

EXTERIOR DECKS

SUITABLE SUBSTRATES

- Exterior concrete slab.
- Exterior grade plywood over wood joist at maximum of 406 mm o.c. Floor systems, including the framing system and subfloor panels, over which the tile will be installed shall be in conformance with the Canadian National Building Code 2005 and applicable local building codes taking into consideration anticipated live and dead loads.

MATERIALS

- TILE
- BOND COAT (ANSI 118.4)
Flextile 51 or 53 / 44 – two component Latex Mortar System (ANSI A118.4/A118.11)
Flextile 58XT Fast Set two-component Latex Mortar System (ANSI A118.4/A118.11)
- GROUT
Flextile 600 Polymer Modified Sanded Grout (ANSI A118.7)
- Waterproof membrane (On grade Concrete Slab)
Flextile WP900 or WP980 Waterproof & Crack Isolation Membrane (ANSI A118.10/A118.12)

APPLICATION

DETAIL A

- Concrete slab must be sloped a minimum of 2% (approximately 6 mm per 305 mm). If not located over occupied space a waterproof membrane meeting ANSI A118.10-1993 may be substituted for roofing membrane.
- Finished tolerance of mortar bed not to exceed 6 mm in 3049 mm or 2 mm in 305 mm.
- Drainage layer mat is applied to the surface of the waterproofing layer but not bonded. Mortar bed thickness should be not less than 38 mm. Use of latex additive in mortar bed (see Tile Guide Specification Section Mixes 2.6.5) and bond coat is mandatory. Use sufficient bond coat to ensure minimum 95% contact. Contact shall be evenly distributed to give full support of the tile. On fresh mortar, beat tile into position. On dry-set mortar, slide tile into position. Allow bond coat to cure. Force grout into full depth of joint, remove excess grout and clean.
- Reinforcing mesh 51 mm x 51 mm x 1.6 mm installed in mortar bed over membrane.

DETAIL B

- Sub-floor – 16 mm exterior grade plywood meeting CSA 0121, sloped as per Detail A. Install roofing membrane and drainage layer in accordance to manufacturer's recommendations. Install mortar be in accordance to Detail A.

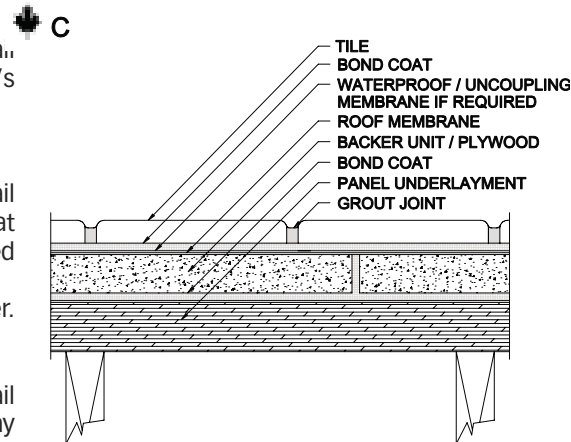
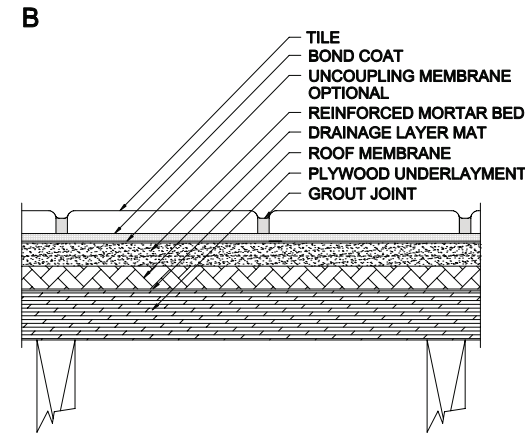
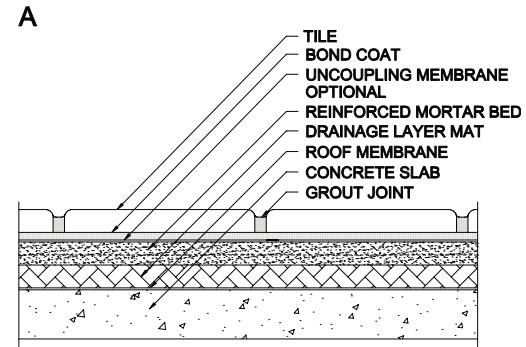
DETAIL C

- Sub-floor – 16 mm exterior grade plywood meeting CSA 0121, sloped as per Detail A. Backer unit 13 mm minimum and must be exterior rated. Backer unit bond coat and fasteners as recommended by manufacturer. Backbuttering is recommended to bond tile to achieve 95% mortar contact.
- Apply approved roofing membrane and primer as recommended by manufacturer.

