

# TILE INSTALLED ON INTERIOR/EXTERIOR CEILINGS OR SOFFITS

## 315C-2019-2021

### DETAIL A – MORTAR BED OVER CONCRETE

#### SUITABLE SUBSTRATES

- Clean, sound, stable concrete.

#### MATERIALS

- TILE
- METAL LATH (optional) 1.4 kg/m<sup>2</sup> (ASTM C847 corrosion resistant lath).
- SCRATCH COAT (7 mm minimum). See Tile Guide Specification Section Mixes 2.9.2.1.
- MORTAR BED – (20 mm+). See Tile Guide Specification Section Mixes 2.9.2.3.
- BOND COAT – **Interior:** Portland cement slurry on fresh mortar bed, latex-Portland cement mortars (minimum acceptable standard ANSI A118.4 or ISO 13007 C2) or dry-set mortar (minimum acceptable standard ANSI A118.1 or ISO 13007 C1) on mortar bed cured for minimum of 24 hours. See Tile Guide Specification Section Mixes 2.9.2.3 Metal Lath may be required for surfaces that present bonding problems. **Exterior:** Single or two component liquid latex-Portland cement mortar (minimum acceptable standard ANSI A118.4 or ISO 13007 C2S1).
- GROUT – **Interior:** Latex-Portland cement (minimum acceptable standard ANSI A118.6 or ISO 13007 CG1) or epoxy (minimum acceptable standard ANSI A118.3 or ISO 13007 RG). **Exterior:** Latex-Portland cement (minimum acceptable standard ANSI A118.6 or ISO 13007 CG1).

#### APPLICATION

- Attach metal lath, if required, according to manufacturer's recommendations. Apply scratch coat and cure overnight. Apply mortar bed to required thickness. Finished tolerance of mortar bed not to exceed 6 mm in 3000 mm or 2 mm in 300 mm. For large format tile where any side is greater than 380 mm, surface variation should not exceed 3 mm in 3000 mm and 1.5 mm in 600 mm. Use proper notched trowel to ensure adequate bond. With pressure, apply a coat of mortar by using the trowel's flat side to key the mortar into the substrate. Apply additional mortar, combing it in a single direction parallel to the tile's shortest dimension, with the trowel's notched side. Place the tiles firmly into the wet bond coat. Push the tiles back and forth in a direction perpendicular to trowel lines, to collapse the mortar ridges and to help achieve maximum coverage. Ensure proper contact between mortar, tile and substrate by periodically lifting a few tiles to check for acceptable coverage. Use sufficient bond coat to ensure minimum 95% contact on exterior installations and wet areas and minimum 80% on interior dry areas (back buttering is required on ceilings). Remove excess mortar from the joint areas so that at least 2/3 of the tile depth is available for grouting. Allow bond coat to cure. Force grout into the joints with a rubber grout float. Make sure all joints are well-compacted and free of voids and gaps. Remove excess grout from the tile surface and clean.

#### LIMITATIONS

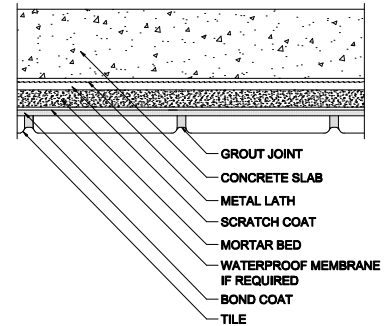
- Manufacturer's recommendations must be followed.
- Do not use paper-back or mesh-back mounted tile for exterior use or in locations of extreme moisture unless the manufacturer guarantees that the material is suitable for this type of installation.
- For thin-set method concrete surface must be clean, dimensionally stable, cured and free of contaminants such as oil, sealers, paint and curing compounds or any deleterious substances that may reduce or prevent proper bonding.

#### OTHER CONSIDERATIONS

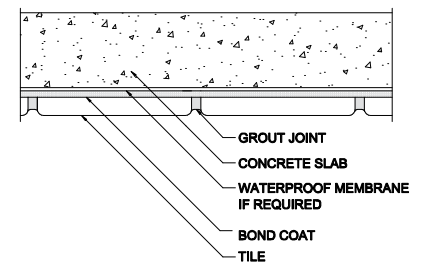
- Latex additive is recommended for modification of scratch coat, mortar bed and Portland cement bond coat. Follow manufacturer's recommendations. Where job conditions require additional thickness, allow 24 hours cure between coats.
- Tile used on exterior applications must be frost resistant.
- Refer to Notes For The Professional and 301MJ-2019-2021.
- Waterproofing membrane if required must be specified. (ANSI A118.10)
- Follow manufacturer's recommendations
- Latex-Portland cement mortars may require 14 – 60 days cure before exposure to water. Verify with the manufacturer the correct cure time required. Alternatively, to reduce the curing time required, a rapid set mortar may be more suitable.
- For ease of installation a non sag mortar or light weight mortar may be considered.
- For thin-set applications see Detail A-2.

