

DUROCK INTERIOR TILE BACKER BOARD - SECTION 09390

Use this guide specification to specify DUROCK Interior Tile Backer Board systems. Review a copy of USG Publication SA-932 before editing specification.

PART 1 GENERAL

GENERAL DOCUMENTS

Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

EDIT THIS ARTICLE TO DESCRIBE SCOPE OF THIS SECTION AND TO COORDINATE WITH OTHER SECTIONS.

This Section includes tile backer boards. Extent of tile backer board is shown on drawings, and includes:

Underlayment for tiled floors and countertops. Backer board for tiled walls and ceilings.

TO ASSURE COMPATIBILITY OF TILE BACKER BOARD WITH TILE SETTING AND GROUTING MATERIALS, UNITED STATES GYPSUM COMPANY RECOMMENDS THAT THE TILE SETTING AND GROUTING MATERIALS LISTED IN THIS GUIDE SPECIFICATION BE USED WITH DUROCK TILE BACKER BOARDS.

This Section also includes related materials including:

Setting and grouting materials for installation of tile to tile backer boards.

Acoustical sealant and sound insulation.

Wood framing, furring, and subfloor are specified in Division 6 Section "Rough Carpentry".

Countertop base is specified in Division 6 Section "Architectural Woodwork".

RETAIN BELOW IF REQUIRED WATER RESISTANCE EXCEEDS CAPABILITY OF

WATER BARRIER SPECIFIED IN THIS SECTION.

Waterproofing for stud cavity or floor framing is specified in Division 7 Section "Waterproofing".

RETAIN BELOW IF FIRE-RATED PARTITIONS ARE REQUIRED. FOR ADDITIONAL INFORMATION ON FIRE STOPS, SEE USG PRODUCT LITERATURE FOR THERMAFIBER FIRE SAFING INSULATION AND SMOKE-STOP SYSTEMS.

Fire stop insulation and sealants, required at penetrations through fire resistive partitions, are specified in Division 7 Section "Firestopping".

EDIT BELOW TO SUIT PROJECT. GYPSUM BOARD BASE LAYER AND INSULATION ARE REQUIRED FOR SEVERAL OF THE DUROCK CEMENT BOARD FIRE AND SOUND-RATED SYSTEMS. AT SPECIFIER'S OPTION, THEY CAN BE SPECIFIED IN EITHER THIS SECTION OR DIVISION 9 SECTION "GYPSUM DRYWALL". IF SPECIFIED IN GYPSUM DRYWALL, PROVIDE CROSS REFERENCE TO THIS SECTION AND COMPLY WITH REQUIREMENTS FOR RATED ASSEMBLIES. SEE USG PRODUCT LITERATURE FOR COMPATIBLE PRODUCTS FROM UNITED STATES GYPSUM COMPANY.

Metal framing, gypsum drywall, and insulation are specified in Division 9 Section "Gypsum Drywall".

Gypsum board base layer for installation under tile backer board is specified in this section.

IF STONE, THIN BRICK, OR OTHER FINISH MATERIAL IS USED INSTEAD OF TILE, EDIT BELOW AND CHANGE REFERENCES THROUGHOUT SECTION. SEE USG PRODUCT LITERATURE FOR DURABOND TILE SETTING AND GROUTING PRODUCTS WHICH ARE COMPATIBLE WITH MATERIALS SPECIFIED IN THIS SECTION.

Tile is specified in Division 9 Section "Tile".

SYSTEM DESCRIPTION

IF FIRE-RATED OR SOUND-RATED PARTITIONS ARE REQUIRED, MODIFY BELOW EXAMPLE ACCORDING TO PERFORMANCE LEVELS REQUIRED BY PROJECT. COORDINATE RELATED WORK SPECIFIED IN OTHER SECTIONS TO MAINTAIN INTEGRITY OF RATED ASSEMBLIES. SEE CURRENT USG PRODUCT LITERATURE

FOR AVAILABLE RATINGS AND SYSTEMS.

