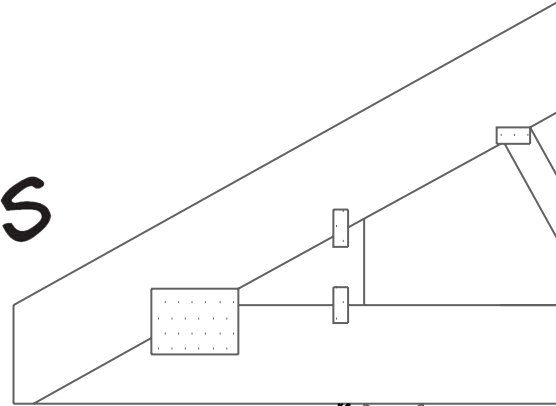
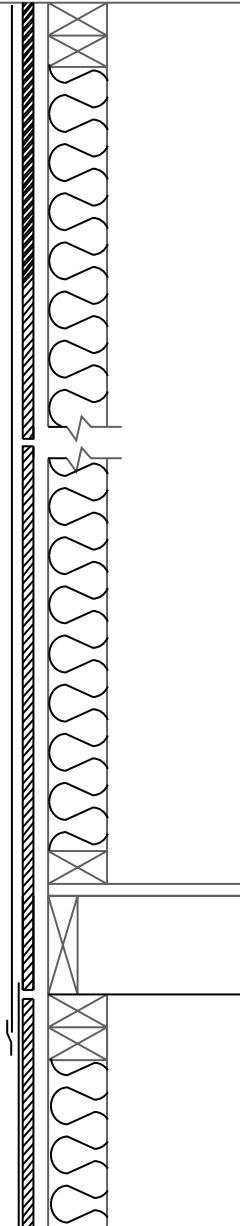


WRAPTORTM PLUS

Reflective House Wrap



INSTALLATION GUIDE



WRAPTOR PLUS™ INSTALLATION GUIDE

CONTENTS

General Installation Instructions	Page
Section 1.1 Installing WraCTOR Plus Over Wood Sheathing.....	2
Section 1.2 Installing WraCTOR Plus Over Foam Sheathing.....	2
Section 1.3 Tilt-Up Walls.....	2
Section 2 Fasteners.....	3
Section 3 Overlapping and Tapping.....	3
Section 4 Other Recommendations.....	3
Section 5 Thermal Resistance.....	3
Section 6 Safety.....	4
Window Flashing Instructions	5 & 6

Tools & Materials Checklist

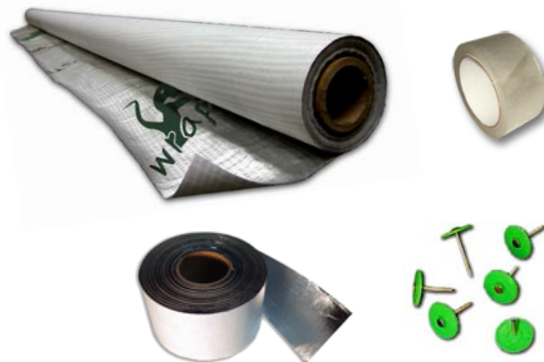
Tools

- Scissors
- Utility Knife
- Hammer, Air Gun or Stapler



Materials

- WraCTOR Plus™ House Wrap
- WraCTOR™ House Wrap Tape
- WraCTOR™ Flash
- Fasteners



Section 1.1 : Installing Wraptor Plus™ Over Wood Sheathing

- Align the bottom edge of the roll to the bottom portion of the wall. **Wraptor Plus™** should extend at least 3" below the sill plate. If framing is 16" on center, align the first layout line (located on the printed side of **Wraptor Plus™**) with the middle of a stud to allow for easy stud location later.
- Fasten securely and unroll **Wraptor Plus™** with foil side facing out. Wrap the entire structure including rough openings for windows and doors.
- Cut **Wraptor Plus™** for window and door openings using a modified "I" pattern (See Detail 2). Fold excess material to the inside of the rough opening. Fasten all layers securely to the interior structural framing (See Detail 2).

