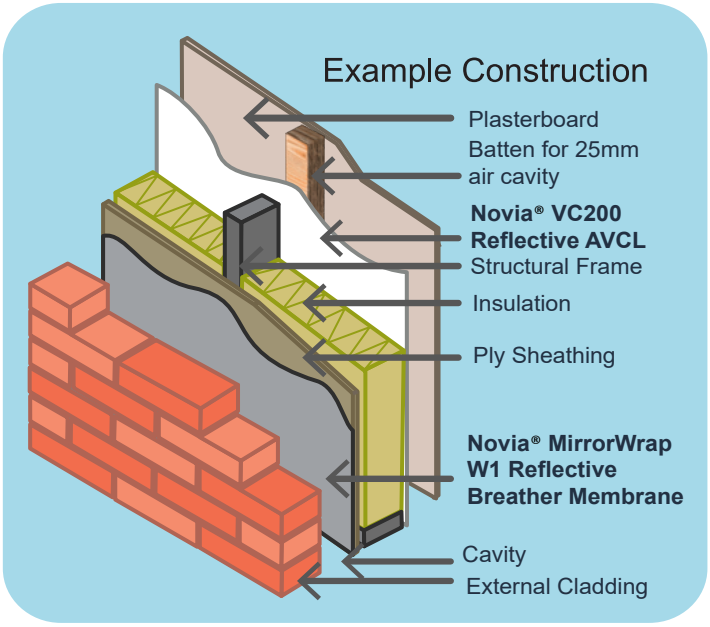
Novia® VC200 Reflective

Reflective Air & Vapour Control Layer

Novia® VC200 Reflective is a high performance, reflective Air & Vapour Control Layer (AVCL). The material meets BS EN 13984 and is UKCA approved. **Novia® VC200** has excellent moisture vapour resistance and is suitable for use in insulated wall, floor or roof applications where high moisture vapour resistance is required. **Novia® VC200** also has a reflectivity of 98% which will significantly improve both U values. When correctly installed, it is possible to achieve an additional r value of up to 0.74m²K/W*. Due to the use of high performance materials, **Novia® VC200** will provide a low moisture vapour permeability solution. **Novia® VC200** complies to EN 13501-1 Fire Classification E. **Novia® VC200** is available in two roll sizes, 1.5m x 50m or 2.7m x 100m, suitable for internal installation only. The product is reflective on one side, white on the reverse, with no text or images.

*The r value achieved by the low emissivity cavity depends on horizontal and vertical heat flows.



Key Features:

- UKCA approved to BS EN 13984
- 98% reflectivity, which can improve r values by up to 0.74 m²K/W
- Low moisture vapour permeability which minimises interstitial condensation
- Improves insulation performance, reducing energy costs
- EN 13501-1 Fire Classification E
- Helps towards BS 5250 requirements

To significantly improve U values, we also offer reflective breather membrane products which are EN 13859-1 (roofs) and EN 13859-2 (walls) compliant. **Novia® Reflex** (roof & wall) is available in 1.5m x 50. **Novia® MirrorWrap W1** (walls) is available in 2.7m x 100m roll sizes. See datasheets for more product specific information.

	Value	Units	Test Method
Roll Width	1.5 / 2.7	m	EN 1849-2
Roll Length	50 / 100	m	EN 1849-2
Roll Weight	7 / 24	kg	
Nominal weight	82	g/m²	EN 1849-2
Tensile stength MD / CD	>140 / >110	N/50mm	EN 12311-1
Elongation MD / CD	>100 / >5	%	EN 12311-1
Tear resistance MD / CD	>100 / >120	N	EN 12310-1
Water vapour permability in Sd	200	m	EN 1931
Reflectivity (tested by the BBA)	98	%	EN 15976
Resistance to water penetration	Pass		EN 1928
Resistance to air penetration	0.0	m³/m².h.50pa	EN 12114
Reaction to fire	E	Class	EN 13501-1

Use the QR code to link direct to the product webpage.

NOTE: COSHH safety datasheets available upon request.

Date Published: V4. March 2025. Novia's most recently published datasheet supercedes any previous versions which may still be in circulation.

DS0325_VC200R

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Generic Novia AVCL Information

Air and Vapour Control Layers (AVCLs) should be installed internally on the warm side of the building envelope, within all insulated wall or roof applications, and should not be exposed to external weathering. AVCLs should normally be used in conjunction with Novia breather membranes which are installed on the cold side of the building envelope, before cladding is installed.

Novia AVCLs will only perform correctly if properly installed. It is therefore essential to use Novia AVCL tapes, as part of a two-tape sealing system. For best results, **Novia® Double-Sided Butyl Tape** should be used in conjunction with a single sided lap tape, either **Novia® BOPP Tape** or **Novia® Aluminium Foil Tape**. If the AVCL is not installed using the Novia two-tape sealing system, it will not provide the necessary building design outcomes. A poorly installed AVCL will not prevent structural damage from unwanted interstitial condensation, which can lead to future structural failures (such as rotten timbers) and can also reduce the thermal performance of the insulation. One of the major causes of interstitial condensation problems within finished buildings is due to poorly installed membranes, and can often be due to the use of incorrect tapes.

