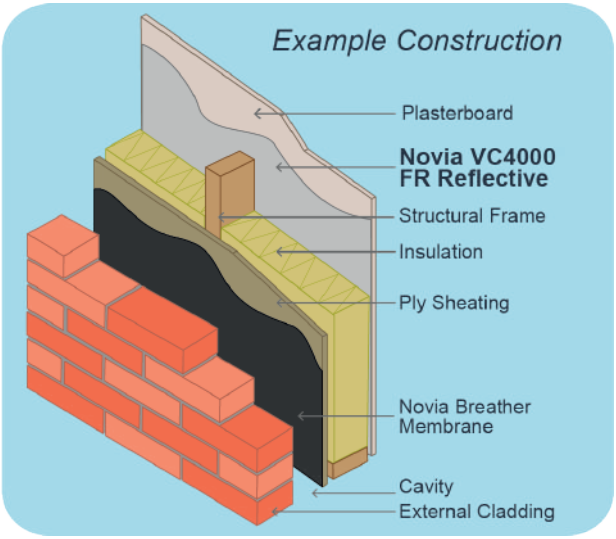
Novia® VC4000 FR Reflective Vapour Control Layer

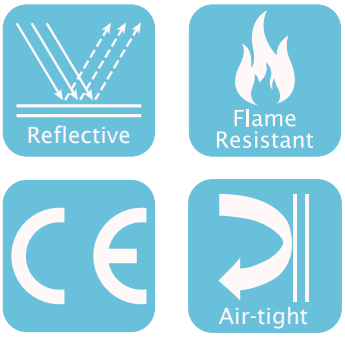
Novia® VC4000 FR Reflective is a revolutionary flame resistant and reflective airtight vapour control membrane. It is designed for use as a high performance vapour control layer and air leakage barrier. Suitable for use in any insulated wall or roof application where high moisture vapour resistance is required. **Novia® VC4000 FR Reflective** is suitable for applications requiring EN 13501-1 B fire approval*, such as those over 18m in height.

This product has a reflectivity in excess of 95%, which will significantly improve both U and R values when correctly installed. **Novia® VC4000 FR Reflective** will also deliver a very low moisture vapour permeability solution due to the use of high performance materials. To provide an air tight seal **Novia® VC4000 FR Reflective** must be installed in conjunction with suitable **Novia®** tapes.

- EN 13501-1 Fire performance class B-s1, d0*
- CE approved to BS EN 13984
- Suitable for use over 18m
- Very high reflectivity which can improve U values
- Very low moisture vapour permeability minimising interstitial condensation
- Improves insulation performance, reducing energy costs
- Install with Novia tapes
- Helps buildings to meet the requirements of BS 5250
- Ideal for use in conjunction with **Novia®** breather membranes for insulated frame applications



	Value	Units	Test Method
Standard Width	1.5	m	EN 1848-2
Roll Length	50	m	EN 1848-2
Roll Weight	13	kg	EN 1849-2
Nominal weight	160	g/m^2	EN 1849-2
Tensile stength MD / CD	450 / 430	N/50mm	EN 12311-1
Elongation MD / CD	22 / 18	%	EN 12311-1
Tear resistance MD / CD	435 / 455	N	EN 12310-1
Water vapour permability in Sd	4000	m	EN 1931 EN ISO 12572
Reflectivity	>95	%	EN 15976
Resistance to water penetration	Pass		EN 1928
Reaction to fire	B-s1, d0*	Class	EN 13501-1



Scan the QR code below to visit the product webpage

* Valid for substrates with fire class A2-s1, d0 or A1 such as 12mm plasterboard, with no cavity between product and substrate. Product tested to EN 13501-1

DS0820_VC4000FRVC

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Installation guidance :

Air and Vapour Control Layers (AVCL) should always be installed on the warm side, the inside of the building envelope, within all insulated wall or roof applications. AVCLs should normally be used in conjunction with **Novia®** breather membranes which are installed on the cold side, the outside of the building evelope, before cladding is installed.

