Performance Building Solutions

DUPONT Tyvek®

Class A2 Non-Combustible Breather Membrane

DuPont™ Tyvek® Trifecta™

Weather protection membrane for external wall systems

Vapour Permeable Water Hold-Out with Non-Combustible Protection – All the Way to the Top

- Full A2-s1,d0 system:
  - DuPont Tyvek® Trifecta™ breather membrane (1.5m x 25m)
  - DuPont AirGuard® A2 FR AVCL (1.2m x 25m)
  - DuPont AirGuard® FR System Tape
- Unrestricted use for High Rise buildings, including height and proximity across the UK & Ireland
- Suitable for all building types including 'High Risk'
- 6 months free exposure to UV
- Airtight for best possible heating and cooling savings
- W1 water resistance to EN 1928 (A) for effective weather protection
- Low vapour resistance for condensation control
- Extremely robust, with exceptional strength characteristics

  25 year warranty based on DuPont warranty terms

*product must be adequatley installed to substrate

DuPont™ Tyvek® Trifecta™ (Style 2021B)

DuPont Tyvek® Trifecta™: A non-combustible breather membrane for external walls provides all the benefits of a standard Tyvek® breather membrane, but with Class A2 Fire Performance. This addition to the Tyvek® & AirGuard® range allows building owners, designers and installers to enhance a building's fire rating, allowing greater protection and fire safety for its occupants.

Fire Regulations – a minimum requirement

Our construction industry has experienced radical changes over the last several years with the aim of bringing the fire safety ofour buildings up to acceptable levels. The Approved Documents to the Building Regulations set out the requirements to us, but these should be regarded as minimum levels for us to base our designs on.

External Walls

Currently, the regulations on Fire Safety, conveyed within Approved Document B require all materials used within an external wall to be a minimum A2-s1,d0. A relaxation on this requirement exists for Breather Membranes and Air & Vapour Control Layers (AVCL's), where the minimum standard is B-s3,d0. Designers and builders are obliged to comply with these requirements – or to do better! Tyvek® Trifecta™ surpasses the Building Regulations with Class A2-s1,d0 to the current European Fire Classification Standard EN 13501-1.

A Complete Fire Performance System

Tyvek® Trifecta™ complements the DuPont AirGuard® A2 FR AVCL and completes the DuPont Fire Performance System. The complete A-rated membrane system, which also includes the AirGuard® FR System Tape, offers safety for all building types including high rise, single story, dwellings, commercial projects, hotels, hospitals and schools.

Weather Protection

Tyvek® Trifecta™ has excellent moisture management properties with Class W1 water resistance to EN13859-2. Coupled with the product's low vapour resistance, it provides more than suitable performance as a secondary weather protection layer in external wall systems.

Rainscreen Systems

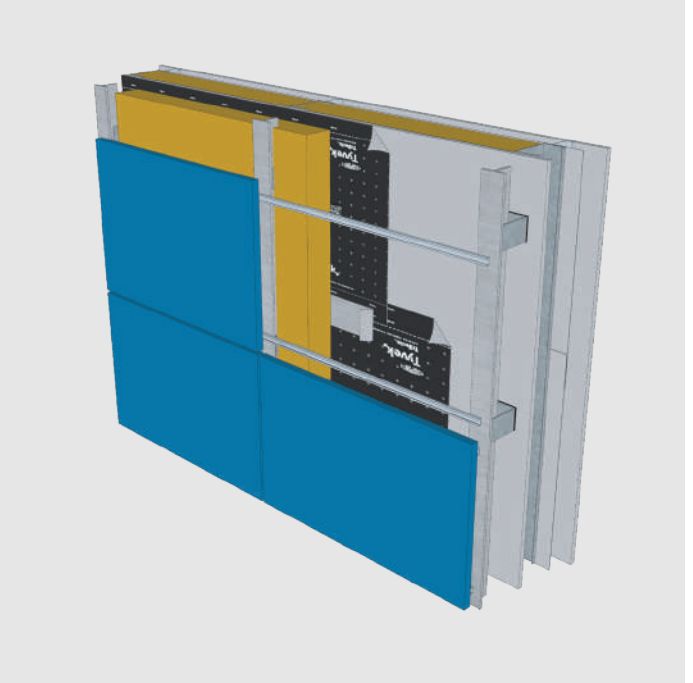
Tyvek® Trifecta™ is installed behind the external cladding of a wall system, where its main function is to form a secondary line of defence against external moisture. This is in addition to the temporary rain protection offered during construction. Rainscreen systems also benefit from the membrane's Class W1 water resistance, where it will provide effective and continuous weather protection to the sheathing, thermal insulation, structural elements and the building interior.