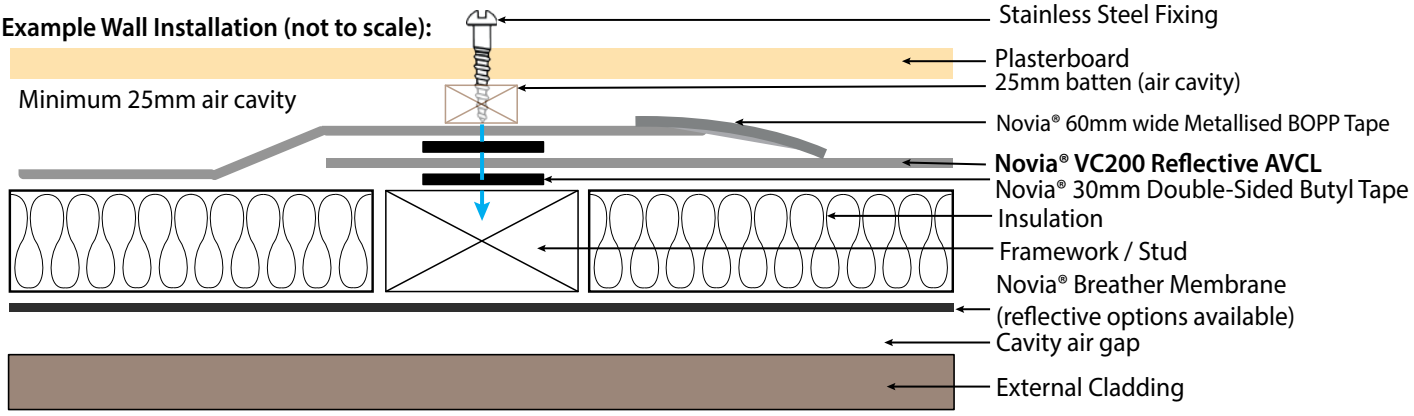
Installing Novia® VC200 Reflective

We recommend the use of **Novia® 30mm wide Double-Sided Butyl tape** and **Novia® 60mm wide Metallised BOPP Tape**. In addition, **Novia® Airseal 310 AVCL sealant** can be used in all applications where additional sealing is required, for example internal corners, floor sections or window reveals. See individual tape and sealant datasheets for further product specific information.

- We recommend that in order to improve overall airtightness, Novia butyl tape is pre-applied to the construction framework on areas where a mechanical fixing is to be made. By preparing the installation in this way when mechanically fixing either the AVCL membrane to itself, and/or to the final internal lining, an airtight seal will be maintained.
- Using suitable galvanised or stainless steel mechanical fixings, which will be permanent, attach the membrane to the framework structure.
- All membrane joints should have a 150mm overlap and, where possible, be situated on a stud, rafter, timber or other framework.
- Care should be taken to ensure that the membrane is not damaged during installation, and that all service entry points are properly sealed with Novia tapes.
- The membrane should not be exposed to external weathering. In accordance with Structural Timber Association (STA) advice, in relation to transport and temporary protection of timber panels, when used in an off-site application, the membrane must be appropriately protected throughout transportation, storage and the assembly process.
- In wall applications, U values of the construction are improved when **Novia® VC200** is installed with the reflective side facing a minimum 25mm air cavity by up to an additional 0.74 m²K/W*.

*The r value achieved by the low emissivity cavity depends on horizontal and vertical heat flows.

Example Wall Installation (not to scale):



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

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General Notes for Air & Vapour Control Layers

The passage of water vapour through a building envelope needs to be correctly managed by Air & Vapour Control Layers (AVCLs) to limit unwanted and damaging condensation within the interstitial layer (the layer of the external building fabric, walls/roof and insulation). Interstitial condensation occurs over the winter in the UK as heavily moisture-laden warm air, generated from within the structure, moves outwards through the building envelope and cools, unless an AVCL is correctly installed. Due to a typical 20°C to 25°C temperature difference between the internal and external environmental conditions, warm, moist air would cool and condense as it moved through the building envelope. This is because cool air holds much less moisture compared to warm air. If warm air already has a high humidity it will release any excess moisture into the atmosphere in the form of water droplets (ie condensation). This water will damage the internal structures of the building, such as wooden timbers, 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.

AVCLs as Vapour Control Layers

Novia AVCL products are used to manage the transition of water vapour through the building envelope. Water vapour is initially present in a building due to the construction process, but it continues to be generated on an on-going basis as a result of occupants general use of the building (for example steam from showers & kitchens etc). 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.

AVCLs as Air Leakage Barriers

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 air leakage, which is 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 improve the energy efficiency of the final construction. This is achieved by installing a sealed and airtight barrier in the building envelope. Air leakage will also lead to the deposit of 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.

Other Notes

- A Novia Breather Membrane should usually be installed on the cold side of the structure to allow easy release of excess moisture vapour into the atmosphere, whilst also performing the task of a secondary protection membrane and preventing penetration by external environmental impurities such as dirt and rain.
- **Novia® MirrorWrap W1 Reflective** 2.7m x 100m Breather Membrane can improve r values by up to 0.74 m²K/W, when installed correctly. This is in addition to improved r values achieved when installing **Novia® VC200 Reflective** AVCL.
- Novia 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 fire rated membrane options.
- For the optimum effectiveness of any Air & Vapour Control Layer ensure that the building is constructed fully in accordance with all current Building Regulations and Standards.
- Always handle material carefully to prevent tears and punctures. Repair on-site damage with Novia tapes.
- All Novia products should be stored horizontally, indoors and out of direct sunlight. External storage must be on a temporary basis. When stored externally, Novia products should be covered and protected from exposure to weather conditions, especially wind, rain, frost and UV. Pallets should not be stacked.

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