



PVTUBE

BY CONDUCT

QUALITY ASSURANCE IN CONSTRUCTION

In 2022, regulations around building permits for residential housing changed in the Netherlands. Homeowners increasingly expect higher standards regarding fire safety and energy efficiency. At the same time, the government wants tighter oversight in construction to ensure quality standards are met. The Dutch Quality Assurance Act for Construction (Wkb) plays a key role in this. In many projects, a municipal permit is no longer required, an independent quality assurer is now involved instead.

QUALITY ASSURER

Under the new Quality Assurance Act for Building (Wkb), the quality assurance officer plays a central role. This is an independent, private party that supervises the construction quality of a building.

Initially, the Wkb applies to so-called consequence class 1 structures. These include buildings up to 20 metres in height, such as (holiday) homes, houseboats and commercial premises with a maximum of two floors. This can involve new construction, renovation or remodelling.

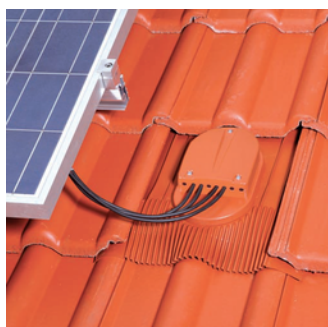
Together with the client, the builder and the municipality, the quality assurance officer safeguards the quality of the building. Quality assurance officers are impartial and independent.

The quality assurance officer verifies whether the structural data have been assessed by the lead structural engineer and whether these have been correctly included in the project file. During the preparation phase, it is assessed whether there are specific project risks. In the execution phase, all structural elements are checked for compliance with the Building Decree (Bouwbesluit).

It is also verified whether the cabling for solar panels has been routed into the building in an airtight and watertight manner.

PVTUBE EN PVTILE

When routing cabling from the roof, it is crucial to prevent damage to the cable sheaths caused by sharp edges or pressure points between roof tiles. For a safe and durable entry through the first concrete building layer, the specially designed PVtile roof tile is used. It is essential that the PLUS and MIN conductors are routed separately in accordance with Dutch guideline NPR 5310, and fed through airtight and watertight conduits in line with BENG 1, the Dutch implementation of the European NZEB standard.



For optimal electrical and mechanical safety, cabling, including at roof entries, must always be routed in a conduit or wire mesh cable tray. This prevents insulation faults and increases touch safety with high DC voltage, in accordance with NEN1010:2020, the Dutch implementation of IEC 60364 for low-voltage installations. Important: do not use PU foam as a sealant without verification. Not all PU foams are fully watertight; some types may absorb water. Watertightness depends on the specific foam used.



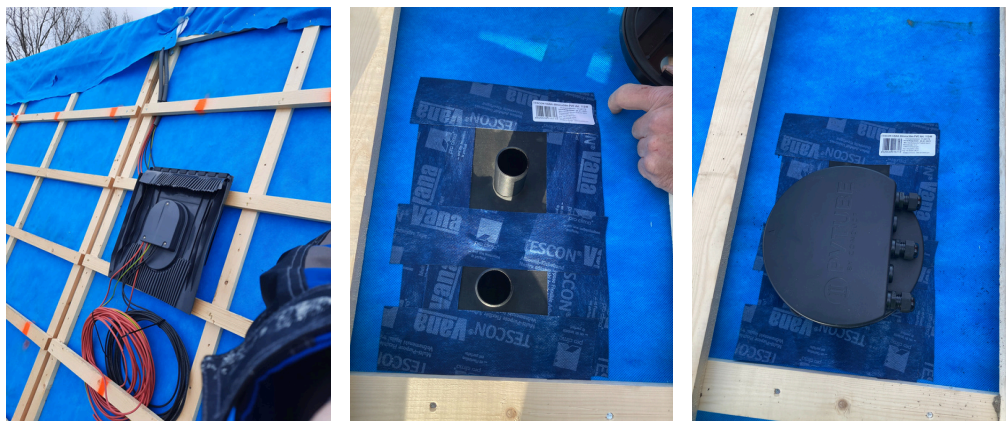


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WATER RESISTANCE OF FOAMS AND RISKS AT ROOF ENTRIES

Closed-cell foams, such as 2-component foams, are more resistant to water than open-cell variants, such as flexible foam. They absorb less water and are therefore more suitable for applications where water exposure is a factor. It is more accurate to speak of water resistance rather than full waterproofing.



Prolonged contact with standing water must always be avoided. If water remains trapped in the foam, the material's performance may deteriorate. Penetrating the roof, vapour-permeable membrane and vapour barrier may also cause unwanted airflows:

- **Exfiltration:** heat escapes from the building.
- **Infiltration:** cold and moisture enter the building.

These processes increase the risk of condensation, moisture damage and long-term timber decay.

SOLAR SAFE HOME

By following the Solar Safe HOME guidelines, you comply with the applicable safety standards. PVtile ensures a mechanically safe and airtight feedthrough of solar cabling through the concrete roof layer.



The cabling must also be safely installed
inside the building by using a conduit