Continued

A1



A2



# TILE INSTALLED ON INTERIOR/EXTERIOR CEILINGS OR SOFFITS

## 315C-2019-2021

### DETAIL B – THIN-SET METHOD OVER BACKER UNIT/BOARD

#### SUITABLE SUBSTRATES

- Wood or metal studs, maximum 406 mm o.c.

#### MATERIALS

- VAPOUR RETARDER – 6 mils polyethylene film – required in wet areas.
- Cementitious backer units (CBU) (ANSI A118.9) or coated glass mat backer board (ASTM C1178) or gypsum board (ASTM C36) (dry areas only).
- TILE
- TAPE – Alkali-resistant fibre-mesh at least 51 mm wide
- SLIGHT LEVELLING COAT – if required
- BOND COAT – **Interior:** Latex-Portland cement (minimum acceptable standard ANSI A118.4 or ISO 13007 C2), mortar, dry-set mortar (minimum acceptable standard ANSI A118.1 or ISO 13007 C1) or modified epoxy emulsion mortar (minimum acceptable standard ANSI A118.3 or ISO 13007 R1). **Exterior:** Two component liquid latex-Portland cement mortar (minimum acceptable standard ANSI A118.4 or ISO 13007 C2S1).
- GROUT – **Interior:** Latex-Portland cement (minimum acceptable standard ANSI A118.6 or ISO 13007 CG1), epoxy (minimum acceptable standard ANSI A118.3 or ISO 13007 RG). **Exterior:** Latex-Portland cement (minimum acceptable standard ANSI A118.6 or ISO 13007 CG1).

#### APPLICATION

- Cementitious backer unit (CBU) or coated glass mat backer board must be level, stable, square and screwed to studs with corrosion resistant screws. Do not countersink screws. Surface variation in the backing not to exceed 6 mm in 3000 mm or 2 mm in 300 mm. For large format tile where any side is greater than 380 mm, surface variation should not exceed 3 mm in 3000 mm and 1.5 mm in 600 mm. Apply levelling coat if required. All joints must be taped with 51 mm fibre mesh tape, filled with a dry-set or latex mortar, and sanded. Do not sand coated glass mat backer board unless a waterproofing membrane is used after sanding. Use proper notched trowel to ensure adequate bond. With pressure, apply a coat of mortar by using the trowel's flat side to key the mortar into the substrate. Apply additional mortar, combing it in a single direction parallel to the tile's shortest dimension, with the trowel's notched side. Place the tiles firmly into the wet bond coat. Push the tiles back and forth in a direction perpendicular to trowel lines, to collapse the mortar ridges and to help achieve maximum coverage. Ensure proper contact between mortar, tile and substrate by periodically lifting a few tiles to check for acceptable coverage. Use sufficient bond coat to ensure minimum 95% contact on exterior installations and wet areas and minimum 80% on interior dry areas (back buttering is required on ceilings). Remove excess mortar from the joint areas so that at least 2/3 of the tile depth is available for grouting. Allow bond coat to cure. Force grout into the joints with a rubber grout float. Make sure all joints are well-compacted and free of voids and gaps. Remove excess grout from the tile surface and clean.

#### LIMITATIONS

- Manufacturer's recommendations must be followed.
- Exterior tile installations should not be attempted when temperature is less than 12°C unless otherwise stated by manufacturer.
- Do not use paper-back or mesh-back mounted tile for exterior use or in locations of extreme moisture unless the manufacturer guarantees that the material is suitable for this type of installation.
- Framing for ceiling shall be capable of supporting weight of tile and backup system.
- A waterproofing membrane or vapour retarder not to be used behind coated glass mat backer board.
- All requirements for exterior applications must be met.
- Coated glass mat backer board is not recommended for exterior applications.

#### OTHER CONSIDERATIONS

- Spacing and minimum gauge of steel studs as per instructions of manufacturer of cementitious backer unit (CBU) or coated glass mat backer board on exterior installation.
- Waterproofing membrane if required must be specified. (ANSI A118.10) Follow manufacturer's recommendations.
- Tile used on exterior applications must be frost resistant.
- Refer to Notes For The Professional and 301MJ-2019-2021.
- For high use showers (hotels, gang showers, sports facilities, etc.) a waterproofing membrane shall be used.
- All openings and cuts must be treated to ensure waterproof integrity.
- Latex-Portland cement mortars may require 14 – 60 days cure before exposure to water. Verify with the manufacturer the correct cure time required. Alternatively, to reduce the curing time required, a rapid set mortar may be more suitable.

