

DOSSIER



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Translation by Becetel

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Concerning : Testing of plastics porous pavements, Copro lot no. 5X119
and 5X120.

Our reference : BEC 5650/5, /6 and JV050229/JV060047

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General remark

The results mentioned in this report are exclusively related to the product as defined hereinafter and this document may, in no case, be considered as an approval of this product.

To warrant that the results would be representative of the product, as it is delivered or applied, conformity of the test pieces to the product should be assured.

The measurement uncertainty is known and available on request.

The test pieces are at your disposal during two months after the date of the report.

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Testing of plastics porous pavements, Copro lot nos. 5X119 en 5X120

1 Received material

15 plastics porous pavements, dimensions 0,33 m x 0,33 m, height 50 mm, were delivered by Copro to Becetel on 21 September 2005.

Marking: 101 S50 031 N2.
Sticker Copro lot nro. 5X119.

Colour: black;

Sampling by COPRO, lot no. 5X119.

15 plastics porous pavements, dimensions 0,33 m x 0,33 m, height 50 mm, were delivered by Copro to Becetel on 21 September 2005.

Marking: 101 E50 016 N1.
Sticker Copro lot no. 5X120.

Colour: black;

Sampling by COPRO, lot no. 5X120.

2 Compressive test

2.1 Test conditions

- The porous pavement is tested in compression for determination of compressive strength and deflection. The bottom side of the porous pavement is supported on a rigid steel plate. The upper side of the porous pavement is loaded via a steel anvil of diameter 250 mm placed centrally (anvil following NBN EN 124).
- The compressive strength F_{\max} (kN) is calculated as the first maximum detected in the registration of compressive load. The deflection (in millimetres and in % of initial height) is calculated at F_{\max} and at a load of 40 kN.
- Tensile machine: INSTRON 5585;
- Conditioning: min. 24 h in air at a temperature of (23 ± 2) °C;
- Temperature: 23 °C;
- Test speed: 2 kN/s;
- Test date: 21 October 2005.



2.2 Test results

2.2.1 Reference 101 S50 031 N2, Copro lot no. 5X119

| Test piece no. | Compressive strength F_{max} (kN) | Deflection at F_{max} | | Deflection at 40 kN | |
|--------------------|-------------------------------------|-------------------------|-------|---------------------|-------|
| | | (mm) | (%) | (mm) | (%) |
| 1 | 70,6 | 4,8 | 9,6 | 1,2 | 2,4 |
| 2 | 69,9 | 4,8 | 9,6 | 1,2 | 2,4 |
| 3 | 69,2 | 4,6 | 9,2 | 1,2 | 2,4 |
| Mean value | 69,9 kN | 4,7 mm | 9,5 % | 1,2 mm | 2,4 % |
| Standard deviation | 0,7 kN | 0,1 mm | 0,2 % | 0,0 mm | 0,0 % |

2.2.2 Reference 101 E50 016 N1, Copro lot no. 5X120

| Test piece no. | Compressive strength F_{max} (kN) | Deflection at F_{max} | | Deflection at 40 kN | |
|--------------------|-------------------------------------|-------------------------|--------|---------------------|-------|
| | | (mm) | (%) | (mm) | (%) |
| 1 | 98,3 | 5,4 | 10,8 | 1,1 | 2,2 |
| 2 | 101,2 | 5,5 | 11,0 | 1,1 | 2,2 |
| 3 | 100,3 | 6,1 | 12,2 | 1,1 | 2,2 |
| Mean value | 99,9 kN | 5,7 mm | 11,3 % | 1,1 mm | 2,2 % |
| Standard deviation | 1,5 kN | 0,4 mm | 0,8 % | 0,0 mm | 0,0 % |

3 Impact strength

3.1 Test conditions

- The impact strength is determined by dropping the porous pavement from a preset height onto a rigid concrete floor. Prior to the impact, the porous pavements are conditioned at a temperature of 0 °C. The impact is always on a corner of the porous pavement.
- This method is inspired on NBN EN 12061 (1999) "Plastics piping systems – Thermoplastics fittings – Test method for impact strength".
- Conditioning: min. 4 h in air at a temperature of (0±2) °C;
- Temperature: 0 °C;
- Test date: 19 October 2005.



3.2 Test results

3.2.1 Reference 101 S50 031 N2, Copro lot no. 5X119

| Test piece no. | Falling height (m) | Test result |
|----------------|--------------------|---------------------|
| 1 | 2,0 | No failure detected |
| 2 | 2,5 | No failure detected |
| 3 | 3,0 | No failure detected |

3.2.2 Reference 101 E50 016 N1, Copro lot no. 5X120

| Test piece no. | Falling height (m) | Test result |
|----------------|--------------------|---------------------|
| 1 | 2,0 | No failure detected |
| 2 | 2,5 | No failure detected |
| 3 | 3,0 | No failure detected |

4 Tensile strength of joints

4.1 Test conditions

- The strength of the joint between 2 plastics porous pavements is determined using a tensile test. The single joints are tested, not the assembled pavements. A single joint is therefore cut out of the pavement.
Three joints are tested individually.
- The mean value of the tensile strength of the three joints is also calculated as a tensile strength per meter, taking into account the number of joints per meter.
- Tensile speed: 10 mm/min;
- Conditioning: min. 24 h in air at a temperature of (23±2) °C;
- Temperature: 23 °C;
- Test date: 26 October 2005.



4.2 Test results

4.2.1 Reference 101 S50 031 N2, Copro lot no. 5X119

| Test piece no. | Tensile strength (N) | Test result |
|--------------------|----------------------|--------------------------|
| 1 | 562 | Failure of part of joint |
| 2 | 741 | Failure of part of joint |
| 3 | 551 | Failure of part of joint |
| Mean value | 618 N | |
| Standard deviation | 107 N | |

Number of joints per meter: 9/meter.

Tensile strength of joint per meter: 5,6 kN/m.

4.2.2 Reference 101 E50 016 N1, Copro lot no. 5X120

| Test piece no. | Tensile strength (N) | Test result |
|--------------------|----------------------|--------------------------|
| 1 | 555 | Failure of part of joint |
| 2 | 575 | Failure of part of joint |
| 3 | 611 | Failure of part of joint |
| Mean value | 580 N | |
| Standard deviation | 28 N | |

Number of joints per meter: 9/meter.

Tensile strength of joint per meter: 5,2 kN/m.

5 Visual evaluation of the effects of heating (oven test) according to NBN EN 763

5.1 Test conditions

- NBN EN 763 "Plastics pipes and ducting systems – Injection-moulded thermoplastics fittings – Test method for visually assessing effects of heating";
- Temperature: 110 °C;
- Method A: air oven;
- Test time: 1 hour;
- Number of test pieces: 1;
- Test date: 24 October 2005.



5.2 Test results

5.2.1 Reference 101 S50 031 N2, Copro lot no. 5X119

Test piece no. 1 after oven test: no change detected.

5.2.2 Reference 101 E50 016 N1, Copro lot nr. 5X120

Test piece no. 1 after oven test: no change detected.

Remark: The above mentioned tests do not belong to the scope of the accreditation following EN ISO/IEC 17025 (Beltest accreditation no. 242-T).

Melle, 20 April 2006.

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