

Scientific Director: Prof. Dr.-Ing. habil. C. Könke

Department: Materials and Components
Head of Dept.: Dr.-Ing. S. Linne

MFPA Weimar
Coudraystraße 9
99423 Weimar/Germany
Dr.-Ing. S. Linne
Tel. 03643 / 564 403
Fax 03643 / 564 201
stefan.linne@mfpa.de



Test Report No. NB 0992 - B 44.19.036.02 (EN)

Order: durability of a PE material testing according to DIN EN 12566-3: 2016-12 para. 4.5.5.1

Customer: Picobells GmbH
Raiffeisenstraße 21
21762 Otterndorf

Order from: 24.09.2019

Standard:

/1/ DIN EN 12566-3: 2016-12
Small wastewater treatment systems for up to 50 PT - Part 3:
Packaged and/or site assembled domestic wastewater treatment plants

By Order



Dr.-Ing. M. Berndt
Head of certification center



Dr.-Ing. S. Linne
Head of dept.

Weimar,
26.11.2019

1. Test item

Picobells GmbH has commissioned the proof of durability for the PE material for the rotational molding process "REVOLVE®, Revolve 5056 N-307" according to DIN EN 12566-3: 2016-12, para. 4.5.5.1.

The material is used for the tanks of the following types of the small sewage treatment plant:

- KSB
- KKSB
- MKSB

The test material was taken from a container with production date 09/2019. The tests took place in KW43 / 2019 in the test laboratory of MTPA Weimar.

2. Tests

In order to prove durability, requirements from the test methods for density, MFR and tensile test in the standard cited above are defined. The tests were carried out in the accredited testing laboratory of MTPA Weimar. The results and the requirements are summarized in Table 1.

Used test equipment:

- MFR: MI-4 Fa. GÖTTFERT
- Density: AccuPyc II 1340 V2.01
- Tensile test: Zwick Z100 Universal Test Machine

3. Result

Table 1 - Compilation of test standards, requirements and results

Characteristics	Test standards	Conditions	Test result Mean ± standard deviation	Assessment
MFR	EN ISO 1133-1: 2011 2,16 kg, 190°C	4,0 ± 3,0 g/10 min	4,383 g/10 min	fulfilled
Density	EN ISO 1183 gas pycnometer	≥ 930 kg/m ³	940,7 ± 0,3 kg/m ³	fulfilled
Yield stress	EN ISO 527-2 specimen 1B 23 ± 2 °C v=100 mm/min	≥ 14 MPa	21,7 ± 0,2 MPa	fulfilled
Yield strain		≤ 25 %	11,3 ± 0,4 %	fulfilled
Elongation		≥ 80 %	96 ± 19,5 %	fulfilled

Conclusion: The processed PE material REVOLVE® Revolve 5056 N-307 fulfills the requirements of the durability according to DIN EN 12566-3: 2016-12 para. 4.5.5.1

End of the test report no. B 44.19.036.02 (EN)