Performance: Construct partition in accordance with requirements of tested and approved designs to obtain the following:

Sound Rating: Sound Transmission Class (STC) not less than 61 when tested in accordance with ASTM E 336 and classified in accordance with ASTM E 413; USG Test No. SA-851028.

Fire Rating: 2 hour minimum, ASTM E 119. Comply with UL Design U443 and Council of American Building Officials (CABO) National Evaluation Service Committee Report No. NER-259.

OMIT BELOW DESCRIPTION IF PARTITION IS ADEQUATELY DETAILED ON DRAWINGS. MODIFY FOLLOWING EXAMPLE IN ACCORDANCE WITH PROJECT REQUIREMENTS.

Description:

Studs: 3-5/8 inches nominal, 25 gage steel studs, non-load bearing.

Wall Boards: Tile backer board installed over gypsum board base layer, both sides of partition.

Where tile finish is not required on both sides of a partition, omit tile backer board from un-tiled side and provide a double layer of gypsum board as specified in Division 9 Section "Gypsum Drywall".

Sound Insulation: 3 inches thick.

SUBMITTALS

Product Data: Submit manufacturer's data for each type of component and system specified, including performance ratings, details of construction, materials, and installation instructions.

DELETE BELOW IF RATINGS ARE NOT REQUIRED OR IF PRODUCT DATA SUBMITTAL IS SUFFICIENT.

Test Reports: Submit test reports from qualified testing laboratories indicating compliance with fire and sound resistance requirements.

Samples: Submit standard size sample of tile backer board.

EDIT BELOW AS REQUIRED. DELETE IF COLORS ARE PRESELECTED AND SCHEDULED.

Samples for Initial Selection Purposes: Submit samples of grout showing full range of colors available.

RETAIN BELOW IF REQUIRED TO COORDINATE WITH TILE SUBMITTAL REQUIREMENTS.

Samples for Verification Purposes: Submit samples of grout applied to tile sample boards specified in Division 9 Section "Tile".

DELIVERY, STORAGE, AND HANDLING

Deliver materials in their original unopened packages, containers, or bundles bearing brand name and identification of manufacturer or supplier.

Store materials under cover and in manner to keep them dry, protected from weather, direct sunlight, surface contamination, corrosion and damage from construction traffic and other causes. Protect tile setting and grouting materials from freezing. Neatly stack tile backer boards to prevent sagging; stack flat, on continuous surface, and without skids.

Handle tile backer boards to prevent damage to edges, ends or surfaces. Remove damaged or deteriorated materials from site.

PROJECT CONDITIONS

Cold Weather Protection: In cold weather, maintain continuous, uniform, building temperatures of not less than 45 deg. F (13 deg. C) or more than 100 deg. F (38 deg. C) for a minimum period of 48 hours prior to, during, and following tile backer board and tile installation.

Conditioning: Store tile backer board in spaces where it is to be installed for 48 hours prior to installation. Do not install board when it is wet.

Ventilation: Ventilate building spaces as required to remove excess moisture.

PART 2 PRODUCTS

MANUFACTURER

Subject to compliance with requirements, provide products manufactured or supplied by United States Gypsum Company.

MATERIALS

DUROCK EXTERIOR CEMENT BOARD CAN ALSO BE USED AS A TILE BACKER BOARD. DUROCK EXTERIOR CEMENT BOARD HAS GREATER FLEXURAL STRENGTH THAN DUROCK TILE BACKER BOARD. SINCE IT IS AVAILABLE IN SHEETS 4 FEET WIDE BY 8 FEET LONG, IT CAN BE USED ECONOMICALLY ON LARGE WALL AND FLOOR AREAS WHERE IT REDUCES THE NUMBER OF JOINTS TO BE TREATED.

