INSTITUTE FOR MATERIALS RESEARCH AND TESTING AT THE BAUHAUS-UNIVERSITY WEIMAR

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DAkkS Deutsche Akkreditierungsstelle D-PL-11143-01-00

Test Report No. B 44.19.036.01 (EN)

Order: Load-bearing capacity testing according to DIN EN 124-1: 2015-09 on the A15 cover "Picobells cast iron"

Client: Picobells GmbH
Raiffeisenstraße 21
21762 Otterndorf

Order date: 24.09.2019

Standards:

/ 1 / DIN EN 124-1: 2015-09
Gully tops and manhole tops for vehicular and pedestrian areas - Part 1: Definitions, classification, general principles of design, performance requirements and test methods;

By Order

Weimar,
26.11.2019

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

Dr.-Ing. Uwe Gerth
Deputy head of dept.

1. Test item

Picobells GmbH has commissioned the proof of the load-bearing capacity for an A15 cast iron cover according to 124-1: 2015-09. Only the load-bearing capacity tests, according to DIN EN 124-1: 2015-09, para. 8.2 (Annex A - permanent deformation) and para. 8.3 (Annex B - load bearing capacity) were performed. Figures 1 and 2 show the test specimen. Figures 3 and 4 show the test setup with 10 and 15 kN force. The support forms a piece of dome of the Picobells container.

Fig. 1 Cast iron cover „Picobells A15 EN 124“

Fig. 2 Bottom view with edge upstand

2. Tests

In order to prove the load-bearing capacity requirements for A15 are defined in DIN EN 124-1: 2015-09, paragraphs 7.2 and 7.3. The permanent center deflection after 5 x 10 kN load must be less than L / 100. The specimen must withstand the subsequent load of 15 kN for 30 sec. The tests were carried out in the accredited testing laboratory of MFPA Weimar. The properties of the three specimens are summarized in Table 1. Figures 3 and 4 show the test specimen in the test arrangement at 10 kN and at 15 kN force. The used test equipment is a 100 kN load frame from ToniTechnik, load plate d = 250 mm, rubber interlayer, bearing pedestal PE.

Table 1 - Compilation Properties of test specimens

Characteristic value / property	**Statement**
Inside diameter of the frame	605 mm
Diameter of the cover	642 mm
Height of the cover edge upstand	43 mm
Reference length for deformation measurement	630 mm
Material-labeling	non-existent
Production labeling	non-existent
Securing of the cover against the frame	non-existent