DETAIL D

- Sub-floor – 16 mm exterior grade plywood meeting CSA 0121, sloped as per Detail A. Overlay of plywood and installation as in Detail 313F-2009/2010 Detail A. Overlay of plywood can be substituted with cementitious backer unit (CBU) as in Detail C. Roofing membrane is a self applied modified rubberized asphalt Styrene-Butadiene-Styrene(SBS) membrane or other membrane types as recommended by manufacturer. Uncoupling system is applied directly onto roofing membrane as per manufacturer's instructions. For definition of uncoupling system see Glossary. Backbuttering is recommended to bond tile to achieve 95% mortar contact. NOTE: This system can also be used over a concrete slab instead of plywood especially for areas over living space.

325ED-2009/2010



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DETAIL E

- Exterior Deck Over Occupied Space – concrete slab and finished surface to be sloped a minimum of 2% (approximately 6 mm per 305 mm). See Detail 326 DR-2009/2010 (B).
- A waterproof membrane meeting ANSI A118.10-93 may be under the tile. A roofing membrane must be installed over the structural slab.
- Drainage layer mat must be applied to the roofing membrane but not bonded. Mortar bed thickness should not be less than 38 mm.
- Heavy or extra heavy duty tile to be used.
- Finished tolerance of mortar bed not to exceed 6 mm in 3049 mm or 2 mm in 305 mm.
- Rigid insulation must be Type 4 polystyrene.

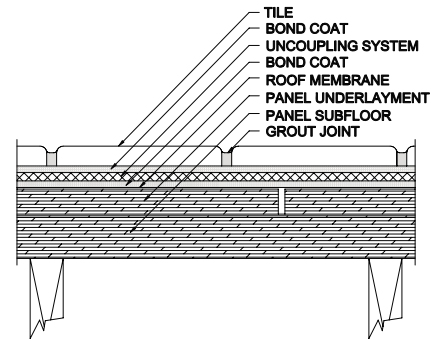
LIMITATIONS

- DETAILS B & C – are effective methods of installation for exterior applications that can have a relatively long life span. It should however be recognized that plywood by its own nature will age and be affected by the elements. Consequently, some maintenance and/or repair may be required over time. Examine each manufacturers system and be advised of the expected life span and guarantee so that the best system for the installation in question can be chosen. i.e. regions under extreme freeze/thaw or high rainfall conditions.
- Detail C – Verify with roofing membrane manufacturer if tile or stone can be direct bonded to membrane.

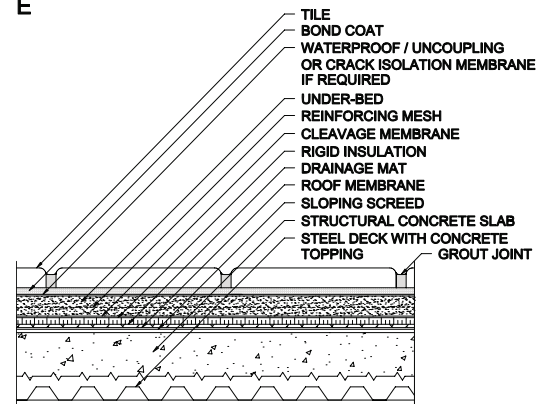
OTHER CONSIDERATIONS

- As of 2005/2006 changes to the Canadian National Building Code require exterior decks, (regardless of over living space or not), are deemed to be roofs and require an approved roofing material Section 9.26 Roofing and Section 9.26.4.1. and 9.27.3.8. if they are not flow-through.
- It is essential that movement joints be incorporated into the tiled surface as per Detail 301MJ-2009/2010.
- Water must not be added to latex and Portland cement bonding material.
- Care must be taken in flashing the waterproofing against all perpendicular surfaces, 152 mm minimum.
- Finishing around the outer edges of the deck should be considered for esthetical appearance.
- For Detail A and B the thin-set method is recommended in areas subject to freeze/thaw conditions. Mortar bed may be subject to failure under these conditions.
- For Detail B, C and D a vapour retarder may be applied underneath wood sub-floor. Consultant to specify location.
- Refer to Notes For The Professional.
- Drains should be designed to permit drainage of water at the tile surface and the surface of the waterproof membrane. For drainage see Detail 326DR-2009/2010.

D



E



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