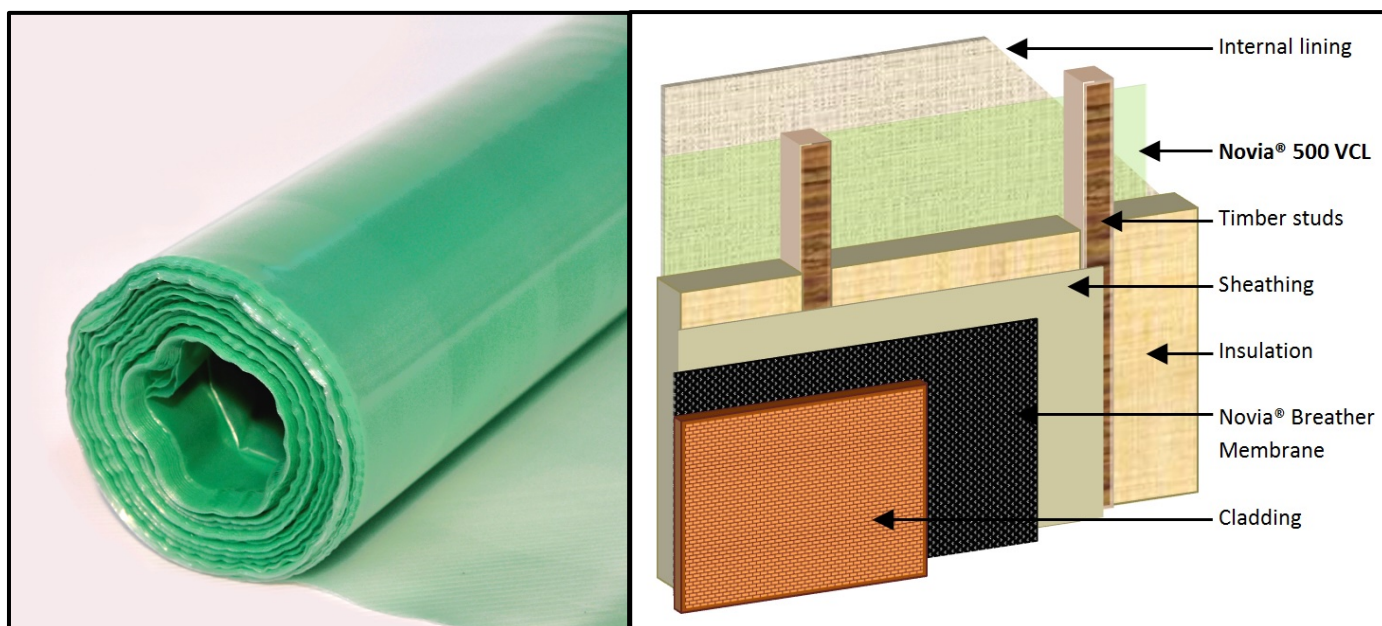


# NOVIA® 500 Vapour Control Layer

**Novia® 500** is a traditional specification, single-ply, non-laminated, virgin grade blown polythene material. It is designed for use as an air leakage barrier and vapour control layer (AVCL) in insulated wall, roof and floor applications. **Novia® 500** is particularly suitable for use in residential timber frame applications as it is 2.7m wide. **Novia® 500** must be installed in conjunction with our two-tape sealing system to provide a fully airtight seal.



- ✓ Air-leakage barrier and vapour control layer (AVCL)
- ✓ Supplied centre-folded in 2.7m wide, ideal for timber frames
- ✓ Virgin grade high quality material
- ✓ CE Approved and CPR compliant
- ✓ Complies with BS EN 13984
- ✓ Easy to install, can see battens (translucent green tint)
- ✓ Minimises interstitial condensation
- ✓ Improves the insulation performance
- ✓ Low cost solution
- ✓ Helps buildings to meet BS 5250:2011
- ✓ Install with Novia® 2-tape sealing system
- ✓ Ideal for use with Novia® breather membranes in insulated frame applications

## Roll size:

|                         |         |                  |
|-------------------------|---------|------------------|
| Standard width (C-fold) | 2.7     | m                |
| Roll weight             | 15.5    | kg               |
| Roll length             | 50      | m                |
| Packing                 | 50      | Rolls per pallet |
| Thickness               | 125/500 | Micron/Gauge     |

## Nominal technical data:

|                                       | Value | Units               | Test Method    |
|---------------------------------------|-------|---------------------|----------------|
| Nominal weight:                       | 115   | g/m <sup>2</sup>    | EN 1849-2      |
| Tensile strength MD                   | >101  | N/50mm-1            | EN 12311-2     |
| Tensile strength CD                   | >93   | N/50mm-1            | EN 12311-2     |
| Tear resistance                       | >65   | N                   | EN 12310-1     |
| Moisture vapour permeability          | 0.68  | g/m <sup>2</sup> *d | EN 1931        |
| Moisture vapour resistance            | >250  | MNs/g               | By calculation |
| Resistance to water penetration 2K Pa | Pass  |                     | EN 1928        |

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DS0116\_500AVCL



# 500 Vapour Control Layer

## Installation guidance:

VCLs should always be installed on the warm side (i.e. the inside) within all wall, roof or floor insulated frame applications, and would normally be used in conjunction with **Novia®** external breather membranes which are situated on the cold side (i.e. the outside).