FOR ADDITIONAL INFORMATION, SEE USG PRODUCT FOLDER SA-700. DO NOT USE DUROCK INTERIOR TILE BACKER ON BUILDING EXTERIOR.

Tile Backer Board: DUROCK Interior Tile Backer Board; aggregated portland cement board with vinyl-coated, woven glass-fiber mesh embedded in back and front surfaces.

Thickness: 1/2 inch minimum.

Size: 3 feet wide; 4, 5 or 6 feet long.

Faces: Smooth on one side, textured on other side.

Edges: Formed smooth edges; square cut ends.

Weight: 3 pounds per square foot.

Flexural Strength: 750 psi minimum per ASTM C 947.

Compressive Strength: 2300 psi minimum with 1 inch diameter disk per ASTM D 2394.

Nail Pull Resistance: 125 lbs. minimum per ASTM C 473.

Flame Spread, Smoke Developed: 5, 0 per ASTM E 84.

Floor Tile Installation System Rating: Residential per ASTM C627

Underlayment: DUROCK Underlayment.

Thickness: 5/16".

Size: 4 feet x 4 feet

Edges: Formed smooth edges; square cut ends.

Floor Tile Installation System Rating: Residential per ASTM C627

Joint Reinforcement: DUROCK glass-fiber tape, vinyl-coated, open-weave tape; 2 inches wide; pressure-sensitive.

Gypsum Board Base Layer: 1/2 inch SHEETROCK Brand FIRECODE "C" gypsum panels.

RETAIN ABOVE OR BELOW IF REQUIRED FOR SPECIFIED FIRE-RATED ASSEMBLY; EDIT AS REQUIRED.

Gypsum Board Base Layer: Specified in Division 9 Section "Gypsum Drywall". Provide type required by specified performance requirements.

NAILS AND STAPLES ARE FASTENER OPTIONS AT WOOD FRAMING IN NON-FIRE-RATED ASSEMBLIES. CONSULT CURRENT PRODUCT LITERATURE FOR MORE INFORMATION.

Fasteners: Self-drilling screws with corrosion-resistant finish.

At Tile Backer Board: DUROCK screws with flat wafer head capable of being driven flush to surface of tile backer board; 1-1/4 inch long.

When tile backer board is installed over gypsum board base layer, screws shall be 1-5/8 inches long.

RETAIN ABOVE AND BELOW IF GYPSUM BOARD BASE LAYER IS SPECIFIED IN THIS SECTION.

At Gypsum Board: USG bugle head drywall screws, 1 inch long.

RETAIN BELOW IF RATED CONSTRUCTION IS REQUIRED.

Acoustical Sealant: SHEETROCK Brand Acoustical Sealant. Sealant shall be type used in sound attenuation and fire resistance tests and shall remain resilient for life of installation.

Sound Insulation: THERMAFIBER Sound Attenuation Fire Blankets (SAFB); unfaced, semi-rigid spun mineral fiber mat, 2.5 pcf minimum density, 2000 deg. F meltpoint; 16 inches x 48 inches x thickness indicated; ASTM C 665, Type 1.

RETAIN ABOVE OR BELOW IF RATED CONSTRUCTION IS REQUIRED.

Sound Insulation: THERMAFIBER Sound Attenuation Fire Blankets
(SAFB) as specified in Division 9 Section "Gypsum Drywall".

RETAIN BELOW IF REQUIRED. MODIFY IF VAPOR RETARDER OR
WATERPROOFING IS REQUIRED.

Water Barrier: Vapor permeable membrane, 15 lb. asphalt felt or TYVEK
building paper by E.I. du Pont de Nemours & Company.

Tile Setting Materials:

SEE USG PRODUCT LITERATURE FOR TILE SETTING MATERIAL SELECTION
INFORMATION. EDIT LISTING TO SUIT PROJECT.

Organic Adhesives: ANSI A136.1, Type I. Provide one of following:

DUROCK Ceramic Tile Mastic.
DURABOND D-2001 Multi-Purpose Ceramic Tile Mastic.
DURABOND D-67 Multi-Purpose Ceramic Tile Mastic.

