



LIST OF CALIBRATION COEFFICIENTS - EXAMPLE

Customer order:

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Quality supervisor: tsalat@sylex.sk

Production supervisor:

mmucka@sylex.sk

EQUATIONS

STRAIN EQUATION

$$\Delta \varepsilon = \frac{\Delta \lambda - B \cdot \Delta T}{A}$$

$$\Delta \lambda = \frac{\lambda_{act} - \lambda_0}{\lambda_0} \quad \Delta T = (T_{act} - T_0)$$

Measurand	Description
$\Delta \varepsilon$ [$\mu\varepsilon$]	Strain shift
$\lambda_{0,inst,strain}$ [nm] **1	Initial strain wavelength
$T_{0,inst}$ [°C] **1	Initial temperature
T_{act} [°C] **2	Actual temperature
$\lambda_{act,strain}$ [nm] **2	Actual strain wavelength

STRING EXPRESSION

$$\Delta \varepsilon = ((\Delta \lambda - B \cdot \Delta T) / A)$$

$$\Delta \lambda = ((\lambda_{act} - \lambda_0) / \lambda_0)$$

$$\Delta T = (T_{act} - T_0)$$

For the determination of the strain sensitivity the free fiber length was used as a basis

**1 To be measured after installation of the sensor

**2 Measured value during monitoring of the sensor

CALIBRATION COEFFICIENTS

Nr.	Serial number	FBG	Product	STRAIN COEFFICIENTS	
				A [$\mu\varepsilon^{-1}$]	B [°C $^{-1}$]
		1		7,75842E-07	5,89292E-06
1	198134/0001	2	DSS-01; WL: 1550-60-70nm, LCP-03: 2x 1mtr, 2x FC/APC	7,75842E-07	5,89292E-06
		3		7,75842E-07	5,89292E-06