Vantell®

Flashing Tape Selection Guide

Technical guidance for window, door, WRB, deck and roof deck sealing applications

Purpose of this guide
This document helps distributors, builders, facade contractors, window manufacturers and OEM partners select the appropriate Vantell tape series according to the actual joint risk, substrate, vapor strategy and installation condition.

Waterproof flashing	For high-risk liquid-water details such as window sill flashing, door thresholds, penetrations and concrete joints.
Vapor-open exterior sealing	For exterior joints that must resist weather while maintaining outward drying potential.
Deck and roof deck protection	For deck joists, beams, ledger boards, roof deck seams, sheathing joints and fastener-sensitive details.

Revision: July 2026

For project selection support. Final suitability should be verified with actual substrates, project specifications and required test methods.

1. Selection Principle: Match the Tape to the Joint Risk

Flashing tape is not a universal accessory. In a building envelope system, different joints require different tape designs because the risks are not the same. A window sill is exposed to concentrated water and lower-corner leakage. A WRB overlap requires membrane compatibility and air-barrier continuity. A vapor-open exterior window joint must allow drying. A deck joist or roof deck seam needs protection against water sitting on wood or sheathing surfaces.

Tape selection should not be based only on how sticky it feels. A suitable tape should be selected according to application area, water exposure, air-sealing requirement, vapor-control strategy, substrate type, installation temperature, UV exposure, movement and required test methods.

The three core functions

Function	Where it matters	Selection focus
Bulk water control	Window sills, door thresholds, roof-to-wall interfaces, deck joists, roof deck seams, concrete joints	Waterproofing, conformability, edge sealing and shingle-lap integration
Air leakage control	WRB overlaps, sheathing joints, window perimeters, panel seams and penetrations	Continuous adhesion, dimensional stability and compatible surfaces
Vapor control and drying	Exterior breathable window joints, vapor-open WRB systems, interior vapor-control connections	Do not confuse exterior vapor-open tapes with interior vapor-control tapes

Key selection rule
The strongest waterproof tape is not always the best tape. At high-water-risk details, waterproofing is critical. At vapor-open exterior details, drying potential can be equally important. The correct tape is the one that matches the joint function.

2. Quick Product Selection Matrix

Application	Main risk	Recommended tape type	Typical Vantell series
Window sill flashing	Standing water and lower-corner leakage	Waterproof window flashing tape	VWFAXW
Window jamb and head flashing	Wind-driven rain and frame-to-wall leakage	Butyl or acrylic window flashing tape	VWFAXW / VWFAHP
Exterior breathable window sealing	Weather seal with outward drying	Vapor-open exterior tape	VWFHYP / VWFAHP / VEXAT-HP
Interior window air and vapor control	Interior airtightness and vapor control	Interior vapor-control tape	VWFAYP / VWFAIB
WRB overlap sealing	Air leakage and water entry through laps	Single-sided acrylic seam tape	VSST / VEXAT-HP
Hidden WRB lap bonding	Concealed membrane bonding	Double-sided acrylic tape	VDST
Sheathing board joints	Air-barrier continuity and joint movement	Acrylic seam tape / exterior sealing tape	VSST / VEXAT-HP
Deck joist, beam and ledger protection	Water trapped on wood framing	Deck protection tape	VDT
Roof deck seam protection	Water entry at roof deck joints and fasteners	Roof deck tape	VDT
Screw and fastener sealing	Localized penetration leakage	Sealing patch / deck tape	VFSP / VDT
General waterproof sealing	Bulk water sealing at non-breathable details	Waterproof butyl tape	VBT
Concealed waterproof bonding	Gasket-style hidden sealing	Double-sided butyl tape	VDSBT
Concrete or structural joints	Joint movement and water intrusion	Concrete joint butyl tape	VCJT

3. Correct Roles of Vantell Tape Families

Product	Correct role	Best-use applications	Do not position as
VWFAXW	Waterproof window flashing tape	Window sill, jamb, head, door threshold, rough opening and high-water-risk transitions	Basic WRB overlap tape
VWFHYP	Exterior vapor-permeable butyl window tape	Exterior window perimeter, outside side of European-style window installation, outward drying details	Interior vapor barrier tape
VWFAYP	Interior vapor-barrier butyl tape	Interior window perimeter, airtightness and vapor-control layer connection	Exterior breathable tape
VWFAIB	Interior acrylic air and vapor-control tape	Interior window sealing and clean interior air/vapor-control details	Exterior high-perm tape
VWFAHP	Exterior vapor-open acrylic tape	Exterior window connection, WRB-to-window transition and vapor-open wall systems	Interior vapor barrier tape
VEXAT-HP / AeroSeal EX	High-perm exterior acrylic sealing tape	WRB laps, housewrap seams, sheathing joints and high-performance vapor-open details	Deck tape or interior vapor-control tape
VSST	Single-sided acrylic seam tape	Visible WRB overlap sealing, housewrap seams, membrane repair and board joints	Double-sided concealed lap tape
VDST	Double-sided acrylic sealing tape	Hidden WRB lap bonding, membrane-to-membrane overlap and OEM membrane assembly	Surface-applied seam tape
VDSBT	Double-sided butyl tape	Concealed waterproof bonding, gasket-style sealing and compressed waterproof joints	Acrylic double-sided membrane tape
VBT	General waterproof butyl tape	General waterproof flashing, non-breathable repairs, penetrations and transitions	Vapor-open wall tape
VDT	Vantell Deck Tape / deck and roof deck protection tape	Deck joists, beams, ledger boards, outdoor framing, roof deck seams and roof sheathing joints	WRB overlap tape or window sill tape
VCJT	Concrete structure joint butyl tape	Concrete joints, precast panel joints, slab-to-wall transitions and structural waterproof joints	Window flashing tape
VFSP	Fastener sealing patch	Screw, nail, small puncture and localized detail sealing	Roll-type seam tape

