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Compatibility FlatFix Fusion: roofing membrane and insulation

FlatFix Fusion is designed to minimize the forces on the construction of the building, insulation material and roofing membrane. The foreseeable roof load per m2 and the point load that will be transferred onto the roof by the roof supports is low. Due to the design, lateral forces that can materialize due to difference in thermal expansion and movement between the roof and the PV system are minimized and largely absorbed by the mounting system.

1.Point load on roofing membrane:
The expected loads that will be transferred to the roofing membrane will be lower than the maximum puncture resistance of the roofing membrane according to the datasheets and technical documentation of common roofing membranes. For an example of static puncture resistance of several roofing membranes; see table 1.

Table 1: Static puncture resistance of several roofing membranes

Flagon TPO:	1200 kPa	Wedeflex D4:	900 kPa
Flagon PVC:	1200 kPa	Wedeflex D3:	900 kPa
Sikaplan PVC:	1500 kPa	Soprafix AR:	300 kPa
Trokal-S PVC:	1200 kPa	Ikopal Eshaflex 370:	900 Kpa

The maximum average static point pressure that materializes at a roof support is approximately 15 kPa (see the project plan)
The point pressure is below the maximum static pressure where the roofing membrane is penetrated according to Table 1.

2.Point load on insulation material:
The expected loads that will be transferred to the insulation material will be lower than the 10% deformation boundary of the insulation material according to the datasheets and technical documentation of common insulation materials. For an example of the 10% deformation boundary of several insulation materials; see table 2.

Table 2: 10% deformation boundary of several insulation materials

Rockwool Rhinox:	50 kPa	Rocterm Coberlan C:	70 kPa
Rockwool Rhinox D:	90 kPa	Isover Panotoit:	80 kPa
Rockwool Rockacier:	40 kPa		

The maximum average static point pressure that materializes at a roof support is approximately 15 kPa (see the project plan)
The point pressure is below the 10% deformation boundary.

3. Chemical reaction between roofing membrane and roof supports:
The roof supports are manufactured from a glass-filled polypropylene base material, which is an inert material that is virtually insusceptible to most solvents, acids and bases.

There will be no foreseeable chemical reaction between the roof support and the roof membrane which will be disadvantageous to the expected lifespan of the roof membrane or the FlatFix Fusion system. Especially PVC roofs are known for migration of solvents in combination with certain materials. The FlatFix Fusion roof supports where tested by BDA/KIWA in combination with a PVC membrane. (report 0369-L-11/1).

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