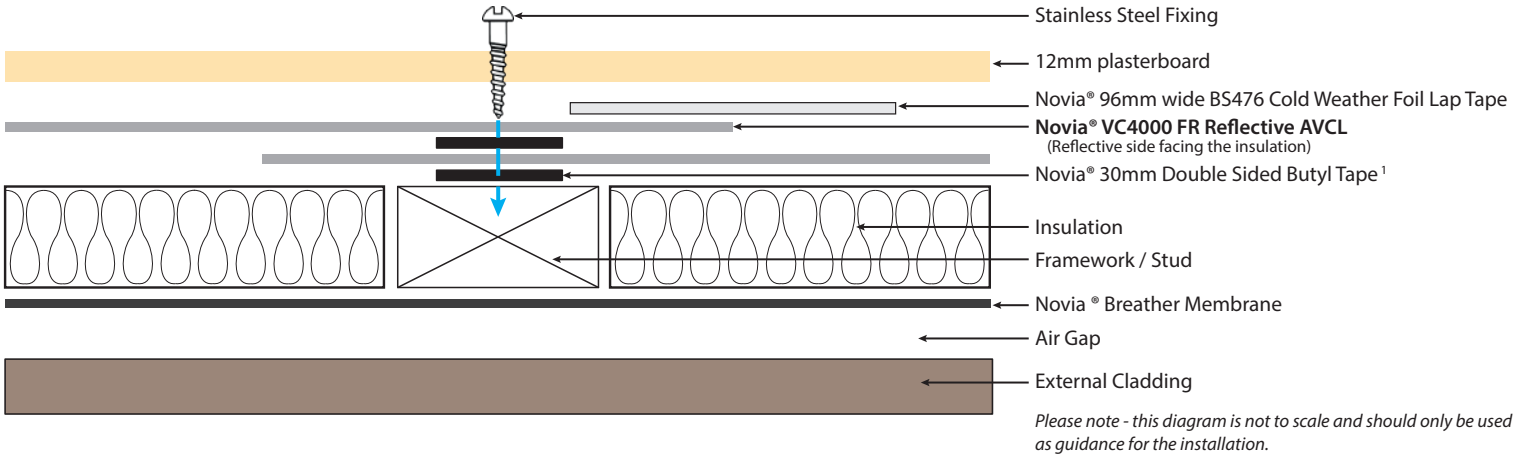
Novia® membranes will only perform their job correctly if installed using **Novia®** tapes as part of a system. It is essential that **Novia®** membranes are installed correctly using these tapes, otherwise they will not provide the necessary building design outcomes. One of the major causes of condensation problems within finished buildings is due to poorly installed membranes, the use of incorrect tapes or where membranes have been damaged during installation.

Novia® VC4000 FR Reflective requires the use of **Novia® 96 mm wide BS 476 Cold Weather Foil Lap Tape**. This ensures that both fire performance and reflectivity performance are maximised. To ensure correct performance **Novia®** AVCL products should be 100% fully sealed to the structure using our double-sided butyl tape.

We recommend the use of **Novia® 30mm wide Double Sided Butyl tape**[1] and **Novia® 96 mm wide BS 476 Cold Weather Foil Lap tape** for all **Novia® VC4000 FR Reflective** installations.

- We 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 AVCL membrane itself or fixing the final wall covering, the airtight seal will still be maintained.
- All AVCL membrane joints should have a minimum 150mm overlap and be situated on a stud, rafter, timber or other framework where possible.
- Fix **Novia® VC4000 FR Reflective** to the structure, with the aluminium foil side facing away from the internal wall lining towards the insulation, using suitable galvanised or stainless fixings that will be permanent.
- Care should be taken to ensure that the membrane is not damaged during installation, and that all service entry points are properly sealed.
- Achieved U and R values of the construction are improved when **Novia® VC4000 FR Reflective** is installed with the reflective side facing a minimum 25mm air cavity.

Installation example :



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

1 Novia butyl tape is not fire rated, but sealants are excluded under Fire Safety Approved Document B, page 77 in relation to Requirement B4, regulation 7, part 3.

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General notes on Air and Vapour Control Layers

The passage of water vapour through a building envelope needs to be correctly managed 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 usually occur over the winter in the UK as heavily moisture-laden warm air moves outwards through the structure and cools, due to the typical 20°C to 25°C 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.

Air and Vapour Control Layers are used to manage the transition through the building envelope of naturally occurring water vapour. Water vapour is gaseous water which is produced by a range of general building uses and 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® AVCL products will also prevent the unwanted movement of air through any physical holes within the structure, a process which is referred to as airleakage, a naturally occurring effect caused by the heat transfer process of convection. Prevention of airleakage is vital to reduce expensive convection energy losses, this is achieved by providing a sealed and airtight barrier. However, airleakage will also deposit large amounts of unwanted moisture in the same way as vapour diffusion does, and installations that do not take account of these issues will inevitably have serious problems.

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

For the optimum effectiveness of any Air and Vapour Control Layer ensure that the building is constructed fully in accordance with all current Building Regulations and Standards.

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