

Certificate

subject: ESDEC Calculator FlatFix Wave Plus
date: February 7th, 2022
reference: MvU/MvU/W 15389-24E-NO-002
from: ir. G.M. van Uffelen
to: Esdec B.V.

This certificate concerns an evaluation of the ESDEC Calculator for ballast calculations for the FlatFix Wave Plus system, that is depicted in the photographs down here.

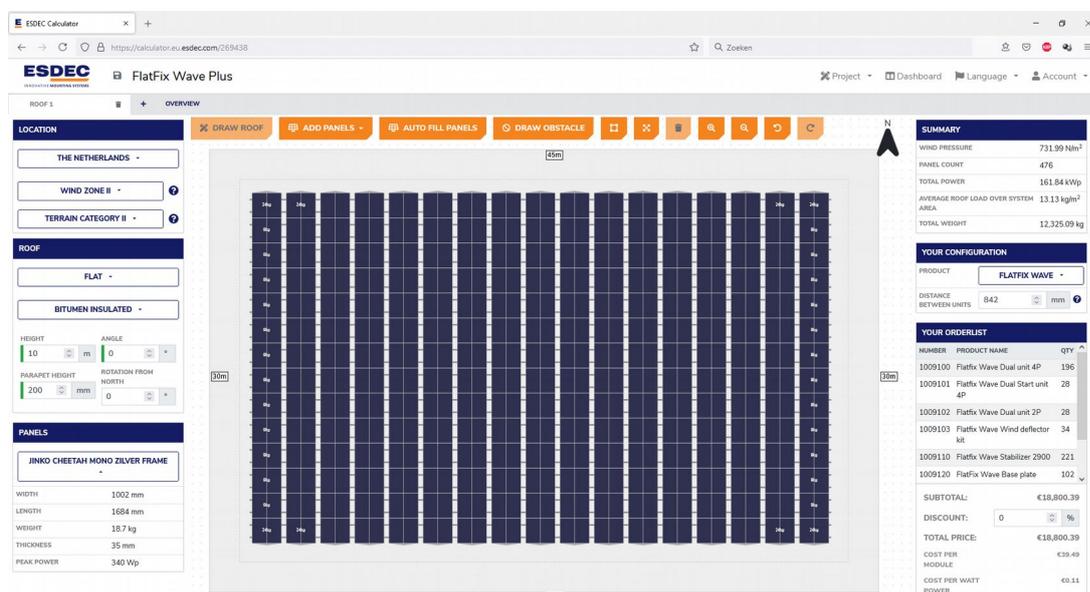


This is based on the specific wind tunnel research conducted by Peutz bv into the wind load on the Esdec FlatFix Wave Plus mounting system for flat roofs. This dedicated wind tunnel study, specifically for this system, was carried out by us in July and August 2020. The lower left photograph shows the scale model in our wind tunnel.



Based on mechanical lift tests carried out by Esdec in the summer of 2020, see right photograph up here, the degree of interconnection of the systems was determined and

processed by us into the wind tunnel data. These have been incorporated in the aforementioned calculator of Esdec. A screendump has been depicted down here.



We hereby declare, after studying and testing the calculator, that Esdec does indeed use the wind tunnel measurements of FlatFix Wave Plus, which have been combined with the mechanical lift tests into the wind tunnel data, and that the results have been correctly and safely processed in the Esdec calculator. The approach and method used by Esdec when applying this calculator have been tested and approved by us in several reference projects. The wind tunnel data are valid for roof tilt angles between -5° and $+5^\circ$.

Conformity: CUR Recommendation 103: 2005
NEN 7250: 2021
NEN-EN 1990: 2011
NEN-EN 1991-1-4: 2019

Mook,

This certificate contains 2 pages