Dry-set Mortar: ANSI A118.1. Provide one of following:

DURABOND D-50 Sanded Ceramic Tile Thin-Set Mortar mixed with DURABOND
D-L16 Acrylic Latex Additive.

Latex-Portland Cement Mortar: ANSI A118.4. Provide one of the following:

DURABOND D-30 Marble and Granite Mortar.

DUROCK Latex-Fortified Mortar.

DURABOND D-40 Latex-Fortified Mortar.

Modified Epoxy Emulsion Mortar: ANSI A118.8; DURABOND D-L19.

CERAMIPOXY Tile Setting Mortar.

SEE USG PRODUCT LITERATURE FOR GROUT SELECTION INFORMATION. EDIT

LISTING BELOW TO SUIT PROJECT.

Grout: Provide in colors selected by Architect/Engineer from manufacturer's standard colors.

Dry-Set Grout: ANSI A118.6; DURABOND C-150 Commercial Dri-Set Grout mixed with D-L26 Acrylic Latex Grout Additive or DUROCK LFG 250 Latex-Fortified Grout.

Acid-Resistant Colored Floor Grout: ANSI A118.6; DURABOND AR-20. Acid-Resistant Colored Floor Grout mixed with D-L26 Acrylic Latex Grout Additive.

Finishes for Un-Tiled Surfaces:

Tile Backer Board Sealer: DUROCK or DURABOND, Type I Adhesive, thin four parts adhesive with one part water.

Joint Tape: SHEETROCK Brand reinforcing tape.

Joint Compound: SHEETROCK Setting Type or Lightweight Setting Type Joint Compound.

Finishing Compound: SHEETROCK Ready-Mixed Joint Compound or SHEETROCK Lightweight All Purpose Joint Compound Ready-Mixed.

Corner Bead: USG DUR-A-BEAD No. 103 or No. 800, galvanized steel corner reinforcement, 1-1/4 inches x 1-1/4 inches.

PART 3 EXECUTION

EXAMINATION

Examine substrates and framing for compliance with requirements and conditions affecting work of this Section. Do not proceed with installation until piping, waterproofing, and other in-wall work has been installed and accepted by Architect/Engineer and unsatisfactory conditions have been corrected.

RETAIN BELOW FOR SOUND-RATED PARTITIONS.

Examine adjacent construction for conditions which could contribute to loss of sound attenuation.

GENERAL

Comply with manufacturer's printed installation instructions applicable to products and applications indicated, except when more stringent requirements apply.

RETAIN BELOW IF RATED CONSTRUCTION IS REQUIRED.

Conform to construction requirements of tested assemblies used to demonstrate required sound attenuation and fire resistance.

Before installation, cut tile backer boards to required sizes, make necessary cut-outs for penetrations, and grind or drill to provide relief at bolts and screw heads which project beyond face of substrate.

Control Joints: Do not install tile backer board continuously through building movement and control joints or where control joints are required in ceramic tile.

Sound Insulation: Friction-fit insulation blankets between framing. Butt blanket ends and fill all voids.

RETAIN ABOVE OR BELOW IF REQUIRED FOR RATED CONSTRUCTION.

Sound Insulation: Install as specified in Division 9 Section "Gypsum Drywall".

Acoustical Sealant: Completely seal around perimeter of and penetrations through sound-rated partitions.

FLOORS AND COUNTERTOPS

COORDINATE DIVISION 6 SPECIFICATIONS FOR SUBFLOOR AND COUNTERTOP BASE WITH REQUIREMENTS IN DUROCK PRODUCT LITERATURE.

