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**QUALILAKK Accredited Testing Laboratory**

**Accredited by the Hungarian Accreditation Authority at No. NAH-1-1234/2019.**

## **TEST RECORD SHEET**

### **Test of powder coating of valve components**

Identification sign: VL-69/20

The test record sheet contains 5 pages

Budapest, 2020.

*Szűcs*

**Customer's name:** BLUCAST UAB  
**address:** LT-09131 Vilnius  
Zirmūnu Str. 66.

**Description of the tested material:** blue coated sample plate, coated with epoxy powder paint

base material: cast iron

Coating name: Fusion bonded epoxy coating RAL 5015

**Date of receipt:** 03. 09. 2020.

**Period of testing:** 07 – 09. 09. 2020.

**Description of testing instructions or test methods:**

Coating thickness:	MSZ EN ISO 2808:2007
Porosity test:	MSZ EN ISO 29601:2011
Pull-off test:	MSZ EN ISO 4624:2016
Impact resistance:	MSZ EN ISO 6272-1:2012
Cross linking test:	Unique method (GSK chapter: II-3.4) (not accredited test)

Requirement: according to GSK (Gütegemeinschaft Schwerer Korrosionsschutz von Armaturen und Formstücken durch Pulverbeschichtung)  
Quality and test Specifications for heavy-duty corrosion protection of valves and fittings by powder coating

**Sampling:** by the Customer

**Deviation from the testing instructions:** non

Szűcs

## Measuring, testing results

### Coating thickness

The measurement of the coating thickness was performed PosiTector 6000 made by Defelsko.

Serial number: 707295

Serial number of probe: 16678

Requirement: min 250  $\mu\text{m}$

Sample	Coating thickness, $\mu\text{m}$		
	minimum	maximum	mean
Sample plate No. 1	376	632	509,0
Sample plate No. 2	294	462	391,8
Sample plate No. 3	344	546	476,4
Sample plate No. 4	360	452	405,0
Sample plate No. 5	486	622	565,6
Sample plate No. 6	506	622	568,0
Sample plate No. 7	486	636	555,0
Sample plate No. 8	380	594	475,2

### Impact test

Parameters of test apparatus: diameter of tup nose: 20mm  
falling weight: 0,5 kg

The test was carried out on the samples No. 1, 2.

Requirement: Impact energy 5N (high of 100 cm and drop weight of 0,5 kg)

### Results:

Sample No. 1: At 100 cm there was not cracks and detachment (the coating deformed)

Sample No. 2: At 100 cm there was not cracks and detachment (the coating deformed)

**Pull-off test**

According to MSZ EN ISO 4624 standard. Type of test apparatus: Posisoft.  
For the test we used 2K Epoxi adhesive.

Requirement: min 12 MPa (12 N/mm<sup>2</sup>)

Sample	Result	
	Tensile stress	Nature of the fracture
Sample No. 3	17,5 MPa	90 % adhesive failure between substrate and coat 10% cohesive failure of the coat
	19,2 MPa	90 % adhesive failure between substrate and coat 10% cohesive failure of the coat
Sample No. 4	18,0 MPa	90 % adhesive failure between substrate and coat 10% cohesive failure of the coat
	16,7 MPa	90 % adhesive failure between substrate and coat 10% cohesive failure of the coat

**Porosity test**

According to MSZ EN ISO 29601:2011 standard with Holitech DC Holyday detector.

We used for the testing conductive rubber sheet and metal brash probe

Requirement: applied test voltage of 3 kV

Sample	Results
Sample No.7	at 3 kV voltage sparking was not seen on the surface (there are no full-length pores in the coating)
Sample No.8	at 3 kV voltage sparking was not seen on the surface (there are no full-length pores in the coating)

**Cross-linking test**

Description of test: At room temperature several drops of methyl isobutyl ketone (MIBK) are added to a horizontal test surface. After 30 seconds, the drops are wiped off with a white cloth, making sure not to smear the coating and neither getting it look matt or getting sticky. The cloth is to remain clean

**Result:**

The test was carried out on the samples No. 5 and 6.

After the stress there is no change in the coating. There is no discolouration on the cotton pad.

**Tests were carried out by:** Györgyi Blum technician

**Test results have been checked and the record sheet compiled by:**

Anita Szűcs-Molnár  
Anita Szűcs-Molnár  
Head of Laboratory

Festéklipari Kutató Kft.  
**QUALILAKK**  
Akkreditált Vizsgáló  
Laboratóriuma

Budapest, 11. 09. 2020.

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Test results apply only to the material tested. Test record sheet can be copied without the permission of **Qualilakk** Testing Laboratory only in full. Complaint concerning test results may be submitted in writing within 15 days counted from the issuing data of the test sheet.

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