



ATG Profile ApS

SMART MP

- ETAG 004 (2013)
Freeze-thaw pkt. 5.1.3.2.2



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ETAG 004 pkt. 5.1.3.2.2

Freeze-thaw behaviour

Report no.: 872659-A

Performed for:

ATG Profile ApS
N P Danmarksvej 93
8732 Hovedgård
Denmark

Performed by:

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Pages: 9 (incl. frontpage and appendices)

Appendices: 2 (4 pages total)

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Test report

- Client:** ATG Profile ApS
N P Danmarksvej 93
8732 Hovedgård
Danmark
- Material:** Three rendered boxes with "SMART MP" build in, further details can be found on page 4.
- Sampling:** The test material was brought by the client and received at the Danish Technological Institute on 2019-08-21. The test material was labelled "872659-A" and 1-3 by the laboratory.
- Test period:** The test was carried out from 11.09.2019.
- Method:** ETAG 004 External Thermal Insulation Composite Systems (ETICS) with rendering.
- feb. 2013 5.1.3.2.2 Freeze-thaw behaviour.
- Note:** The cycles were followed by inspection of visible damages.
- Result:** No visual damages were observed after the test.
Results are given on page 6.
- Storage:** The sample will be destroyed after 2 months if nothing else has been agreed in writing.
- Terms:** The test has been performed according to the general terms and conditions of The Danish Technological Institute. The results from DTI's work in this report, i.e. analyses, assessments and instructions may only be used or reported in their entirety. The customer may not mention or refer to DTI or DTI's employees for advertising or marketing purposes unless the DTI has granted its written consent in each case.
- Location:** 2019-12-19, Danish Technological Institute, Building & Construction, Aarhus


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Description of test specimens

Three similar rendered boxes, with white render. The dimensions of the specimens are measured to 50 x 50 x 40 cm. The specimens have "SMART MP" build-in, see drawing in appendix 1. The edges are rendered too, to avoid moisture in the inner insulation part.

The client has provided the following information about the construction of the test specimen:

"SMART MP" is build-in as described in the mounting instruction.

Test procedure

Specimens were climatized at $(23 \pm 2)^\circ\text{C}$ and $50 \pm 5\%$ RH from delivery date until start.

It is wished to assess the build-in of the "SMART MP", to see if it has any influence on the render.

The three specimens are subjected to 5.1.3.2.2 Freeze-thaw behaviour.

The samples are subjected to a series of 30 cycles (one cycle last 24 h) comprising:

- Exposure to water for 8 hours at initial temperature of $(23 \pm 2)^\circ\text{C}$ by immersion of the samples, render face downwards, in a water bath, to a depth of 2 to 10 mm.
- Freezing to $(-20 \pm 2)^\circ\text{C}$ for 16 hours as described in ETAG 004 page 37, Cycles.

At the end of the test, the specimens are visually inspected for any observations relating to a change in characteristics of the surface or to the behaviour of the entire ETICS.



Specimen (TI, 2019)



Test results

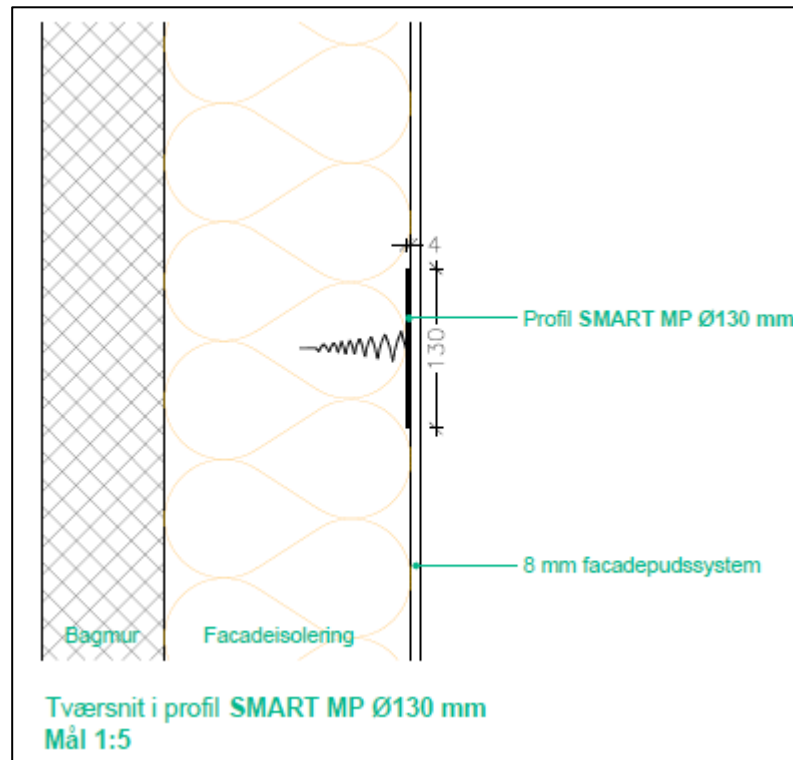
There was no visual damage (cracks, slips etc.)