Tyvek® Trifecta™ breather membrane – installation

The membrane's use is particularly relevant where sheathing products have a limited weather resistance function. This would be the case for those that do not have adequate third party documentation to demonstrate compliance with the relevant technical standards addressing resistance to external moisture.

Membrane behind the insulation

Rainscreen systems invariably incorporate an insulation product that has good resistance to moisture allowing the membrane to be installed behind it, directly onto the sheathing board. If the specific project allows, then this method can offer a quicker and more simplistic process for the membrane installation. This in turn allows the wall system to be protected from the weather at the earliest possible opportunity. This method avoids the time-consuming process of cutting and taping around the brackets (described above). Designers and installers should check that this arrangement is accepted by all parties involved.



Initial fixing

Tyvek® Trifecta™ should be secured into place using mechanical fixings. Permanent security of the membrane may also be made with external insulation or cladding brackets. Care should be taken during high wind conditions.

Fixing – to masonry

Tyvek® Trifecta™ may be fixed to masonry with a suitable anchor fixing system or a masonry nail/screw and high temperature fibre-based washer at maximum 500mm centres.

Fixing – to steelwork (SFS)

Tyvek® Trifecta™ should be secured to the steelwork with mechanical fixings such as suitable drill-tip or self-tapping screws. The screws must sit flush (not countersunk) and a high temperature fibre-based washer against the membrane to avoid water ingress. Screw fixings should be spaced vertically at 500mm centres on every stud (typically spaced at 600mm horizontal centres).

Laps

All horizontal laps should be 100mm min. Vertical laps should be 150mm min.

External corners

Dress Tyvek® Trifecta™ around external corners ensuring a return of 300mm min.

Windows

Wrap Tyvek® Trifecta™ into window/door openings and seal to frame with AirGuard® FR System Tape (1310FR).

Fixing – Rainscreen Cladding Applications

Tyvek® Trifecta™ may be fixed to the external face of a cement bonded particle board, external Gypsum board or other Euroclass A1/A2 rated sheathing, using a sheathing appropriate fixing. Appropriate fixings range from stainless Steel Staples for denser boards to drilltip or self-tapping screws (with soft washers).

See Fixing – to steelwork (SFS) above. or Tyvek® double sided tape (1310D) can be used to seal laps at perimeters. Tyvek® 1310D double sided tape (20mm width) may be used in continuous vertical strips at 1200mm centres to provide complimentary adhesion to the substrate in conjunction with appropriate mechanical fixings Initial fixings are preferable in the lap line or covered with AirGuard® FR System Tape (1310FR) to protect the membranes integrity.

The cladding brackets or wall ties, fitted immediately after application of each role of Tyvek® Trifecta™ will provide the principle security for the membrane. Care should be taken to ensure these components are fixed tightly over the membrane to avoid water ingress.

Cavity barriers/trays/flashings

Dress Tyvek® Trifecta™ over cavity barrier/tray/flashing ensuring a minimum lap of 100mm.

Floor junctions

Dress Tyvek® Trifecta™ over intermediate floor zone ensuring a minimum lap of 100mm between sheets.

DuPont™ Tyvek® Trifecta™

Properties	Nominal
Style name	2021B
Roll size	1.5 x 25m
Mass per unit area	400 g/m²
Reaction to fire: EN13501-1	A2-s1,d0 (with Tyvek® 1310FR Tape)
Water Vapour transmission: EN ISO 12572	Sd 0.08 m
(C) Water Vapour Resistance: EN ISO 12572	0.4 MN.s/g
(C) Water tightness: EN1928 (A)	W1
Tensile force: EN 12311-12021B	MD: 4000, XD: 3500 (N/50 mm)

IMPORTANT: To compliment this product, a non-combustible AVCL such as DuPont™ AirGuard® A2 FR maybe used on the internal side of the wall system. Please see www.dupont.co.uk/products/airguard-a2-fr.html

*Installed on mineral board with EN 13501-1 fire class A1 and A2-s1,d0. The use with DuPont™ AirGuard® FR system tape (1310FR) for sealing the overlaps is included in the certificate. For further details, please request the classification report from BKC (tyvek.construction@dupont.com).

DuPont Performance Building Solutions
HERE
470 Bath Road
Amo's Vale
Bristol, UK
BS4 3AP

Contact Tel: 0117 452 9050
Option 1: Technical (Building Knowledge Centre)
Option 2: General Enquiries

Technical Enquiries: **Tyvek.construction@dupont.com**

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