Floors and Countertops: Laminate DUROCK Underlayment to 5/8" minimum exterior grade plywood base using ceramic tile mastic, latex-fortified mortar or thin-set mortar mixed with acrylic latex additive applied to subfloor with 1/4" square-notched trowel for thin-set, 5/32" V-notched trowel for mastic. Place underlayment with joints staggered from subfloor joints. Fit ends and edges closely but not forced together. Fasten to subfloor with 1-1/4" DUROCK Wood Screws or 1-1/2" 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; or with 1/4" x 7/8" galvanized staples spaced 4" o.c. in both directions. Prefill joints with tile-setting mortar or adhesive and then immediately embed tape and level joints; or apply DUROCK Interior Tape over

the joints and then apply tile-setting mortar or adhesive, forcing it through the tape to completely fill and level the joints.

EDIT ABOVE TO MATCH PRODUCT TYPES SELECTED.

PARTITIONS AND CEILINGS

EDIT BELOW AS REQUIRED.

Framing: Install over framing type indicated on drawings. Install blocking to support tub and other plumbing fixtures, and to receive soap dishes, grab bars, towel racks and other accessories and hardware.

At shower receptors, fur out studs, if necessary, so inside face of receptor is flush with exposed face of tile backer board.

Gypsum Board Base Layer: Install base layer; screw to framing 24 inches o.c.

RETAIN ABOVE OR BELOW IF REQUIRED FOR RATED CONSTRUCTION.

Gypsum Board Base Layer: Install base layer as specified in Division 9 Section "Gypsum Drywall".

EDIT OR DELETE BELOW AS REQUIRED.

Water Barrier: Install over gypsum board base layer at tubs, showers, and other wet areas and where indicated. Lap joints to shed water towards face of partition. Bottom edge shall overhang lip of tub, shower pan, or shower receptor.

Apply tile backer boards to framing with long dimension parallel to or across framing. Fit ends and edges closely but not forced together. Center end or edge joints on framing and stagger joints in adjacent rows.

At tub, shower pan, or shower receptor, place temporary 1/4 inch spacer strips around lip of fixture. Install board abutting top of spacer. Remove spacer before installing tile. Joint sealants are specified in another section.

Fasten tile backer board to framing. Locate screws at least 3/8 inch from edge of board and as follows:

Walls - Wood Framing: 8 inches o.c.

Walls - Steel Framing 20 to 14-Gage: 8 inches o.c.

Ceiling: 6 inches o.c.

JOINT TREATMENT

Tiled Surfaces: Apply joint reinforcing over joints and corners. Embed with mortar or adhesive used to set tile.

LIMIT UN-TILED SURFACES TO SMALL AREAS, SUCH AS FROM TOP OF TILED TUB SURROUND TO CEILING.

Un-Tiled Exposed or Painted Surfaces: Install tile backer board with smooth side exposed. Seal tile backer board with tile backer board sealer. Apply tape over joints. Embed joint tape and treat fasteners with joint compound. Flat trowel a skim coat of joint compound over tile backer board to fill voids. Sand to provide a smooth surface except where a textured finish is indicated. Finish joints with at least two coats of finishing compound. Install corner beads at outside corners.

TILE INSTALLATION

Install tile in accordance with instruction of manufacturer of tile backer board and tile setting and grouting materials. Comply with the following standards:

Organic Adhesives: ANSI A136.1.

Dry-Set Adhesives: ANSI A108.5.

Latex Portland Cement Mortar: ANSI A108.5.

Grout: ANSI A108.10.

Provide tile patterns, trim, accessories, expansion and control joints, sealants, and other accessories as specified in Division 9 Section "Tile".

IF TILE INSTALLATION IS SPECIFIED IN THIS SECTION, RETAIN PARAGRAPHS ABOVE AND MODIFY AS REQUIRED. IF TILE INSTALLATION IS SPECIFIED IN ANOTHER SECTION, RETAIN BELOW.

Install tile as specified in another Section. Install with setting materials and grouts acceptable to tile backer board manufacturer to assure compatibility with substrate.

END OF SECTION 09390