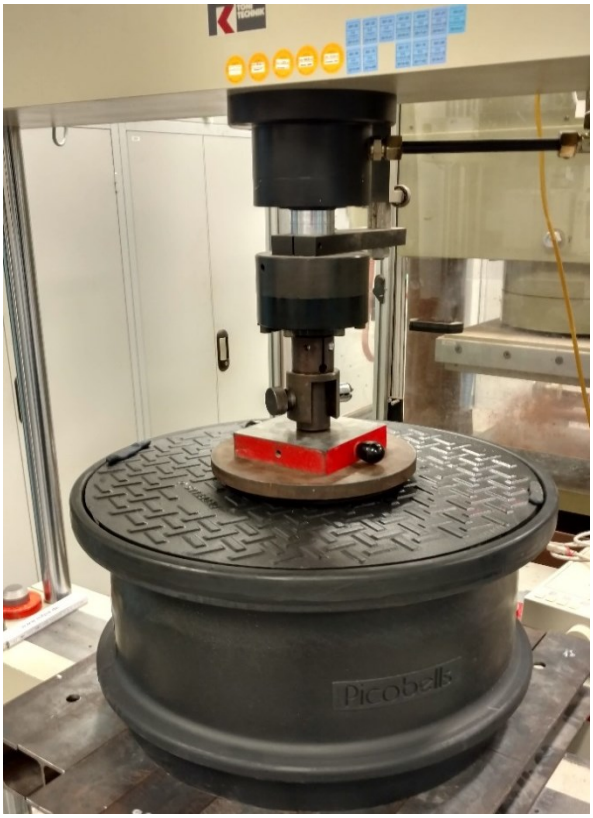


Fig. 3 Test setup cover “Picobell's cast A15" and dome

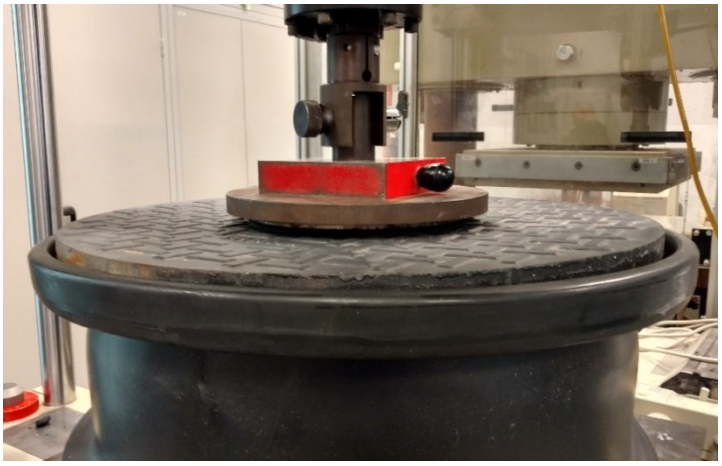


Fig. 4 Test setup under 15 kN force

3. Results

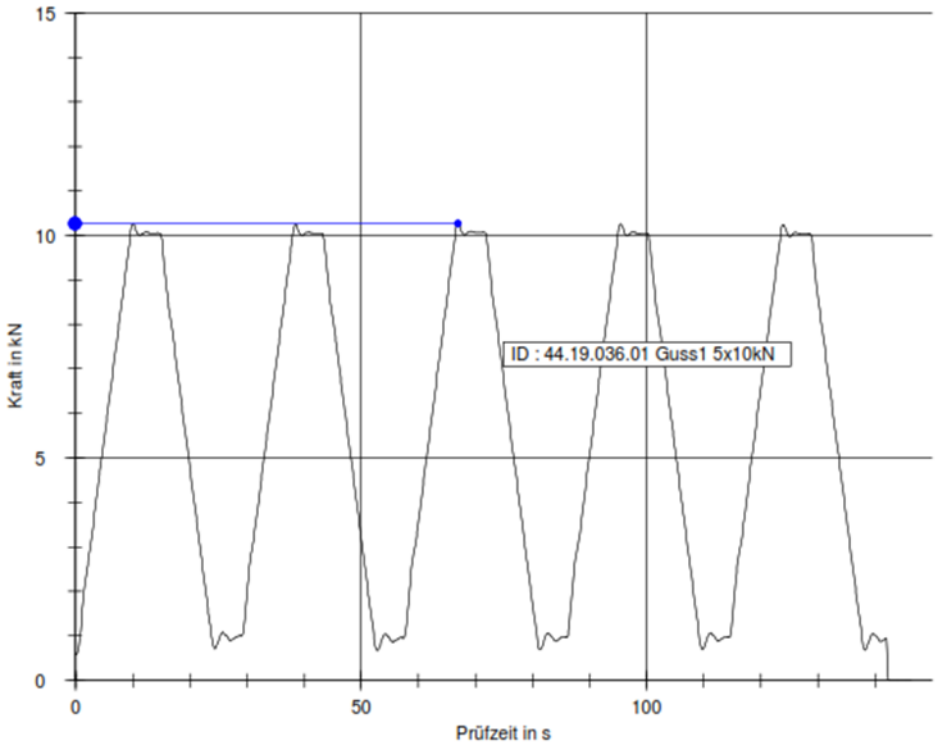
Test / test specimen	Result	Assessment
Permanent deformation after 5 x 10 kN		
Specimen 1	0,05 mm < L/100= 6,3 mm	withstand
Specimen 2	0,06 mm < L/100= 6,3 mm	withstand
Specimen 3	0,07 mm < L/100= 6,3 mm	withstand
Load-bearing capacity 15 kN for 30 s.		
Specimen 1	carried, without damage	withstand
Specimen 2	carried, without damage	withstand
Specimen 3	carried, without damage	withstand

All generated curves are attached as machine graphics.