4. Application-Based Selection Logic

4.1 Window and door rough openings

Window and door openings combine different materials, movement, water concentration and installation variability. The sill is usually the highest-risk area because water can collect at the bottom and lower corners. For sill and threshold flashing, VWFAXW should normally be prioritized for waterproofing, conformability and edge sealing.

Jambs and heads must connect correctly with the WRB and flashing sequence. Depending on the project vapor strategy and substrate, VWFAXW, VWFAHP or VWFHYP may be used. For European-style window installation, exterior-side tapes should support weather resistance and outward drying, while interior-side tapes should support airtightness and vapor control.

Window detail	Preferred product direction	Reason
Sill and lower corners	VWFAXW	High liquid-water risk; waterproofing is more important than vapor openness
Jamb and head	VWFAXW / VWFAHP / VWFHYP	Must integrate with WRB and manage wind-driven rain
Exterior breathable side	VWFHYP / VWFAHP / VEXAT-HP	Weather seal while maintaining outward drying potential
Interior air and vapor side	VWFAYP / VWFAIB	Controls interior air leakage and vapor migration

4.2 WRB, housewrap and sheathing joints

WRB overlaps are not the same as window sill flashing. They require membrane compatibility, seam continuity and efficient installation over long laps. VSST is the practical surface-applied seam tape. VDST is used where concealed lap bonding is preferred. VEXAT-HP is suitable where a higher-perm exterior acrylic sealing tape is needed for vapor-open wall systems.

VDT should not be positioned as the primary WRB overlap tape. Its correct role is deck and roof deck protection.

4.3 Deck and roof deck protection

Deck joists, beams, ledger boards and roof deck seams are exposed to repeated wetting, fastener penetration and trapped moisture. VDT is designed for these deck and roof deck protection details. It helps create a water-shedding protective layer over wood or sheathing surfaces and supports protection around screws and fasteners.

4.4 General waterproof and structural sealing

Some details require waterproof butyl sealing but are not window rough openings or vapor-open wall joints. VBT covers general waterproof butyl sealing. VDSBT is for double-sided waterproof bonding or gasket-style concealed joints. VCJT is better positioned for concrete and structural joint waterproofing. VFSP is a localized sealing patch for fasteners, small punctures and detail repair.

5. Vapor Strategy: Inside and Outside Should Not Be Confused

A common source of tape selection failure is using the wrong vapor behavior in the wrong location. Exterior vapor-open tapes help the assembly dry outward. Interior vapor-control tapes support airtightness and reduce moisture migration from indoor air into the wall. Waterproof low-vapor tapes are appropriate where liquid water blocking is the priority.

Strategy	Typical products	Typical applications	Selection warning
Exterior vapor-open	VWFHYP / VWFAHP / VEXAT-HP	Exterior window perimeter, WRB-to-window connection, vapor-open sheathing joints	Do not use as interior vapor-barrier products
Interior vapor-control	VWFAYP / VWFAIB	Interior window perimeter, air-barrier continuity and vapor-control layer connection	Do not use as exterior breathable weather seals
Waterproof low-vapor	VWFAXW / VBT / VDSBT / VCJT	Sills, thresholds, penetrations, concrete joints and concealed waterproof bonds	Do not cover large vapor-open areas unless the assembly strategy allows it

Practical window strategy
Use waterproof flashing at the sill and lower corners. Use vapor-open weather sealing on the exterior side when drying is required. Use interior air and vapor-control tape on the interior side when the wall design requires it. Do not treat the entire window opening as one uniform condition.

6. Substrate and Installation Checks

Adhesion depends heavily on substrate type and surface condition. A tape that bonds well to plywood may not perform the same way on PP housewrap, dusty OSB, PVC profiles, gypsum facer, aluminum, concrete or roof sheathing. Important projects should be verified on the actual substrate before final approval.