Section 1.2 : Installing Wraptor Plus™ Over Foam Sheathing

- Follow steps in Section 1.1 making sure layout lines are aligned with studs.
- Fasten Wraptor Plus to wall system by placing fasteners along studs, sill plates and top plates. Make sure fasteners penetrate structural framing at least 1/2" (failing to attach Wraptor Plus securely to framing leaves the material vulnerable to wind damage).



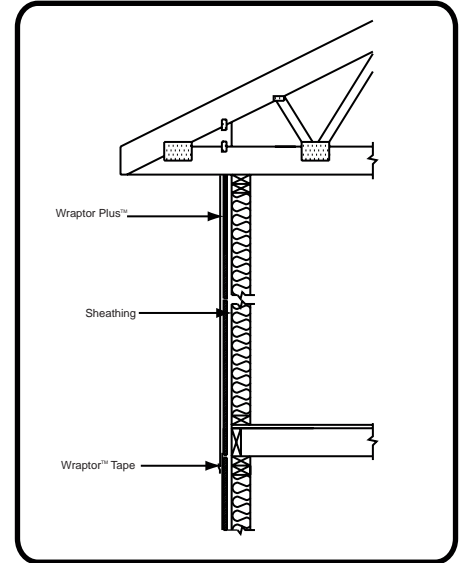
Section 1.3 : Tilt-Up Walls

- When building walls using the "tilt-up" method, **Wraptor Plus™** may be installed before the wall section is raised.
- Leave 6" of extra material (12" on corners) on one side of the wall. Also leave enough material on the bottom of the wall for proper overlapping (see Section 3).

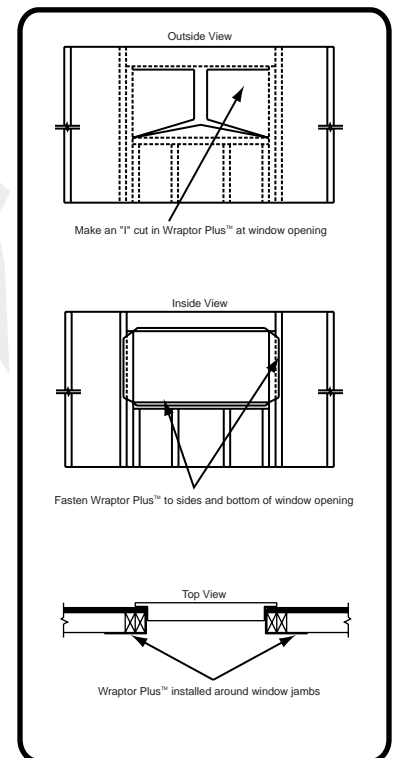
TIPS

- ▶ Use a scissors or sharp utility knife to cut **Wraptor Plus™**. If a utility knife is used, lay **Wraptor Plus™** against a flat, solid surface to make a clean cut.
- ▶ Fold **Wraptor Plus™** several inches under itself when beginning to install. This allows for extra holding power as the installer pulls the wrap snug against the sheathing and around corners.
- ▶ **Wraptor Plus™** can be secured temporarily by placing fasteners every 4-5' (vertically and horizontally). Once **Wraptor Plus™** is in place or the end of the day is reached, fasteners should be placed as described in Section 2.

Detail 1: Exterior Wall Cross Section



Detail 2: Modified "I" Cut at Window Opening



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Section 2 : Fasteners

- Insulation Solutions recommends using plastic cap nails (roofing caps/button caps) or plastic cap staples due to their holding power and ability to keep out moisture and air.
- Alternative fasteners include staples (i.e. galvanized 16 gauge) or large head nails (i.e. roofing nails).
- Fasteners should be placed every 6" around windows/doors and every 12" along every other stud.

