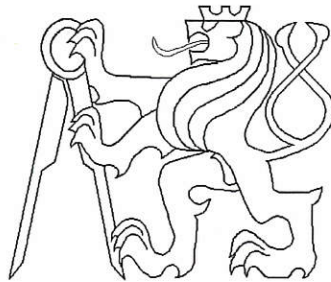


# CZECH TECHNICAL UNIVERSITY IN PRAGUE

## Klokner Institute

### Department of Experimental Methods



## Test report

Number of report : 2 / 14 / EXPO  
Order No. : 1400 J 017  
Date : 20th of January 2014  
Number of pages : 4  
Customer : Elektroporcelán Louny a.s.  
Postoloprtská 2951  
440 15 Louny  
Subject of test : Mechanical test in compression on the  
ceramic body of the electric filter  
Test standard : the customer's specification  
Copies / No. of copy : 4 / ① 2 3 4  
Responsible engineer : Ing. Jan Kolář *Kolář Jan*  
Performance of the test : Ing. Jan Kolář *Kolář Jan*  
Pavel Borodáč *Borodáč Pavel*  
Head of the department : Doc. Ing. Jiří Kolísko, Ph.D. *Kolísko Jiří*  
Director of the KI : Doc. Ing. Jiří Kolísko, Ph.D. *Kolísko Jiří*

ČESKÉ VYSOKÉ UČENÍ TECHNICKÉ  
Kloknerův ústav  
166 08 Praha 6, Šolínova 7 (1)

## 1. Test subject

On the basis of order No. S1410007 of 13th January 2014 from the company Elektroporcelán Louny a.s. was performed mechanical compression test by the staff of Department of experimental and measurement methods of the Klokner Institute CTU in Prague on a ceramic body of the electric filter. The specimen of the ceramic electric filter was the customer delivered on 15th January 2014.

## 2. Used documents

- [1] Production drawing 99-4004-4B of the ceramic electric filter, serial number 2323, dated 30th September 2008 sent by the e-mail of 10th January 2014.
- [2] Agreement and specification with the customer.

## 3. Test equipment identification

- Testing machine WPM DB 6000 kN 276/3 - metrological number S 07 013 M
- Weighting-machine TONAVA, type 14/3, 300 kg - metrological number P 04 002 M
- Digital thermometer and hygrometer COMET S3120 - metrological number P 10 008 M

## 4. Test specimens

For the purposes of the test the client delivered 1 piece of the ceramic electric filter designated by the client number B13/2323. In KI was the specimen designated by the number 1/14. The following illustration shows a production drawing of the tested type of ceramic electric filter, including its dimensions.

