Datum izdavanja dodatka: 05.05.2022.
*Issue date of annex:*
Zamjenjuje dodatak od:
*Replaces Annex dated*:

**Dodatak Sertifikatu o akreditaciji sa akreditacionim brojem broj: $L_K$ 14.02**
*Annex to Accreditation Certificate - Accreditation Number: $L_K$ 14.02*

**Standard: MEST EN ISO/IEC 17025:2018**

**Datum dodjele/ obnavljanja akreditacije:**
04.03.2014. / 05.05.2022.
*Date of granting/ renewal of accreditation.*

**Akreditacija važi do:** 04.05.2026.
*Accreditation is valid until:*

**Akreditovana laboratorija za kalibraciju**
*Accredited calibration laboratory*

## Zavod za metrologiju
## Sektor za metrološku sljedivost i državne etalone
## Arsenija Boljevića b.b. Podgorica

*Bureau of metrology*
*Sector of metrological traceability and national measurement standards*
*Arsenija Boljevića b.b. Podgorica*

**Područje akreditacije** / *Scope of accreditation*

Kalibrtacija tegova, tegova slobodnih nazivnih masa i neautomatskih vaga
Kalibracija mjerila temperature i relativne vlažnosti
Kalibracija mjerila zapremine od stakla i mjerila zapremine sa klipom
Kalibracija etalona prelivnih pipeta i mjernih posuda
Kalibracija etalona i mjernih uređaja dužine
Kalibracija mjerila pritiska
Kalibracija etalona i mjerila električnih veličina
Kalibracija mjerila frekvencije i vremenskog intervala
Kalibracija mjerila koncentracije radona u vazduhu

*Calibration of weights, weights with free nominal masses and non-automatic weighing instruments*
*Calibration of temperature and relative humidity gauges*
*Calibration of laboratory glassware and piston-operated volumetric apparatus*
*Calibration of etalons over flow pipettes and standard capacity measures and calibration of standard capacity measures*
*Calibration of standards and instruments for measurement of length*
*Calibration of pressure gauges*
*Calibration of standards and instruments for measurement of electrical quantities*
*Calibration of instruments for measurement of frequency and time interval*
*Calibration of measuring devices for measurement concentration of radon in the air*

**Detaljan obim akreditacije /** *Detailed scope of accreditation*

**Laboratorija za masu, Arsenija Boljevića b.b. Podgorica**

* Metoda kalibracije se sprovodi na terenu
** Metoda kalibracije se sprovodi u Laboratoriji i na terenu

| **Red br.** *No* | **Oblast kalibracije** *Calibration field* | **Mjerna veličina / Predmet kalibracije** *Measurand / Calibration object* | **Mjerno područje** *Measurement range* | **Mogućnost mjerenja i kalibracije** [1] *Calibration and Measurement Capability* | **Referentni dokument** *Reference document* | **Oznaka Lokacije** *Location* |
|---|---|---|---|---|---|---|
| 1. | **Masa** *Mass* | **Konvencionalna masa / Tegovi klase tačnosti $E_2$, $F_1$, $F_2$, $M_1$, $M_2$, $M_3$** *Conventional mass / Weights of Classes $E_2$, $F_1$, $F_2$, $M_1$, $M_2$, $M_3$* | 1 mg | 0,0020 mg | **OIML R111** Izdanje/*Issue* 2004 | L1 |
| | | | 2 mg | 0,0020 mg | | |
| | | | 5mg | 0,0020 mg | | |
| | | | 10 mg | 0,0025 mg | | |
| | | | 20 mg | 0,0030 mg | | |
| | | | 50 mg | 0,0040 mg | | |
| | | | 100 mg | 0,0050 mg | | |
| | | | 200 mg | 0,0060 mg | | |
| | | | 500 mg | 0,0080 mg | | |
| | | | 1 g | 0,010 mg | | |
| | | | 2 g | 0,012 mg | | |
| | | | 5 g | 0,016 mg | | |
| | | | 10 g | 0,020 mg | | |
| | | | 20 g | 0,025 mg | | |
| | | | 50 g | 0,030 mg | | |
| | | | 100 g | 0,050 mg | | |
| | | | 200 g | 0,10 mg | | |
| | | | 500 g | 0,25 mg | | |
| | | | 1 kg | 0,50 mg | | |
| | | | 2 kg | 1,0 mg | | |
| | | | 5 kg | 2,5 mg | | |
| | | | 10 kg | 5,0 mg | | |
| | | | 20 kg | 10,0 mg | | |
| 2. | **Masa** *Mass* | **Konvencionalna masa / Tegovi klase tačnosti $F_2$, $M_1$, $M_2$, $M_3$** *Conventional mass / Weights of Classes $F_2$, $M_1$, $M_2$, $M_3$* | 500 kg | 2500 mg | **OIML R111** Izdanje/*Issue* 2004 | L2 |