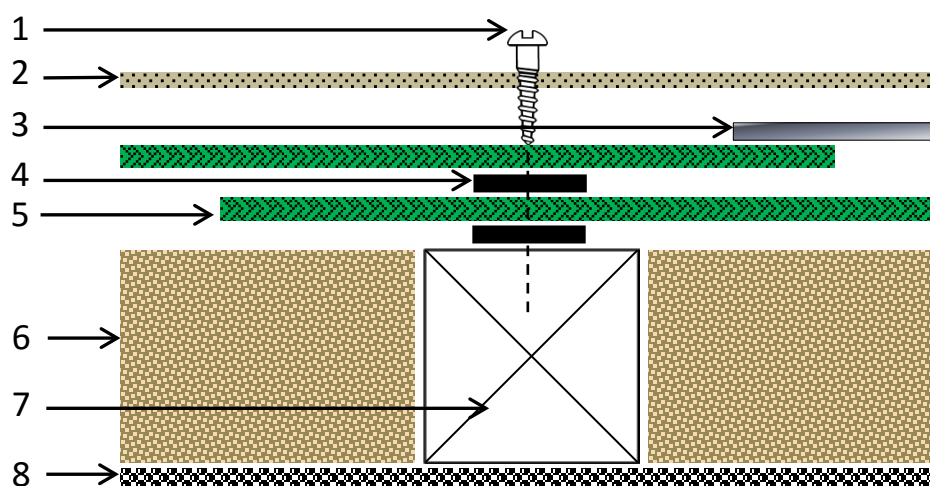
**Novia®** membranes will only perform their job if they are correctly installed using **Novia®** tapes as part of a system. **Novia®** uses a two-tape sealing system on all of our VCL products. It is essential that **Novia®** membranes are installed correctly using our tapes, otherwise these products will not provide the necessary building design outcomes. One of the major causes of condensation problems within finished buildings is due to poorly installed membranes and where incorrect tapes have been used.

All **Novia®** VCL products should be 100% fully sealed to the structure using one of our **double-sided butyl tapes**, and one of the **foil or BOPP lap tapes** to professionally complete the installation. The wider the tape used, then the stronger the final seal will be, and the easier it will be to install as there is more margin for error, so choose a tape based on your own particular application and budget.

**Novia®** recommends our **30mm wide butyl tape** and our **60mm Metallised BOPP tape** for all standard VCL installations.

- Fix the membrane to the structure using suitable galvanised or stainless fixings that will be permanent.
- All VCL membrane joints should have a minimum 150mm overlap and be situated on a stud, rafter or timber.
- We also recommend that in order to improve overall airtightness, butyl tape is pre-applied to all the areas where a fixing is to be made. By preparing the installation in this way, when fixing either the VCL membrane itself or the final wall covering such as plasterboard, then the final seal will still be maintained.
- Care should be taken to ensure that the membrane is not damaged during installation, and that all service entry points are properly sealed.

See diagram below for guidance.



Key to example installation diagram:

1. Fixings
2. Plasterboard
3. Novia® Metallised BOPP Tape
4. Novia® Double Sided Butyl Tape
5. Novia® 500 Vapour Control Layer
6. Insulation
7. Timber studs
8. Novia® Breather Membrane

*Please note this is not to scale and should only be used as guidance for the installation.*

## General notes:

**Novia®** stocks a wide range of grades and sizes of VCL membranes and will always have one to suit your particular requirements readily available, including our reflective grades which improve the achieved  $\mu$  and R values of any given construction when installed facing a minimum 25mm cavity.

The passage of water vapour through a building envelope needs to be correctly managed in order to limit unwanted and damaging precipitation or condensation within the interstitial layer (the layer of the external building fabric, walls / roof and insulation). This would occur over the winter in the UK as heavily moisture-laden warm air moved outwards through the structure and cooled, due to the typical 20c to 25c temperature difference between the internal and external environmental conditions. As cool air can hold much less moisture, warm air that already has a high humidity will release moisture into the atmosphere in the form of water droplets. Think of this process as the changing of water from a gas into a liquid. This water will damage the internal structures of the building over the long term, and reduce the thermal performance of the insulation. As little as 3% moisture deposited within the interstitial layer can reduce the stated thermal performance of some types of insulation by 30% or more.

Vapour Control Layers, also known as Air and Vapour Control Layers (VCLs or AVCL's) are used to manage the transition through the building envelope of naturally occurring water vapour. Water vapour is gaseous water (i.e. water in the form of a gas) which is produced by a range of general building uses and also by the construction process itself. One way that water vapour moves through the building envelope is by the process of diffusion, whereby it passes directly through a material rather than via any breaks or holes in the structure itself.

However, direct moisture diffusion through materials is not the only way that water vapour moves through a building structure. **Novia®** VCL products will also prevent the unwanted movement of air through any physical holes within the structure, a process which is referred to as air-leakage - a naturally occurring effect caused by the heat-transfer process of convection. Prevention of air-leakage is vital to reduce expensive convection energy losses, and this is achieved by providing a sealed and air-tight barrier. However, air-leakage will also deposit large amounts of unwanted moisture in exactly the same way as vapour diffusion does, and installations that do not take account of these issues will inevitably have serious problems.

For the optimum effectiveness of any vapour control layer, ensure that the building is constructed fully in accordance with all current Building Regulations and Standards.

This datasheet represents the latest understanding of the subject. However it is for the ultimate user to determine suitability of our products within specific applications. The advice and information we have provided is general in nature, and is subject to future revision.