Substrate	Key consideration
PP / PE housewrap	Low surface energy; tape compatibility must be checked
Coated WRB	Coating chemistry affects adhesion and aging behavior
OSB / plywood	Dust, wax, moisture content and roughness can reduce bond strength
Gypsum sheathing	Facer strength, dust and delamination risk are important
Fiber cement board	Surface may require stronger adhesive or primer
PVC window frame	Profile formulation varies by supplier; verify adhesion
Aluminum / metal	Oil, oxidation and release agents must be removed
Concrete / masonry	Porous and dusty; primer may be required
Wood joist / roof sheathing	Moisture content and surface roughness affect VDT performance
Foam insulation board	Facer compatibility and chemical compatibility must be verified

Installation essentials

- Surface should be dry, clean and structurally sound.
- Remove dust, oil, frost, loose facer and release agents before application.
- Use firm roller pressure. Pressure-sensitive tapes require pressure to develop full contact.
- Avoid wrinkles, fishmouths, trapped air and stretched tape at corners.
- Consider installation temperature, service temperature, UV exposure and primer requirement.

7. Common Failure Modes and What They Mean

Failure mode	Possible causes	Selection lesson
Edge lifting	Dusty substrate, insufficient pressure, cold application, tape too stiff, UV or heat exposure beyond intended limit	Check substrate, temperature and tape flexibility; use roller pressure
Adhesive transfer or softening	Excessive heat, long-term shear stress, incompatible substrate or wrong adhesive type	Confirm heat aging and application load
Loss of adhesion after water exposure	Absorptive substrate, poor edge sealing, incomplete wet-out or wrong tape for prolonged wet exposure	Check water exposure performance and shingle-lap sequence
Wrinkles and fishmouths	Tape too thick or stiff, poor corner technique, stretching during installation, no roller pressure	Select conformable tape and improve detailing practice
Trapped moisture	Low-vapor tape used across a vapor-open area or wrong inside/outside vapor strategy	Match vapor behavior to wall assembly drying strategy

Technical note
Hand tack is not a test. A tape may feel aggressive during installation but still fail after water exposure, heat aging, low-temperature application, substrate movement or incompatible surface chemistry.

8. Technical Properties and Reference Test Methods

Property	Why it matters
180-degree peel adhesion	Measures bond strength to selected substrates
Peel after water exposure	Shows wet-condition adhesion stability
Peel after heat aging	Indicates thermal durability
Low-temperature application	Important for cold-weather installation and initial wet-out
UV resistance	Required when exposed before cladding or roofing cover
Water resistance	Critical for flashing and exterior sealing
Vapor permeability	Determines drying behavior and vapor strategy
Tensile strength and elongation	Affects dimensional stability, handling and movement tolerance
Thickness and conformability	Influences corner detailing, edge sealing and surface contact
Nail / fastener sealing	Relevant for deck, roof deck, underlayment and fastener details
Thermal cycling	Simulates repeated temperature movement

Common reference standards

Standard	Relevance
AAMA 711	Self-adhering flashing for exterior fenestration installation
ASTM D3330	Peel adhesion of pressure-sensitive tape
ASTM D3652	Thickness measurement of pressure-sensitive tapes
ASTM E96	Water vapor transmission
ASTM D882 / ASTM D5034	Tensile properties, depending on material type
ASTM E331 / ASTM E547	Water penetration resistance of window, door and wall assemblies
ASTM D1970	Self-adhering waterproofing materials, when relevant
AATCC 127	Hydrostatic pressure resistance, when used for related membrane evaluation
ICC-ES AC38	Water-resistive barrier evaluation, when related to WRB systems
ASTM D8257	Mechanically attached polymeric roof underlayment reference, when related to roof systems

Testing requirements should be confirmed according to final application, target market, building code and project specification. Not every tape requires every test, and test relevance should be matched to the actual use condition.

9. Final Selector Summary

Requirement	Better choice	Reason
Maximum waterproofing at window sill	VWFAXW	Strong window flashing function
Exterior breathable window seal	VWFHYP / VWFAHP / VEXAT-HP	Supports outward drying
Interior window vapor control	VWFAYP / VWFAIB	Supports interior air and vapor-control strategy
WRB overlap sealing	VSST / VEXAT-HP	Suitable for visible membrane seam sealing
Hidden WRB lap bonding	VDST	Concealed double-sided acrylic bonding
Concealed waterproof butyl bonding	VDSBT	Double-sided butyl sealing
General waterproof sealing	VBT	Broad waterproof butyl use
Deck joist and beam protection	VDT	Protects wood framing from moisture
Roof deck seam protection	VDT	Protects roof deck joints and fastener areas
Concrete joint waterproofing	VCJT	Better fit for concrete and structural joints
Fastener or small puncture sealing	VFSP	Localized sealing patch
OEM WRB accessory system	VSST / VDST / VEXAT-HP	Better system matching

Information needed for project recommendation

- Target market or country
- Application area and interior/exterior use
- Substrate type, window frame material or roof/deck surface
- WRB, sheathing, roof deck or wood framing type
- Required tape width and roll length
- Expected UV exposure period and installation temperature range
- Required vapor behavior and project standards
- Packaging, private-label requirement and estimated quantity

Bottom line
A good flashing tape system is not defined by adhesive strength alone. It is defined by the correct match between tape design, substrate, climate, installation detail, vapor strategy and long-term movement of the building envelope.