| **Red br.** *No* | **Oblast kalibracije** *Calibration field* | **Mjerna veličina / Predmet kalibracije** *Measurand / Calibration object* | **Mjerno područje** *Measurement range* | **Mogućnost mjerenja i kalibracije** [1] *Calibration and Measurement Capability* | **Referentni dokument** *Reference document* | **Oznaka Lokacije** *Location* |
|---|---|---|---|---|---|---|
| 3. | **Masa** *Mass* | **Konvencionalana masa / Tegovi slobodnih nazivnih masa** *Conventional mass / Weights with free nominal masses* | *1 g ≥ $m_c$* | 0,023 mg | **Interna procedura** *In-house procedure* **QP.7.2/02-LM** Izdanje/*Issue* 03/01, 13.05.2021. | L1 |
| | | | *1 g < $m_c$ ≤ 10 g* | 0,044 mg | | |
| | | | *10 g < $m_c$ ≤ 100 g* | 0,11 mg | | |
| | | | *100 g < $m_c$ ≤ 205 g* | 0,24 mg | | |
| | | | *205 g < $m_c$ ≤ 220 g* | 9,6 mg | | |
| | | | *220 g < $m_c$ ≤ 500 g* | 10,6 mg | | |
| | | | *500 g < $m_c$ ≤ 1010 g* | 11,8 mg | | |
| | | | *1010 g < $m_c$ ≤ 5000 g* | 13 mg | | |
| | | | *5 kg < $m_c$ ≤ 10 kg* | 17 mg | | |
| | | | *10 kg < $m_c$ ≤ 20 kg* | 25 mg | | |
| | | | *20 kg < $m_c$ ≤ 30 kg* | 35 mg | | |
| | | | *30 kg < $m_c$ ≤ 50 kg* | 54 mg | | |
| 4. | **Masa** *Mass* | **Vage** *Weighing instruments* | *m ≤ 0,02 g* | 0,0050 mg | ***EURAMET** /cg-18/ v.4.0*** *(11/2015)* | L1 |
| | | | *0,02 g < m ≤ 0,05 g* | 0,0064 mg | | |
| | | | *0,05 g < m ≤ 0,1 g* | 0,0079 mg | | |
| | | | *0,1 g < m ≤ 0,2 g* | 0,0095 mg | | |
| | | | *0,2 g < m ≤ 0,5 g* | 0,013 mg | | |
| | | | *0,5 g < m ≤ 1 g* | 0,016 mg | | |
| | | | *1 g < m ≤ 2 g* | 0,019 mg | | |
| | | | *2 g < m ≤ 5 g* | 0,025 mg | | |
| | | | *5 g < m ≤ 10 g* | 0,033 mg | | |
| | | | *10 g < m ≤ 20 g* | 0,041 mg | | |
| | | | *20 g < m ≤ 50 g* | 0,061 mg | | |
| | | | *50 g < m ≤ 100 g* | 0,13 mg | | |
| | | | *100 g < m ≤ 150 g* | 0,18 mg | | |
| | | | *150 g < m ≤ 200 g* | 0,21 mg | | |
| | | | *200 g < m ≤ 220 g* | 0,25 mg | | |
| | | | *220 g < m ≤ 500 g* | 0,56 mg | | |
| | | | *500 g < m ≤ 520 g* | 0,59 mg | | |
| | | | *520 g < m ≤ 600 g* | 2,3 mg | | |
| | | | *600 g < m ≤ 1,0 kg* | 2,6 mg | | |
| | | | *1,0 kg < m ≤ 1,2 kg* | 2,7 mg | | |
| | | | *1,2 kg < m ≤ 2,0 kg* | 21 mg | | |
| | | | *2,0 kg < m ≤ 5,0 kg* | 23 mg | | |
| | | | *5,0 kg < m ≤ 10,1 kg* | 28 mg | | |
| | | | *10,1 kg < m ≤ 15,0 kg* | 0,22 g | | |
| | | | *15,0 kg < m ≤ 20,1 kg* | 0,22 g | | |
| | | | *20,1 kg < m ≤ 30,0 kg* | 0,30 g | | |
| | | | *30,0 kg < m ≤ 50,0 kg* | 0,37 g | | |
| | | | *50,0 kg < m ≤ 64,1 kg* | 0,44 g | | |

