**Temperature compensation of strain measured with optical Fiber Bragg sensors using a temperature channel (e.g. a FS63):**

λ = Measured wavelength of strain sensor

λ0 = Reference wavelength of strain sensor (Center wavelength)

αMaterial = Thermal expansion coefficient of test specimen (ppm/°C)

αRefrac = Thermal dependency of refraction (ppm/°C)

G = Gage factor or Sensitivity (in case of FS62 strain sensor)

T = Measured temperature in °C

TRef = Reference temperature in °C

The computations are slightly different between FS62 and "generic" strain sensors:

FS62 (G = Sensitivity)

ε = G \* (λ - λ0) - (αMaterial + αRefrac /G) \* (T - TRef)

Generic (G = Gage factor)

ε = 10-6 \* (1/G \* (λ - λ0)/ λ0 - (αMaterial + αRefrac /G) \* (T - TRef))