Physikalisch-Technische Bundesanstalt
Department 5.4, Working Group 5.43

Fixed charges for gauge block calibrations

Gauge blocks according to DIN EN ISO 3650

1 Lengths up to 200 mm

1.1 Preparatory and finalizing work

Fee per certificate **150,00 EUR**

1.2 Calibration of the central length (by interferometry)

Measurement uncertainty for l_c:

$$U = \sqrt{(20\ \mathrm{nm})^2 + \left(0{,}18 \times 10^{-6} \times L\right)^2}\ ,\ \ (\text{für } k = 2)$$

1.2.1 Fee per gauge block (up to 7 blocks) **99,00 EUR**
1.2.2 Fee per gauge block (more then 7 blocks) **90,00 EUR**

1.3 Calibration of the coefficient of thermal expansion (measurement by comparison)

for lengths from 60 mm to 100 mm:

$$U = 1{,}6 \times 10^{-7}\,\mathrm{K}^{-1}\ \text{bis}\ 1{,}1 \times 10^{-7}\,\mathrm{K}^{-1}\ ,\ \ (\text{für } k = 2)$$

Fee per gauge block **115,00 EUR**

1.4 Calibration of a gauge block set (by interferometry)

6 pairs acc. to guidelines DKD-R4-1, ed. 1994 / EAL-G21, ed. 1996
Measurement uncertainty for the difference of the central lengths and the deviations f_o and f_u from the central length:

$$U = 10\ \mathrm{nm}\ ,\ \ (\text{für } k = 2)$$

Fee per set **1350,00 EUR**

2 Lengths of more then 200 mm to 1000 mm

2.1 Preparatory and finalizing work

Fee per certificate **150,00 EUR**

2.2 Calibration of the central length (measurement by comparison)

Measurement uncertainty for l_c:

$$U = \sqrt{(30\ \mathrm{nm})^2 + \left(0{,}12 \times 10^{-6} \times L\right)^2}\ ,\ \ (\text{für } k = 2)$$

Fee per gauge block **480,00 EUR**

2.3 Calibration of the central length (measurement by comparison)

Measurement uncertainty for l_c:

$$U = \sqrt{(30\ \mathrm{nm})^2 + \left(0,2 \times 10^{-6} \times L\right)^2}\ ,\ \ (\text{für } k = 2)$$

Fee per gauge block **360,00 EUR**

2.4 Calibration of the coefficient of thermal expansion (measurement by comparison)

$$U = 12 \times 10^{-8}\,\mathrm{K}^{-1} \text{ bis } 3,6 \times 10^{-8}\,\mathrm{K}^{-1}\ ,\ \ (\text{für } k = 2)$$

Fee per gauge block **750,00 EUR**

2.5 Calibration by interferometry

Measurement uncertainty for l_c:

$$U = \sqrt{(22\ \mathrm{nm})^2 + \left(66 \times 10^{-9} \times L\right)^2}\ ,\ \ (\text{für } k = 2)$$

Fee per gauge block **660,00 EUR**

2.6 Calibration by interferometry (as 2.5) with the coefficient of thermal expansion

Measurement uncertainty:

$$U = 25 \times 10^{-9}\,\mathrm{K}^{-1} \text{ bis } 6 \times 10^{-9}\,\mathrm{K}^{-1}\ ,\ \ (\text{für } k = 2)$$

Fee per gauge block **1230,00 EUR**

Special measurements are invoiced on the basis of the work actually carried out

The quoted measurement uncertainties require high quality measuring faces.

Status quo: 01. November 2009