| **Red br.** *No* | **Oblast kalibracije** *Calibration field* | **Mjerna veličina / Predmet kalibracije** *Measurand / Calibration object* | **Mjerno područje** *Measurement range* | **Mogućnost mjerenja i kalibracije** [1] *Calibration and Measurement Capability* | **Referentni dokument** *Reference document* | **Oznaka Lokacije** *Location* |
|---|---|---|---|---|---|---|
| ↑ 4. | **Masa** *Mass* | **Vage** *Weighing instruments* | *64,1 kg < m ≤ 77,0 kg* | 2,2 g | ***EURAMET** /cg-18/ v.4.0*** *(11/2015)* | L1 |
| | | | *77,0 kg < m ≤ 100 kg* | 8,8 g | | |
| | | | *100 kg < m ≤ 150 kg* | 13 g | | |
| | | | *150 kg < m ≤ 200 kg* | 18 g | | |
| | | | *200 kg < m ≤ 300 kg* | 27 g | | |
| | | | *300 kg < m ≤ 400 kg* | 43 g | | |
| | | | *400 kg < m ≤ 500 kg* | 53 g | | |
| | | | *500 kg < m ≤ 600 kg* | 63 g | | |
| | | | *600 kg < m ≤ 700 kg* | 82 g | | |
| | | | *700 kg < m ≤ 800 kg* | 89 g | | |
| | | | *800 kg < m ≤ 900 kg* | 97 g | | |
| | | | *900 kg < m ≤ 1000 kg* | 106 g | | |
| | | | *1000 kg < m ≤ 1100 kg* | 115 g | | |
| | | | *1100 kg < m ≤ 1200 kg* | 124 g | | |
| | | | *1200 kg < m ≤ 1300 kg* | 133 g | | |
| | | | *1300 kg < m ≤ 1400 kg* | 142 g | | |
| | | | *1400 kg < m ≤ 1500 kg* | 151 g | | |
| | | | *1500 kg < m ≤ 1600 kg* | 192 g | | |
| | | | *1600 kg < m ≤ 1700 kg* | 200 g | | |
| | | | *1700 kg < m ≤ 1800 kg* | 208 g | | |
| | | | *1800 kg < m ≤ 1900 kg* | 216 g | | |
| | | | *1900 kg < m ≤ 2000 kg* | 222 g | | |

| **Oznaka lokacije** *Location code* | **Detalji o lokaciji (naziv i adresa)** *Location details (title and adress)* |
|---|---|
| L1 | Arsenija Boljevića b.b. Podgorica |
| L2 | Donja Gorica b.b. Podgorica |

**Legenda /** *Legend*

| **Skraćena oznaka referetnog dokumenta** *Abbreviation of reference document* | **Naziv metode/referenca** *Title of method/reference* |
|---|---|
| **QP.7.2/02-LM** | ***Tehnička procedura za proračun konvencionalne mase i mjerne nesigurnosti kod kalibracije tegova*** */ OIML R 111-1: 2004, Weights of classes $E_1$, $E_2$, $F_1$, $F_2$, $M_1$, $M_{1-2}$, $M_2$, $M_{2-3}$ and $M_3$, International recomendation (2004)* |