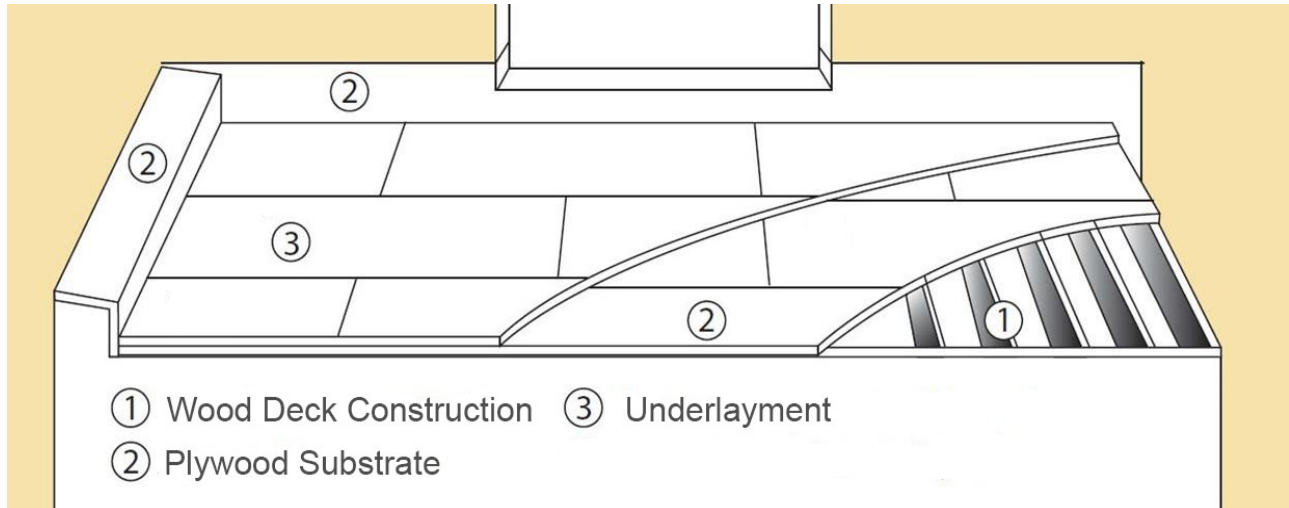


SUBSTRATE & UNDERLAYMENT REQUIREMENTS



General Note: Duradek does not supply framing sheathing and underlayment products. Always refer to manufacturer's written instructions and local building code requirements. Below are Duradek's recommendations. For complete and up-to-date installation procedures refer to Tiledek's Installation manual.

Ask your Duradek dealer for a copy.

Numbers on drawing above reference notes below:

1. Wood Deck Construction

- Deflection: Roof decks must have a maximum allowable deflection of $1/720$ (as an expressed ratio of the clear span).
- Joist Spacing: 16" o.c. maximum.
- Slope: Maximum slope of $1/4"$ in 12 (2%, 1 in 50).
- Door Openings: Sill of rough door openings to be 3" to 6" above elevation of finished tile.
- Framing Lumber: Install Kiln-dried lumber with crown sides up.

2. Plywood Sub Floor Construction

Plywood requirements

- Profile: T&G
- Grade: C-C Sheathing Grade
- Thickness: $3/4"$ (18.5mm)
- No treated plywood to be used
- Exposure Durability: Exterior
- Species: Douglas Fir (DFP), group I or II
- 18% max moisture content

Plywood Installation

- **Placement:** Plywood panels to be installed with the surface grain at right angles to the joists. End joints shall be supported over 2" wood joists. At unsupported joints install 2" x 4" blocking securely nailed between framing members.
- Lightly gap boards, do not force boards together.
- **Fasteners:** Recommend #10 exterior wood deck screw either stainless steel or coated with non-staining finish or hot dipped galvanized ring thread or spiral nails. Nails should be driven in at a slight angle to reduce nail pops. Fasteners to be of sufficient length to penetrate deck framing members 1" (25 mm) min. 1.25" (31.75 mm) max. Slightly recess all fastener heads.
- **Fastener Spacing:** Space fasteners 6" (150 mm) o.c. along edges and 8" (200 mm) o.c. along intermediate supports. Drive nails on slight angle. Slightly recess all fastener heads.
- **Curbs & Upstands:** Apply $1/2"$ min plywood (see plywood specs above) to vertical and horizontal surfaces to receive Tiledek membrane.

