

# KALIBRACIJSKI CERTIFIKAT

## Calibration certificate

NAROČNIK  
Customer 5Labs d.o.o.  
Otiški vrh 26D, 2373 Šentjanž pri Dravogradu

LASTNIK  
Owner 5Labs d.o.o.  
Otiški vrh 26D, 2373 Šentjanž pri Dravogradu

MERILO  
Object Merilne kladice • Gauge blocks

IDENTIFIKACIJA  
Identification 1200907 PROIZVAJALEC  
Manufacturer Mitutoyo

TIP  
Type Razred • Class: 1 MERILNI OBSEG  
Meas. range (2,5 - 25) mm



**SLOVENSKA  
AKREDITACIJA**  
SIST EN ISO/IEC 17025  
**LK-034**

Slovenska akreditacija je podpisnica večstrankarskih sporazumov o priznavanju akreditacijskih organov z Evropsko akreditacijo (EA - MLA) in Mednarodnim združenjem za akreditacijo laboratorijev (ILAC - MRA). Slovenian Accreditation is signatory to the multilateral agreements on recognition of accreditation bodies with the European Accreditation (EA - MLA) and International Laboratory Accreditation Cooperation (ILAC - MRA).

KRAJ KALIBRACIJE  
Place of calibration Šentjanž pri Dravogradu

DATUM KALIBRACIJE  
Date of calibration 7. 03. 2021

DATUM PREJEMA  
Date of receipt 7. 03. 2021

OPOMBE  
Notes

ODOBRIL  
Approved by Petra Oprešnik

Dovoljeno je razmnoževanje le celotnega certifikata. Verodostojnost podpisa je mogoče preveriti v elektronski obliki certifikata. Only the reproduction of the complete certificate is allowed. Signature validity can be verified in electronic version of certificate

## 1. KALIBRACIJSKI POSTOPEK • Calibration procedure

Kalibracija merilnih kladic je bila izveden v skladu z interno proceduro KL-5Labs-15, ki temelji na standardu ISO 3650. Obsega določitev odstopanja srednje dolžine in/ali variacije.

Calibration of gauge blocks was carried out in accordance with the internal procedure KL-5Labs-15, which is based on standard ISO 3650 and covers the determination of deviations of medium length and / or variation.

## 2. KALIBRACIJSKI POGOJI • Calibration conditions

Temperatura • Temperature (20 ± 1) °C

## 3. SLEDLJIVOST • Traceability

Identifikacije pri kalibraciji uporabljenih etalonov  
Standards identification used at calibration

28258	14022		
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Ta kalibracijski certifikat dokumentira sledljivost do (inter) nacionalnih etalonov v skladu z mednarodnim sistemom merskih enot (SI).

This calibration certificate documents the traceability to (inter) national standards, which realize the units of measurement according to the International System of Units (SI).

Kalibracijski certifikati zgoraj navedene opreme uporabljene pri kalibraciji so javno objavljeni na naši spletni strani pod [https://www.5labs.si/index.php/open\\_documents](https://www.5labs.si/index.php/open_documents)

The calibration certificates of the above mentioned equipment used at calibration are publicly available on our website at [https://www.5labs.si/index.php/open\\_documents](https://www.5labs.si/index.php/open_documents)

## 4. MERILNA NEGOTOVOST • Measuring uncertainty

$$U = 0,05 \mu\text{m} + 6,7 \cdot 10\text{E}-6 \cdot L$$

Merilna negotovost je podana kot standardna negotovost meritve pomnožena s faktorjem  $k = 2$ , ki pri normalni porazdelitvi ustrza verjetnosti 95%. Standardna merilna negotovost je določena v skladu s publikacijo EA-4/02.

The specification indicates the expanded measuring uncertainty resulting from multiplication of standard measuring uncertainty by the factor  $k = 2$ . It was determined in conformity with EA-4/02. The values of the measurement parameter lie within the specified range with a probability of 95%.

## 5. RAZLAGA REZULTATOV • Result explanation

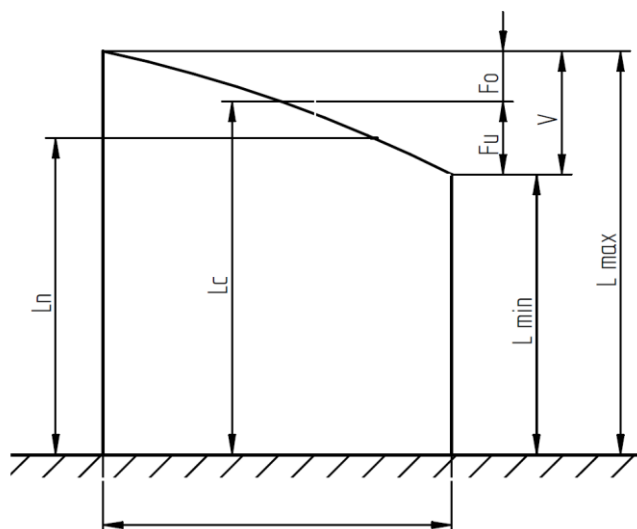
Podani merilni rezultati in pripadajoča merilna negotovost se nanašajo samo na to kalibrirano merilo. Izmerjene vrednosti veljajo v času meritev in ne zagotavljajo dolgotrajne stabilnosti.

The measurement results and uncertainties quoted refer only to this calibrated gauge. The measurement results are valid at the time of measurement and do not guarantee long-term stability.

Za korekcijo merilnih rezultatov na 20 °C je bila uporabljena linearna temperaturna razteznost  $\alpha = 11,5 \cdot 10\text{E}-6 / \text{K}$ . • For the correction of measurement results on 20 °C was used linear thermal expansion coefficient  $\alpha = 11.5 \cdot 10\text{E}-6 / \text{K}$ .

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## 6. MERILNI REZULTATI • Measurement results



Identifikacija • Identification	Nominalna vrednost • Nominal value [mm] $L_n$	Odstopanje sredinske dolžine • Deviation of central length [ $\mu\text{m}$ ]	Opomba (Razred po ISO 3650) • Note (Class by ISO 3650)
120069	2,500	0,09	0
110946	5,100	-0,05	0
110332	7,700	0,01	0
110480	10,300	0,06	0
110366	12,900	0,01	1
112274	15,000	0,06	0
110357	17,600	0,03	0
110285	20,200	-0,01	0
110267	22,800	0,13	0
114291	25,000	0,00	1