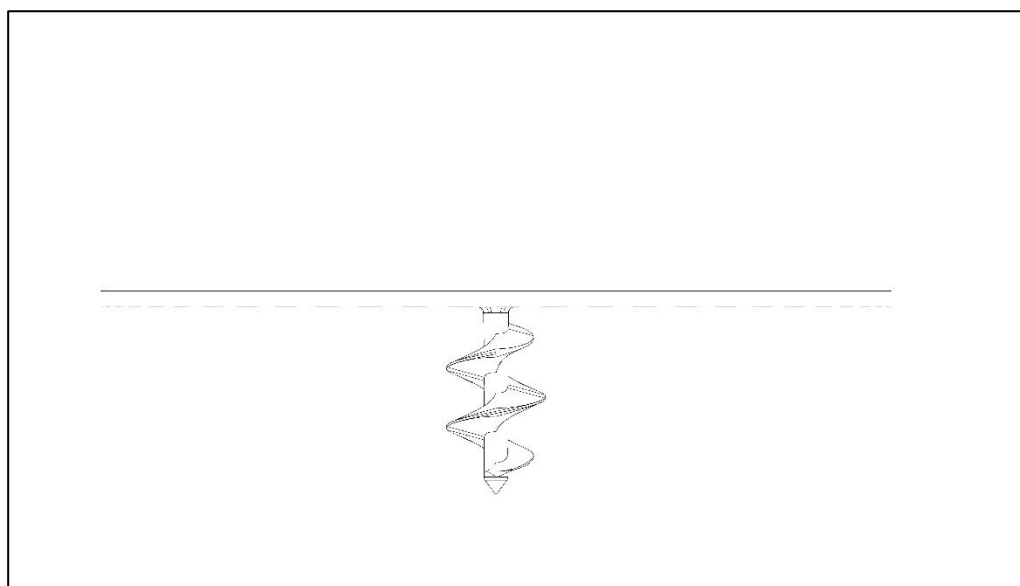
Specimen cut over after test. New SMART MP to compare (TI, 2019)