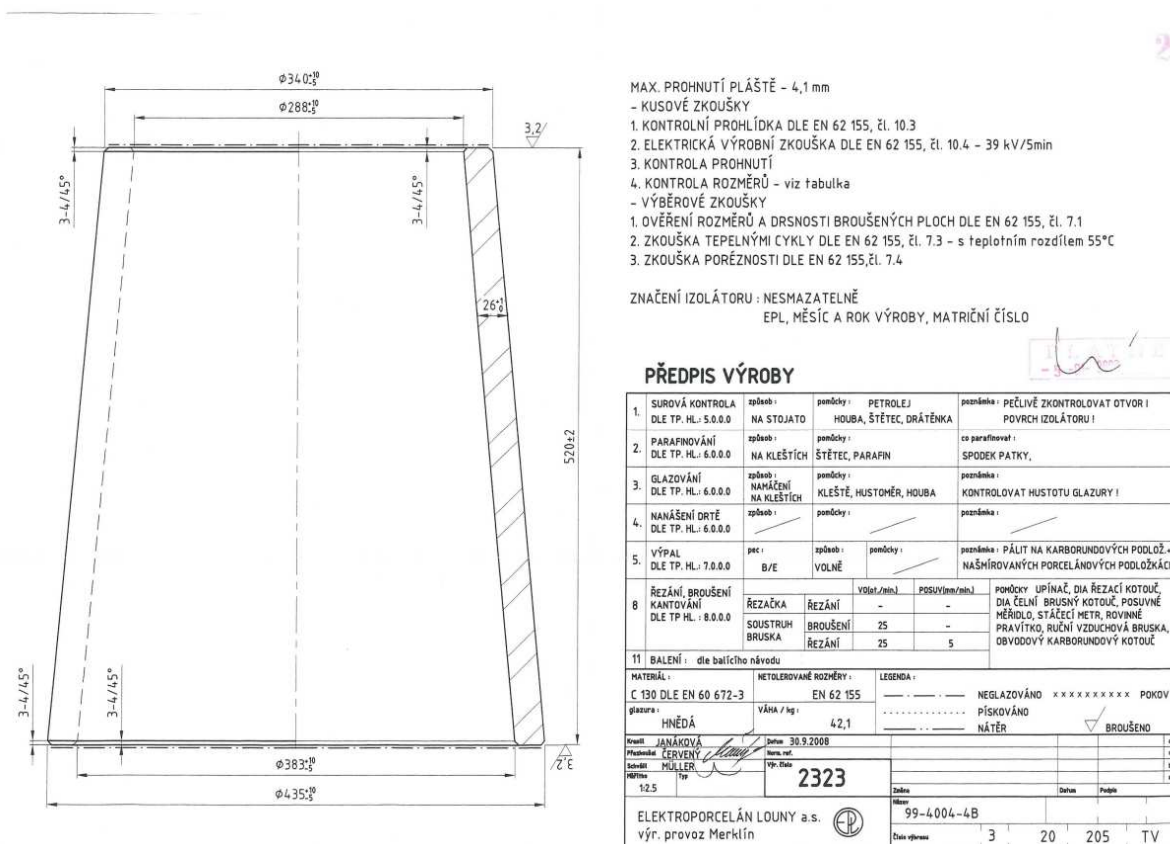


Fig. 1 Production drawing of the tested type of ceramic electric filter sent by the client

After delivery was the specimen of the ceramic electric filter in KI weighed, its weight was 42 kg.

## **5. Test results**

Performance of the test : 15th January 2014  
Test standard : the customer's specification  
Operators : Ing. J. Kolář, P. Borodáč  
Test environment : temperature 18 °C, rel. humidity 39%  
Test equipment : testing machine WPM DB 6000 kN 276/3

The tested specimen of ceramic electric filter was placed on a thick paper board into the frame of the testing machine WPM DB 6000 kN and for safety reasons, wrapped in plastic foil, coarse geotextile and wooden slats and wrapped by ropes and steel wires – around the protected specimen was still standing wire steel cage – see photographs.



**Photo 1:** *Look at a specimen of ceramic electric filter located in the testing machine*



**Photo 2:** *Look at the arrangement of the mechanical test in the compression of the ceramic electric filter*

A specimen of the ceramic electric filter after the placing into testing machine were then continuously loaded at the speed about 3 kN/s up to **1400 kN** load, then test was terminated at the customer's request. During the loading was not the specimen of a ceramic electric filter destroyed.

After removing the protective covers the specimen of the ceramic electric filter was examined in detail, while it was noting that the sample is no visible damage (cracks etc.). Look at the test result is then shown in the following photograph.



**Photo 3:** Look at the tested specimen of ceramic electric filter after mechanical compression test – spec. 1/14 (2323)

## **6. Summary and conclusions**

On the basis of order No. S1410007 of 13th January 2014 from the company Elektroporcelán Louny a.s. was performed mechanical compression test by the staff of Department of experimental and measurement methods of the Klokner Institute CTU in Prague on a ceramic body of the electric filter. In summary, the test result is shown in the following table.

**Table 1: Summary of results of mechanical test in compression on ceramic electric filter**

<b>Designation of the specimen by the client</b>	<b>Designation of the specimen by KI</b>	<b>Date of the delivery</b>	<b>Date of the test</b>	<b>Reached load bearing capacity [kN]</b>	<b>The character of the breach</b>
2323	1/14	15. 1. 2014	15. 1. 2014	<b>1400</b>	no apparent damage

### **DECLARATION**

The test results are related only to the tested objects described in paragraph "Test subject" or "Test specimen". The results of this report do not replace other documents (certificates, etc.). This report may be reproduced only in its entirety. Parts of the test report can be reproduced and these parts published or otherwise used only with a written approval of the Klokner Institute CTU.