3. Underlayment

A. Cement Board Underlayment:

Recommended for All Applications and REQUIRED for Decks Over Non-Condition Areas (Open or Storage Areas)

Cement Board Underlayment: USG (USA) or CGC (CAN) DUROCK® BRAND CEMENT BOARD WITH EDGE GUARD™. 1/2" x 4 ft. x 8 ft.

Underlayment Adhesive: Polymer modified mortar, Mapei "Ultra-Flex 2" acceptable

Underlayment Fastener: 1-1/4" (32 mm) USG (USA) or CGC (Can) Durock® Tile Backer Screws or ITW #9 Buildex ROCK-ON® Cement Board Screws

Joint Compound: Mapei Planipatch, Latex-Fortified mortar or equal

Underlayment installation:

- >>>>> Install CBU panels smooth side up <<<<<<
- Place panels with joints maximum stagger from plywood subfloor joints. End joints to be placed not over structural framing but at 1/4 span point (ie 4" off center for a 16" joist spacing). Fit panels closely but do not force together, leave a maximum 1/8" (3 mm) gap at panel edges and ends. Leave 1/4" (6 mm) gap along walls. Fasten panels to subfloor while mortar is wet with 1-1/4" (32 mm) wood screws spaced 6" o.c. in both directions and placed at 1/2" (12.5 mm) from ends and edges. Do not fasten into wood structural framing.
- Laminate 1/2" CBU to 3/4" plywood subfloor using polymer modified mortar. Apply with 1/4" (6 mm) square notched trowel. Install CBU immediately. Laminate and secure one panel and at a time.
- Finished surface to be true to plane within 1/8" in 10 feet (3.2 mm in 3 m).

Underlayment Preparation:

- Ensure all screw heads are set at, or just below, surface of CBU
- Fill CBU joints and any damaged areas with polymer modified mortar.
- Lightly sand mortar - if required.

Protection:

Protect underlayment from rain and snow after installation to prevent moisture pickup.

B. Plywood Underlayment:

5/8" (15.9 mm) Plywood Underlayment Option for Applications Over Conditioned Areas (Habitable Areas) Only

- See *Plywood Sub Floor notes for plywood underlayment requirements.*

Underlayment installation:

- Place panels with joints maximum stagger from plywood subfloor joints. End joints to be placed not over structural framing but at 1/4 span point (ie 4" off center for a 16" joist spacing). Fit panels closely but do not force together, leave a maximum 1/8" (3 mm) gap at panel edges and ends. Leave 1/4" (6 mm) gap along walls. Fasten panels to subfloor while mortar is wet with 1-1/4" (32 mm) wood screws spaced 6" o.c. in both directions and placed at 1/2" (12.5 mm) from ends and edges. Do not fasten into wood structural framing.
- Finished surface to be true to plane within 1/8" in 10 feet (3.2 mm in 3 m).

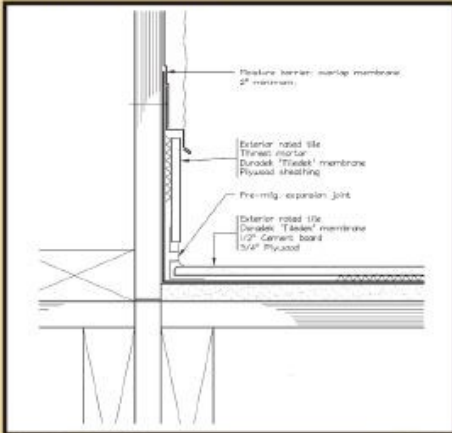
Underlayment Preparation:

- Ensure all screw heads are set at or just below surface of plywood.
- Fill and any damaged areas with polymer modified mortar.
- Lightly sand mortar - if required.

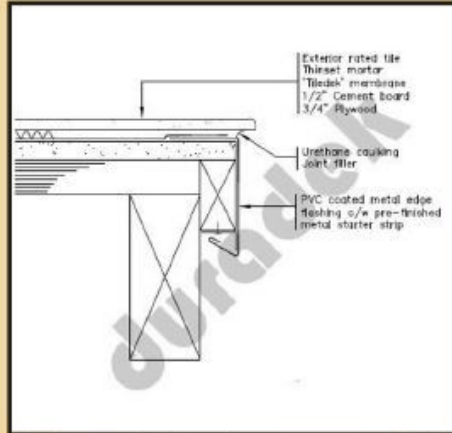
Protection:

- Protect underlayment from rain and snow after installation to prevent moisture pickup.