Section 3 : Overlapping and Taping

- All seams should be overlapped at least 6". When more than one course of **Wraptor Plus™** exists (i.e. a 2-story house) the top course should overlap the bottom course at least 8".
- All seams (vertical & horizontal) should be taped with **Wraptor™** House Wrap Tape or equivalent. Any punctures, tears or protrusions should be taped. Electrical boxes should be sealed from air infiltration with tape, caulk or foam. Seal around windows/doors with tape as well.

Section 4 : Other Recommendations

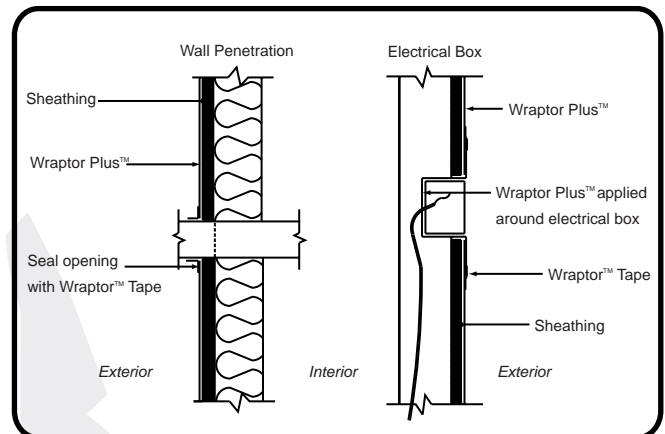
- UV Exposure: **Wraptor Plus™** is not designed as an exterior finish system. It should be covered with the exterior cladding as soon as it is practical (maximum 180 days).
- Stucco: When using Wraptor Plus behind stucco, a lathe support system should be employed. Stucco applied directly to Wraptor Plus without a support system may be prone to cracking. In moist or humid areas, check local codes for proper moisture control practices. Some areas may require two layers of house wrap and/or an additional drainage plane behind stucco finishes.
- Wood and Other Porous Siding: Good building practices include back-priming of any porous siding before installation.

Section 5 : Thermal Resistance (R-Values)

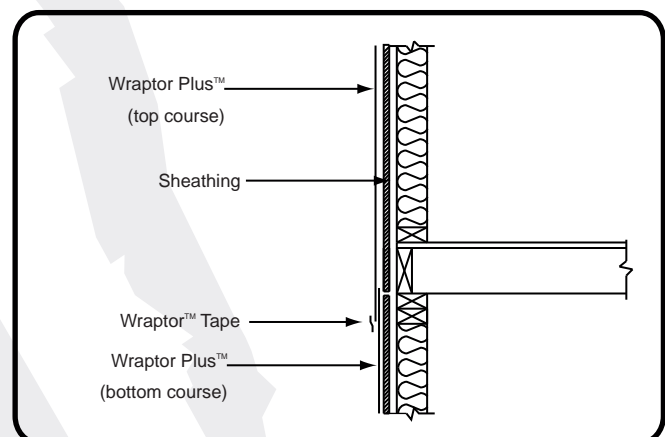
A. 3/4" Air Space: A continuous air space in front of the foil surface will allow **Wraptor Plus™** to reach its full thermal resistance potential. The air space also acts as a drainage plane for moisture that infiltrates behind the exterior cladding. In applications where a full air space is not present behind the exterior finish (i.e. vinyl, fiber-cement or wood siding), the space can be created with furring strips. Optimal air space is 3/4".

B. **Wraptor Plus™** will still function as a weather-resistive membrane without an air space. Thermal resistance values, however, will be minimized (See Detail 5).