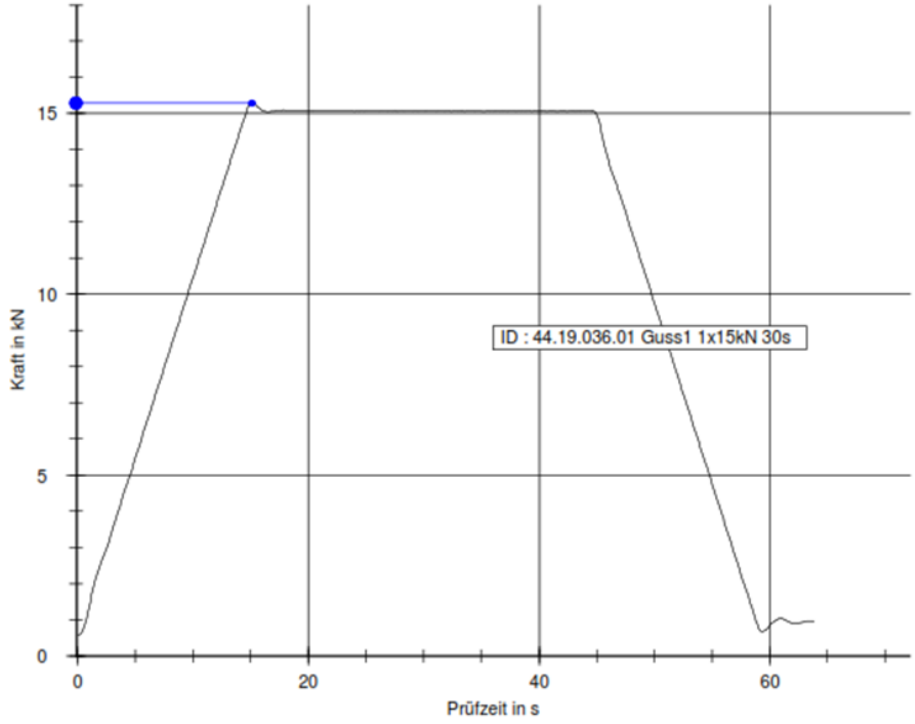
Conclusion: Cast iron cover „Picobells A15 EN 124“ meets the requirements of the load-bearing capacity according to DIN EN 124-1: 2015-09, paragraphs 7.3 and 7.2.

End of the test report no. B 44.19.036.01(EN)

