or negative uniform loads on wall systems.
2. Wall applications: Maximum stud spacing: 16" o.c. (24" o.c. for cavity shaft wall assembly). Framing shall be designed (based on stud properties alone) not to exceed L/360 deflection for tile and thin brick, L/240 for direct-applied exterior finish systems. Maximum fastener spacing: 8" o.c. for wood and steel framing; 6" o.c. for ceiling applications.
3. Floor applications: Maximum joist spacing 24" o.c. The subfloor system should be designed with a minimum deflection limit of L/360 for the span. Some finish materials may require a more rigid subassembly (such as large format tile and natural stone products). In these cases, follow the manufacturer's minimum requirements. The subfloor should be APA Span-Rated Plywood or OSB with an Exposure 1 classification or better with tongue and groove or back blocked at the unsupported edges.
4. In exterior applications, USG Durock® cement board should not be left uncovered for a period of time exceeding 90 days. Discoloration or staining may occur due to exposure to the elements which will not affect performance of the panel.
5. Brittle coatings, such as epoxy coatings, are not recommended for use with USG Durock® cement board. USG Durock® cement board is intended for use with tile, thin brick and exterior stucco coatings only.
6. Maximum dead load for ceiling system is 7.5 psf.
7. Steel framing must be 20-gauge equivalent or heavier.
8. Do not use drywall screws or drywall nails. Do not use drywall joint tape.
9. Do not use 1/4" USG Durock® cement board for wall or ceiling applications.
10. Do not use USG Durock® cement board with vinyl flooring.
11. USG Durock® cement board is not designed for use as a structural panel.
12. Maximum installed weight of the finish system should not exceed 15 psf.
13. USG Durock® cement board panels should not be used in areas where they are exposed to temperatures that exceed 200°F.
14. In locations close to salt water or other challenging environments, design professionals should consider the use of stainless steel fasteners.
15. Do not use lightweight setting-type joint compounds or ready-mix joint compounds directly over USG Durock® cement board.

TECHNICAL DATA

Property	Unit of Measure	ASTM Test Method	5/8" USG Durock® Brand Cement Board	1/2" Cement Board	1/4" Underlayment
Flexural strength	psi	C947	> 480	> 750	> 1000
Indentation strength	psi	D2394	> 1250	> 1250	> 1250
Shear bond strength	psi	ANSI A118.4	> 50	> 50	> 50
Water absorption	% by wt. 24 hrs.	C473	15	15	15
Nail-pull resistance	lb. (0.375" head diameter, wet or dry)	C473	> 90	> 90	—
Weight	psf	C473	3	2.4	< 1.9
Freeze/thaw resistance	procedure B, number of cycles with no deterioration	C666	100	100	100
Mold resistance	—	G21	Rating 0, No growth	Rating 0, No growth	Rating 0, No growth
		D3273	10/10	10/10	10/10
Noncombustibility	Pass/Fail	E136	Pass	Pass	Pass
Surface-burning characteristics	flame/smoke	E84	0/0	0/0	0/0
Thermal	"R"/k value	C518	.49/1.27	0.39/1.27	—
Standard method for evaluating ceramic floor tile installation systems	Passes cycles 1-6	C627	Light commercial	Light commercial	Light commercial
Minimum bending radius	ft. (requires special framing details available upon request)	—	6	6	—

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UNIFORM LOAD—1/2" USG DUROCK® BRAND CEMENT BOARD

Stud Spacing	Fastener Spacing	Design Wind Load (l/240)	Design Wind Load (l/360)
12" o.c.	8" o.c.	45 psf	45 psf
	6" o.c.	60 psf	60 psf
16" o.c.	8" o.c.	33 psf	30 psf
	6" o.c.	45 psf	30 psf
24" o.c. (for shaft wall assemblies only)	8" o.c.	13 psf	9 psf
	6" o.c.	13 psf	9 psf

SUBMITTAL APPROVALS

Job Name	
Contractor	Date

PRODUCT INFORMATION
See usg.com for the most up-to-date product information.

DANGER
Causes skin irritation. Causes serious eye damage. May cause an allergic skin reaction. May cause respiratory irritation. May cause cancer by inhalation of respirable crystalline silica. Do not handle until all safety precautions have been read and understood. Avoid breathing dust. Use only in a well-ventilated area, wear a NIOSH/MSHA-approved respirator. Wear protective gloves/protective clothing/eye protection. If swallowed, inhaled, or skin irritation occurs get medical attention. If on skin: Wash with plenty of water. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses and continue rinsing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Dispose of in accordance with local, state, and federal regulations. For more information call Product Safety: 800 507-8899 or see the SDS at usg.com
KEEP OUT OF REACH OF CHILDREN.

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NOTICE
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SAFETY FIRST!
Follow good safety/industrial hygiene practices during installation. Wear appropriate personal protective equipment. Read SDS and literature before specification and installation.

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800 (874-4968)
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Chicago, IL 60661

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