Detail 3: Electrical Box and Wall Penetrations



Detail 4: Taping

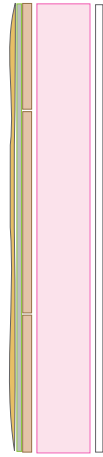


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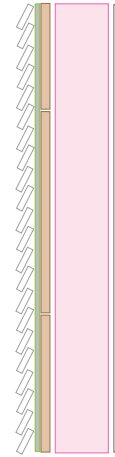
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Detail 5: Additional Thermal Resistance* From Use of Wraptor Plus™ (Compared to No Wrap)



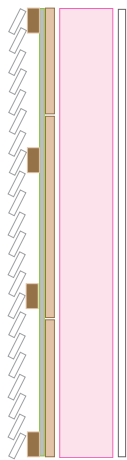
Stucco over Wraptor Plus™

Additional Thermal Resistance : R - 0.17



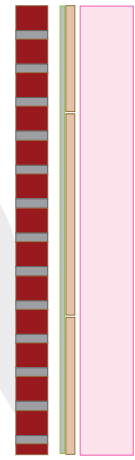
Vinyl Siding over Wraptor Plus™

Additional Thermal Resistance : R - 0.75



Vinyl Siding & 3/4" Furring Strips over Wraptor Plus™

Additional Thermal Resistance : R - 1.75



Brick or Stone over Wraptor Plus™

Additional Thermal Resistance : R - 1.75

*3/4" airspace is assumed to occur between house wrap and brick/stone

*Values are calculated (not tested) and are meant to be used as guidelines, not specification limits.

Section 6 : Safety

- A. **Wraptor Plus™** will become slippery when wet and should not be used in any application where it can be walked on.
- B. Caution should be used when installing **Wraptor Plus™** above the first story. Kickjacks or scaffolding is recommended. If ladders are used, follow the precautions laid out in the ANSI standards for wood, metal and fiberglass ladders.
- C. Keep open fire and extreme heat sources away from the surface of the material. **Wraptor Plus™** will melt when exposed to temperatures in excess of 220°F.



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Window Flashing Instructions

Window Flashing Installation Instructions

1. Apply sill flashing to the rough opening making sure that it is level with the top edge (See Detail 1). Cut and extend **Wraptor Flash™** beyond the 9" jamb flashing (See 3: Jamb Flashing Detail).
2. Install window according to window manufacturer's installation instructions.
3. Apply **Wraptor Flash™** to sheathing, making sure to cover the window flange. Extend flashing 9" beyond the rough opening head and rough opening sill (See 3: Jamb Flashing Detail). When using **Wraptor Flash™**, no mechanical fasteners are needed.
4. Attach **Wraptor Flash™** to sheathing across window head mounting flange. Extend head flashing 9" beyond rough opening on each side (See 4: Flashing Detail).
5. Install **Wraptor Plus™** with foil face out (refer to General Installation Instructions). Trim **Wraptor Plus™** as close to window as possible.
6. To eliminate any air infiltration at the window, fasten **Wraptor™ House Wrap Tape** securely around window (See 6: Installation of tape around window).

TIPS

- ▶ Sheathing surface must be clean, dry and free from oil and grease for proper flashing adhesion
- ▶ Apply uniform pressure by rolling the surface with hand roller.
- ▶ Use spray adhesive for marginal temperature and conditions. If temperature or substrate is questionable, prime as necessary with spray adhesive. Test for adhesion before continuing. Always use spray adhesive when applying **Wraptor Flash™** to concrete, masonry or Dens-Glass. Products such as 3M™ Spray Adhesive Hi-Tack 76 may be used. Read and follow manufacturer's instructions.

Minimum Installation Temperature: 50°F (10°C)

Minimum Installation Temperature with Spray Adhesive: 35°F (1°C)

Cautions

- Do not install over solvent-based sealants unless fully cured and dry to the touch.
- **Wraptor Flash™** should not be installed over flexible vinyl gaskets. (It may be installed with vinyl windows that have rigid flanges).