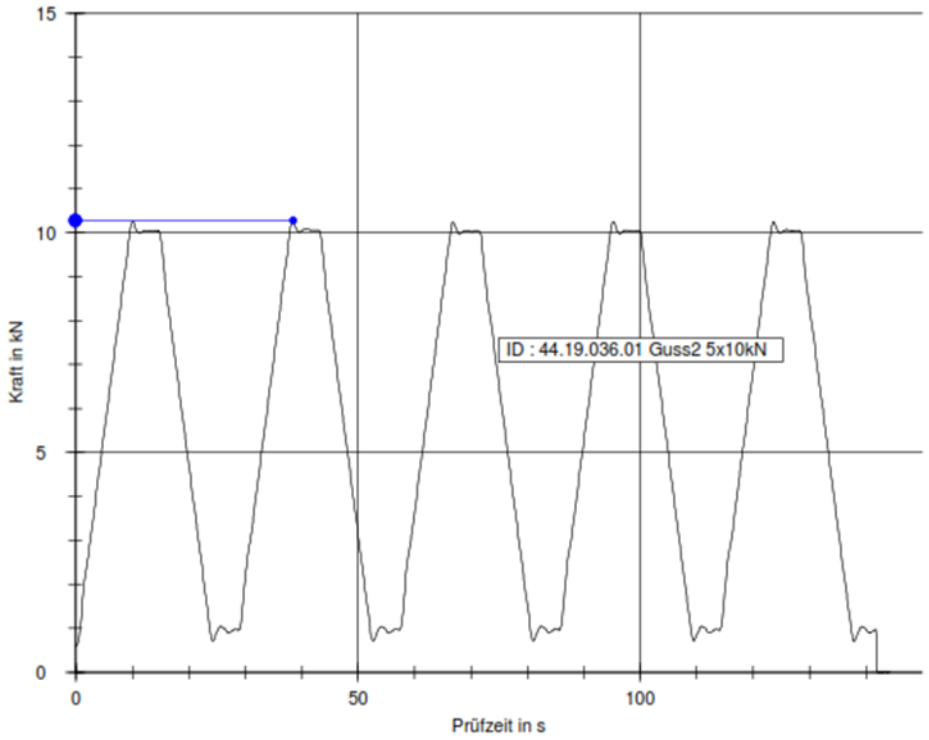
Attachments: machine curves



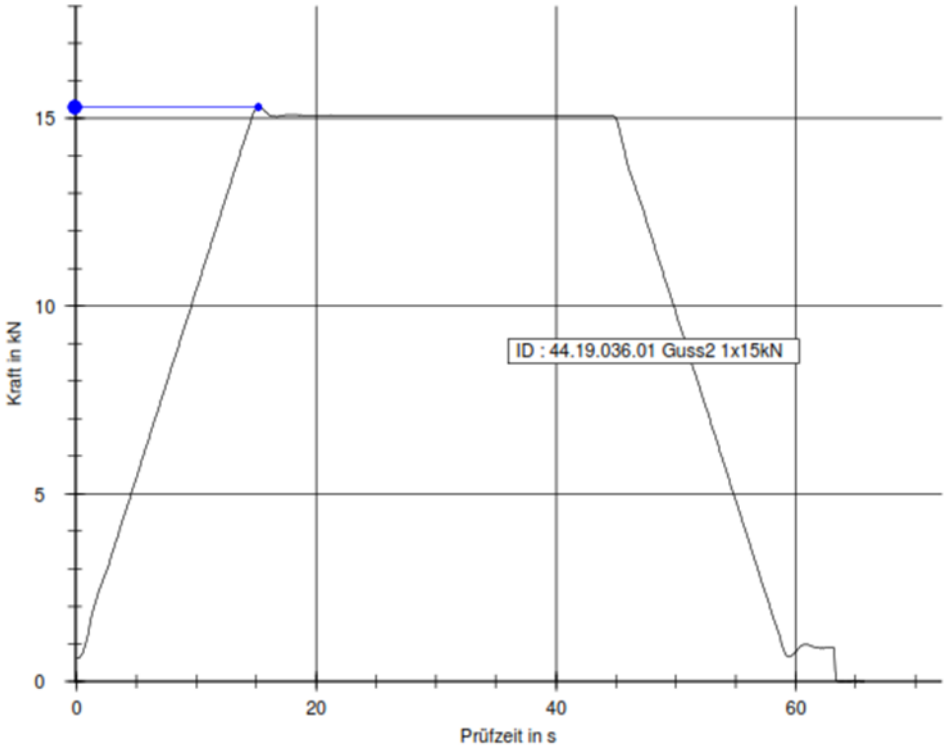
Specimen 1: working load, 5 load cycles 10 kN