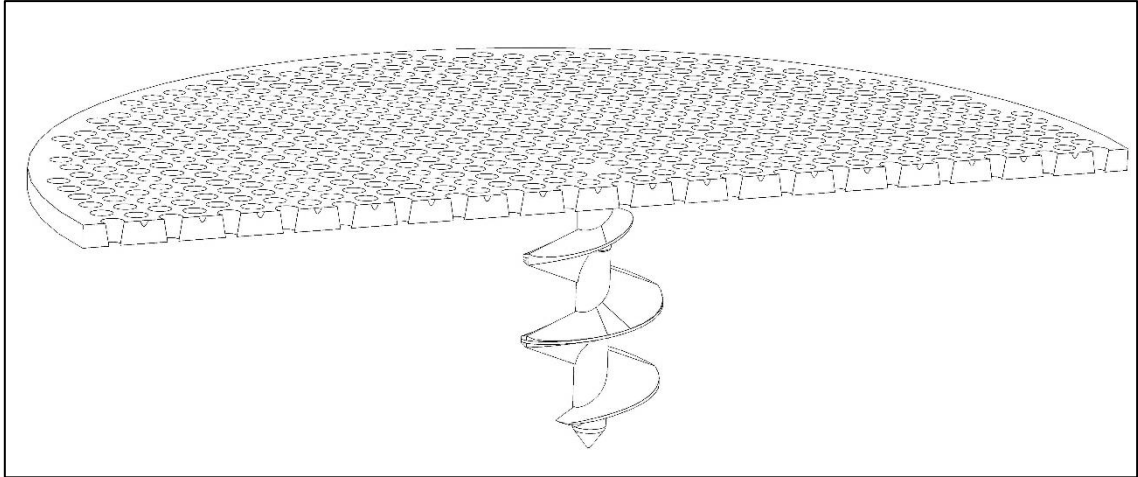
Appendix 1: Drawings



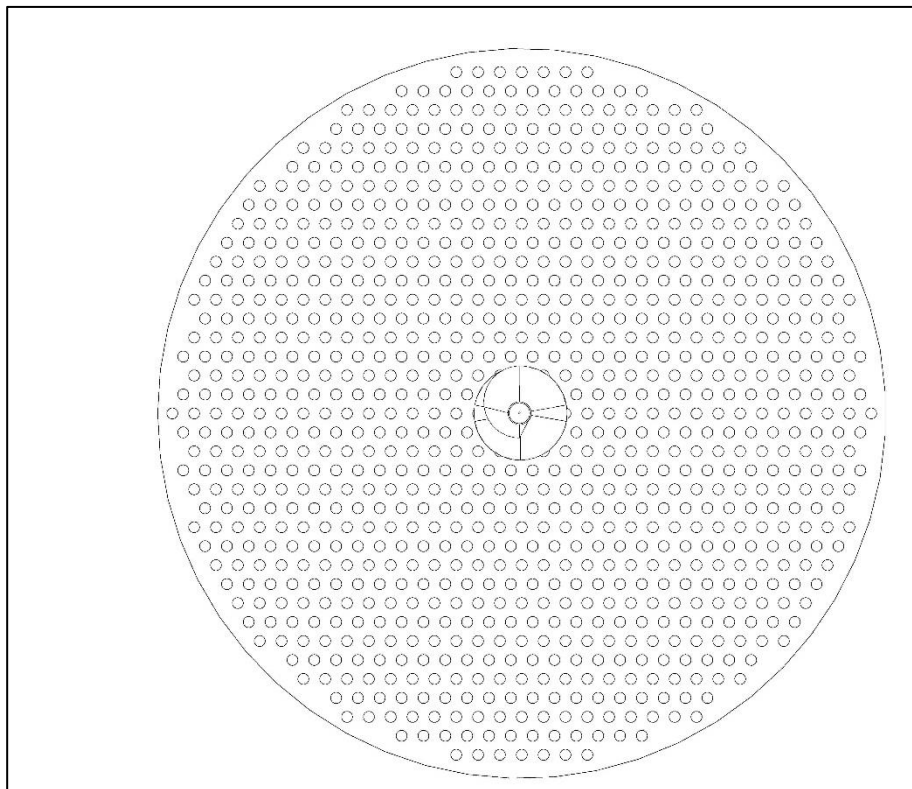
Drawing 1 Opbygning – ATG Profile ApS, 2019



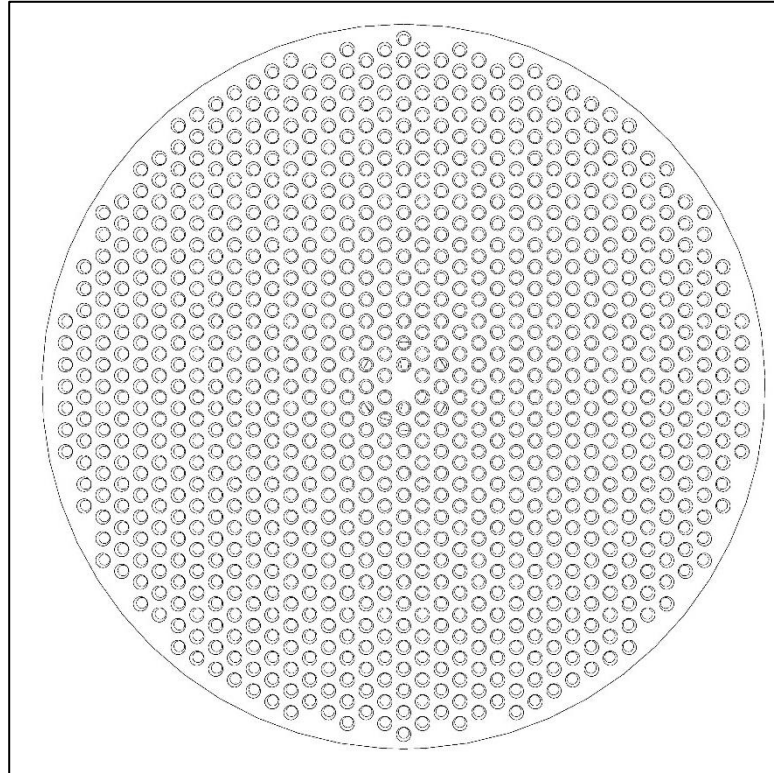
Drawing 2 Side – ATG Profile ApS, 2019



Drawing 3 Gennemskåret – ATG Profile ApS, 2019



Drawing 4 Bund – ATG Profile ApS, 2019



Drawing 5 Top - ATG Profile ApS, 2019



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