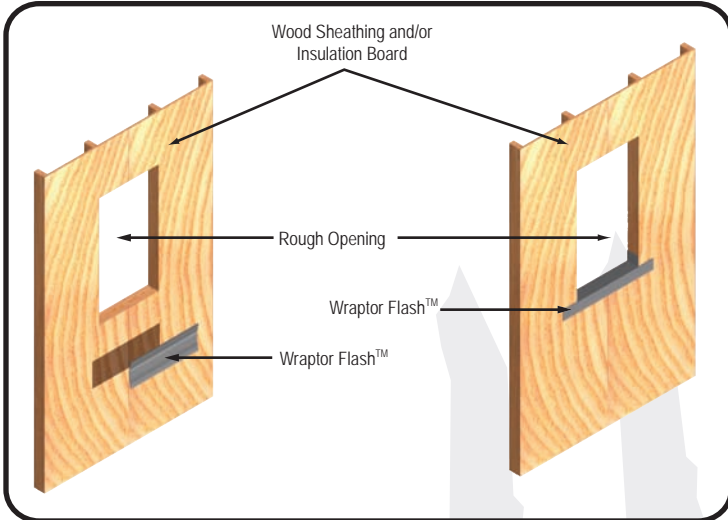
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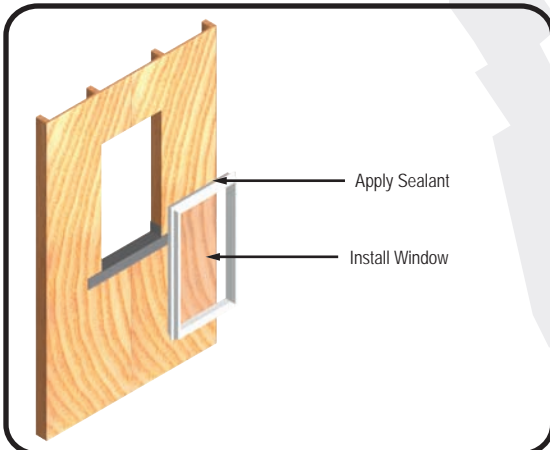


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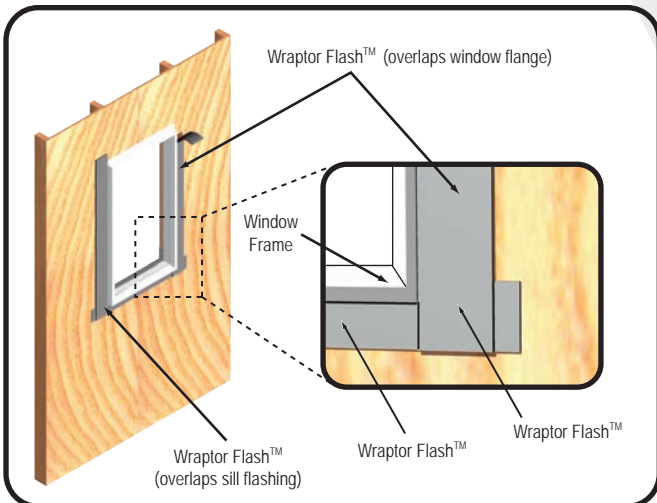
1: INSTALLATION OF WINDOW SILL FLASHING