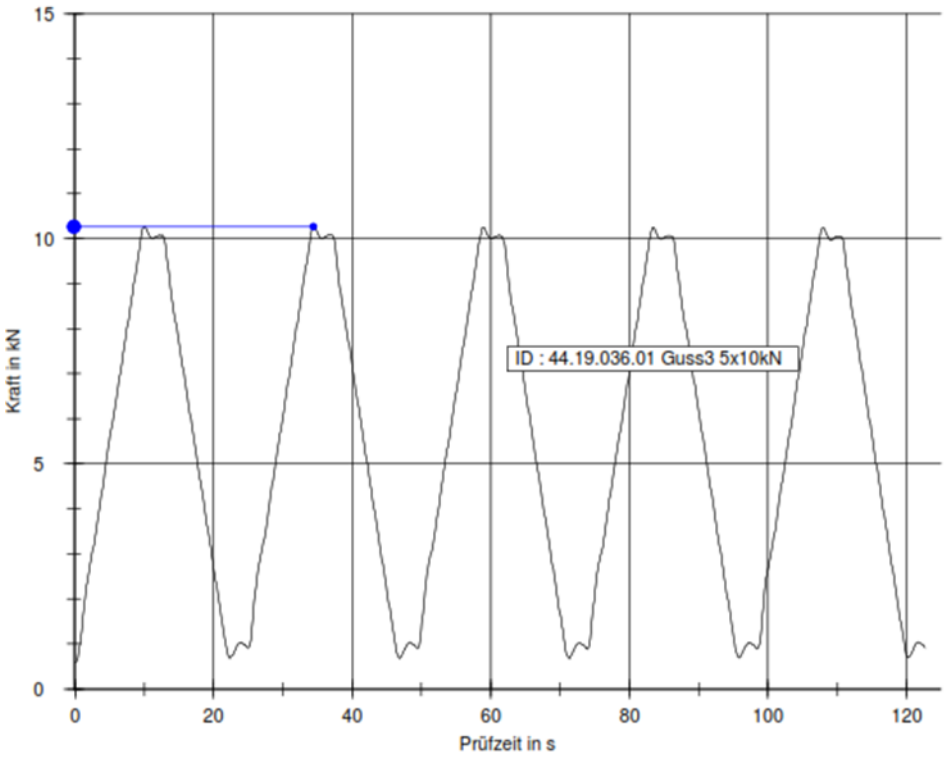
Specimen 1: load 15 kN over 30 s



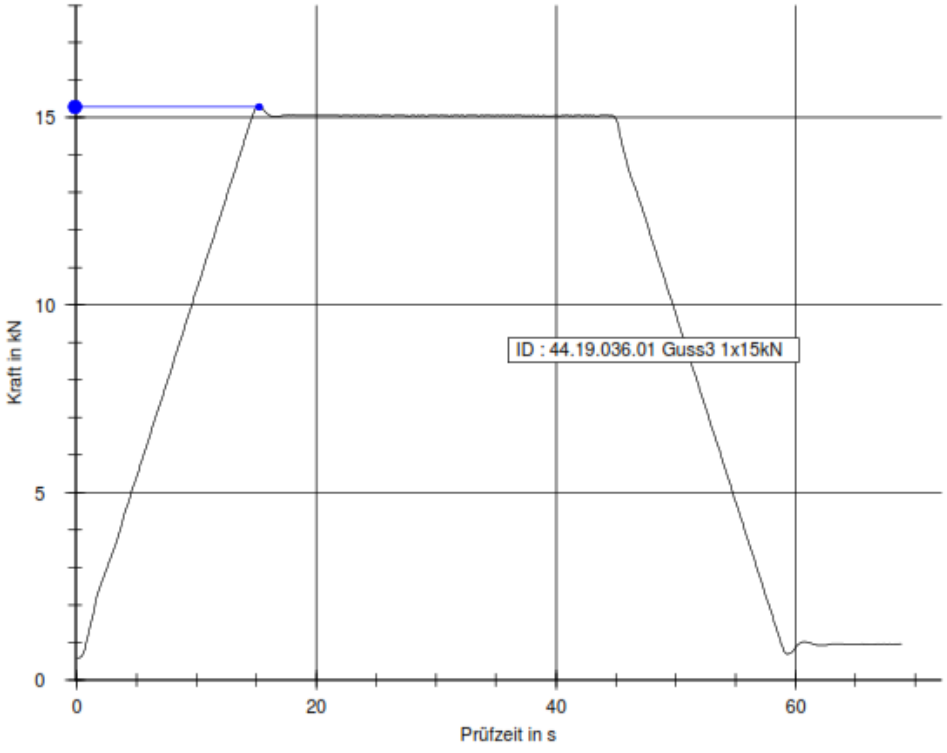
Specimen 2: working load, 5 load cycles 10 kN



Specimen 2: load 15 kN over 30 s



Specimen 3: working load, 5 load cycles 10 kN



Specimen 3: load 15 kN over 30 s

End of appendix to test report no. B 44.19.036.01(EN)