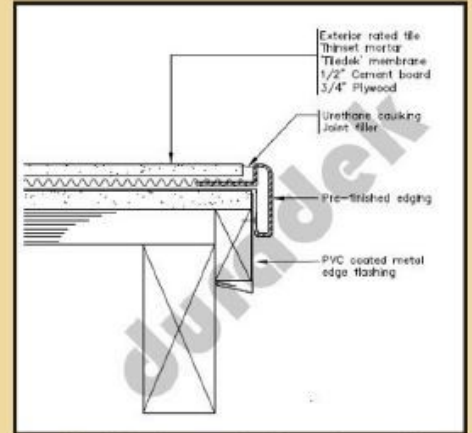
TILEDEK DETAILS



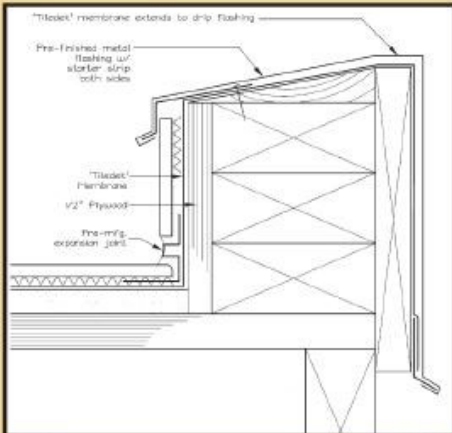
Wall Flashing IS-1T



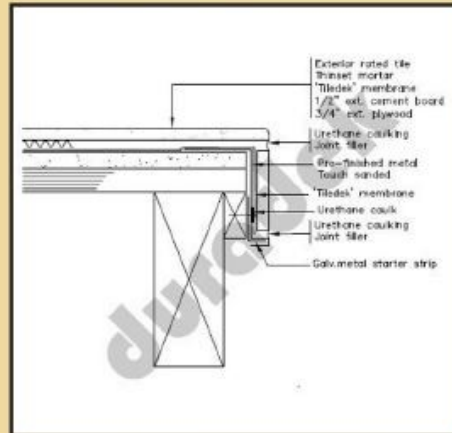
PVC metal drip edge OS-1T



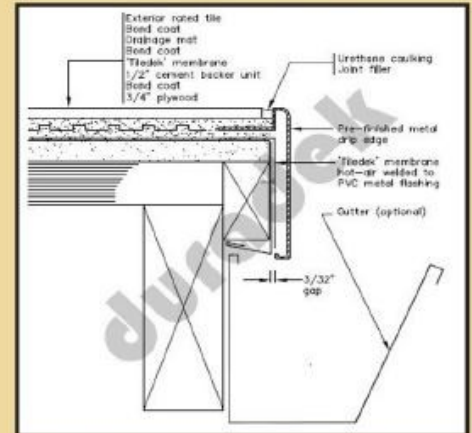
Pre-finished metal drip edge OS-2T



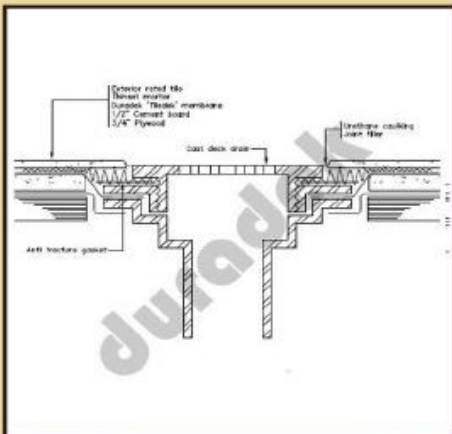
Curb OS-3T



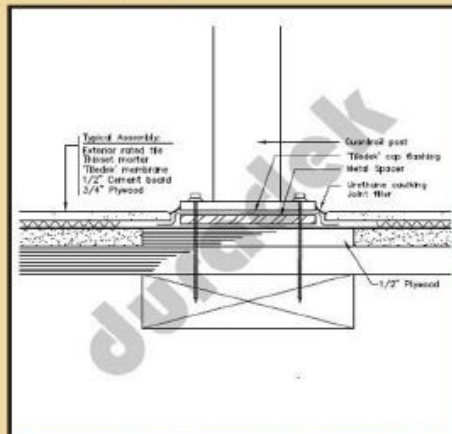
Tiled Drip Edge OS-4T



Pre-finished metal drip edge OS-5T



Deck drain DR-1T



Guard rail post connection P-1T

For the full collection of Detail Drawing for the installation of Tiledek, please refer to duradek.com/tiledek-resources