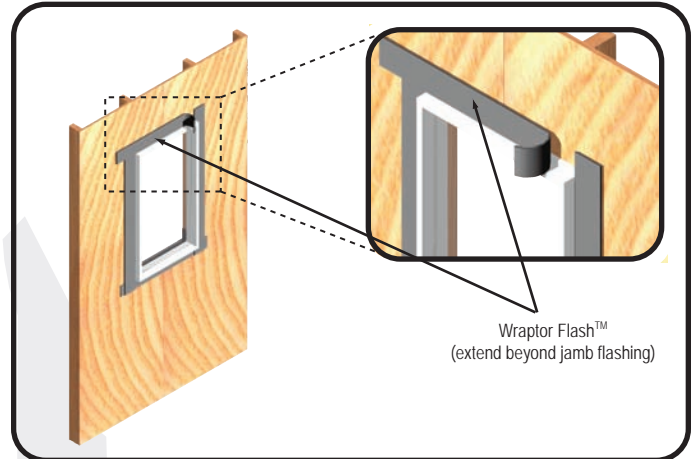
2: INSTALLATION OF WINDOW



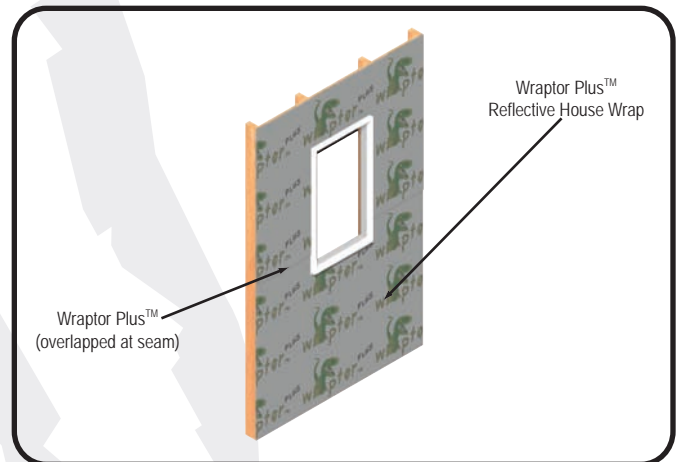
3: JAMB FLASHING DETAIL



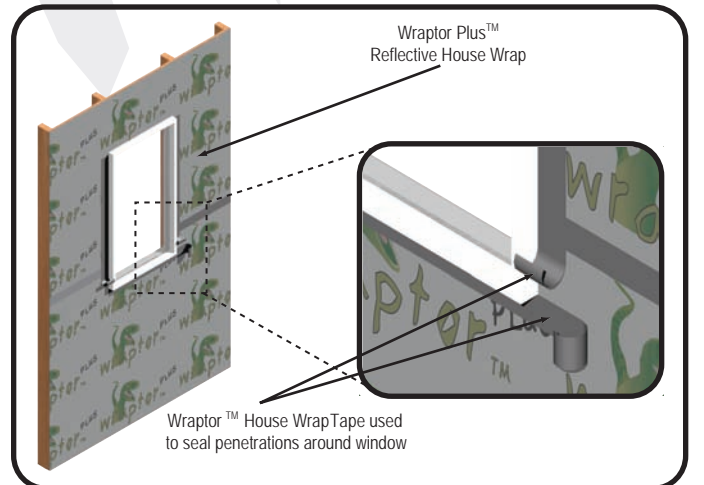
4: HEAD FLASHING DETAIL



5: INSTALLATION OF WRAPTOR PLUS™



6: INSTALLATION OF TAPE AROUND WINDOW



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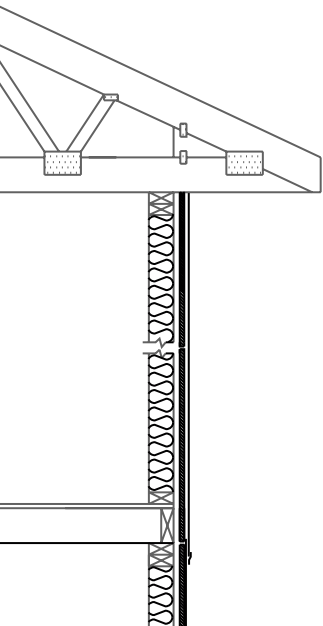
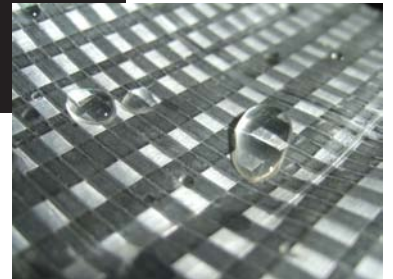
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