

Lamekatusekatted

Types of Single Ply Membrane

As a roofing system, single ply membrane is consistent in the fact that it comprises of a single lamination of flexible membrane material. But, there are different types of product and membrane available for single ply membrane roofing, and each offers it's own advantages and disadvantages:

What are the types of single ply membrane?

PVC – Polyvinyl chloride

PVC is one of the most common membranes and is flexible due to the inclusion of plasticisers. PVC is not compatible with bitumen so if it's being used in a refurbishment job, a separation layer such as a fleece backing is required to stop the PVC from making direct contact with the bitumen. PVC is not easily recycled and the life expectancy of the material is shorter than that of other membranes due to the ageing impact that UV rays have on PVC. On the plus side, PVC is simple to install and can be bonded or mechanically fixed, depending on the product.

EPDM – Ethylene Propylene Diene Terpolymer

Unlike PVC, EPDM is compatible with bitumen. The product has a limited range of colours compared to other membrane options. EPDM is a rubber membrane, which means it can emit rubber odours. It also needs to be prepared with solvents. Unlike PVC, EPDM does not react negatively to UV rays, therefore life expectancy is greater.

TP0 – Thermoplastic Polyolefin

TP0 is compatible with bitumen, making it a good option for refurbishment jobs. Like EPDM, joint preparation requires the use of solvents. The material is partially recyclable, so it's more environmentally friendly than PVC. With regards installation, this can be a little difficult on some sites as, during the welding process the temperature needs to be exact and the joint needs to be very clean.

TPE – Thermoplastic Polyolefin Elastomer

TPE is compatible with bitumen, so like TP0 it's a good option for refurbishment jobs. Also, the joint preparation doesn't require solvents, which is another plus. It's fully recyclable, UV resistant, and has a life expectancy of 40 years. TPE also has a '-re-healing' ability as small punctures in the material can be re-sealed when applied with heat whereas other membranes would need to be patched. There are effectively no downsides to TPE. This is the best material for single ply membrane.

PIB – PolyIso Butylene

PIB is compatible with bitumen, but it does require the use of solvents in the preparation process. PIB is the only membrane with a full life cycle assessment to ISO14040, so it tops the membrane table when we purely take into account the impact on the environment. PIB is simple to install as it has a self-sealing edge, however it is usually only available in grey, so you have a restriction with regards colour. A major disadvantage to PIB is that it's not resistant to organic solvents like petroleum, fats, oils, therefore it's highly likely that PIB will require greater ongoing maintenance as the roof ages when compared to other membranes.