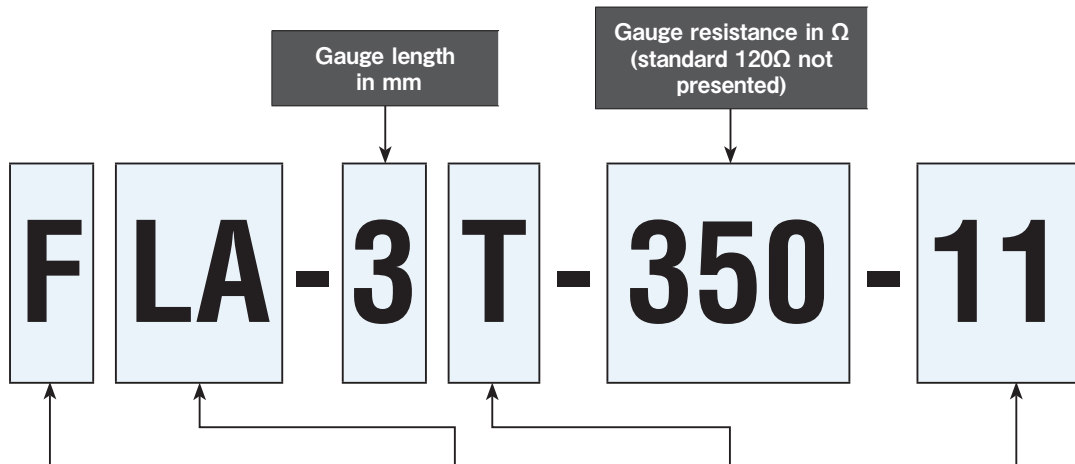




# STRAIN GAUGE CODING SYSTEM



Gauge series	Applications
F	General purpose
WF	Waterproof construction
PF	Concrete use, Polyester foil gauge
P	Concrete use, Polyester wire gauge
FLM/WFLM	Concrete use, Metal backing strain gauge
MF/QMF	Magnetic field use
PMF	Concrete use, Embedment type strain gauge
YEF/YF/YHF	Post-yield strain (Large strain) measurement
PMFLS	Asphalt use, Embedment type strain gauge
LF	Low elastic material use, Wood, Gypsum
PFLW/PLW	Low elastic material use, Wood, Gypsum
GF	Low elastic material use, Plastics
BF/UBF	Composite material use
DSF	High endurance use, Fatigue test
CTE	Linear Expansion Coefficient Measurement strain gauge
CF	Cryogenic temperature use
CEF	Wide range temperature use
QF/ZF/EF/HZF	High temperature use
SFA	Stress measurement
AW	Weldable strain gauge
BTM	Bolt axial strain measurement
DD	One-side gauge
FAC	Crack detection gauge
TF	Strain gauge type temperature measurement
KM	Concrete/Asphalt embedment use, strain transducer
FGMH	Frictional Strain Checker
FGAH	Frictional Axial strain transducer
FGDH	Frictional Torque Sensor System

Pattern configuration (*1)	
L/LA/LK/LX/LG/BX/BY LAB/LKB/LGB <b>GOBIET</b>	Single-axis
C/CA/LC/CS/CB CAB <b>GOBIET</b>	2-axis Rosette (0°/90°)
R/LR/RA/RAS/RS RAB <b>GOBIET</b>	3-axis Rosette (0°/45°/90°)
XV/YV/BXV/BYV	5-element Single
CV	5-element Rosette (0°/90°)
CT	Torque
LT	45° Single-axis

(\*1) Not always coded  
0°/90° 2-axis  
0°/45°/90° 3-axis

Functions (*2)	Applicable gauge
T Integrated with thermocouple	Applicable to most of strain gauges
A Left 45°	QFLT
B Right 45°	QFLT
W Large width	FLAB, QFLAB, Some of 350Ω strain gauges

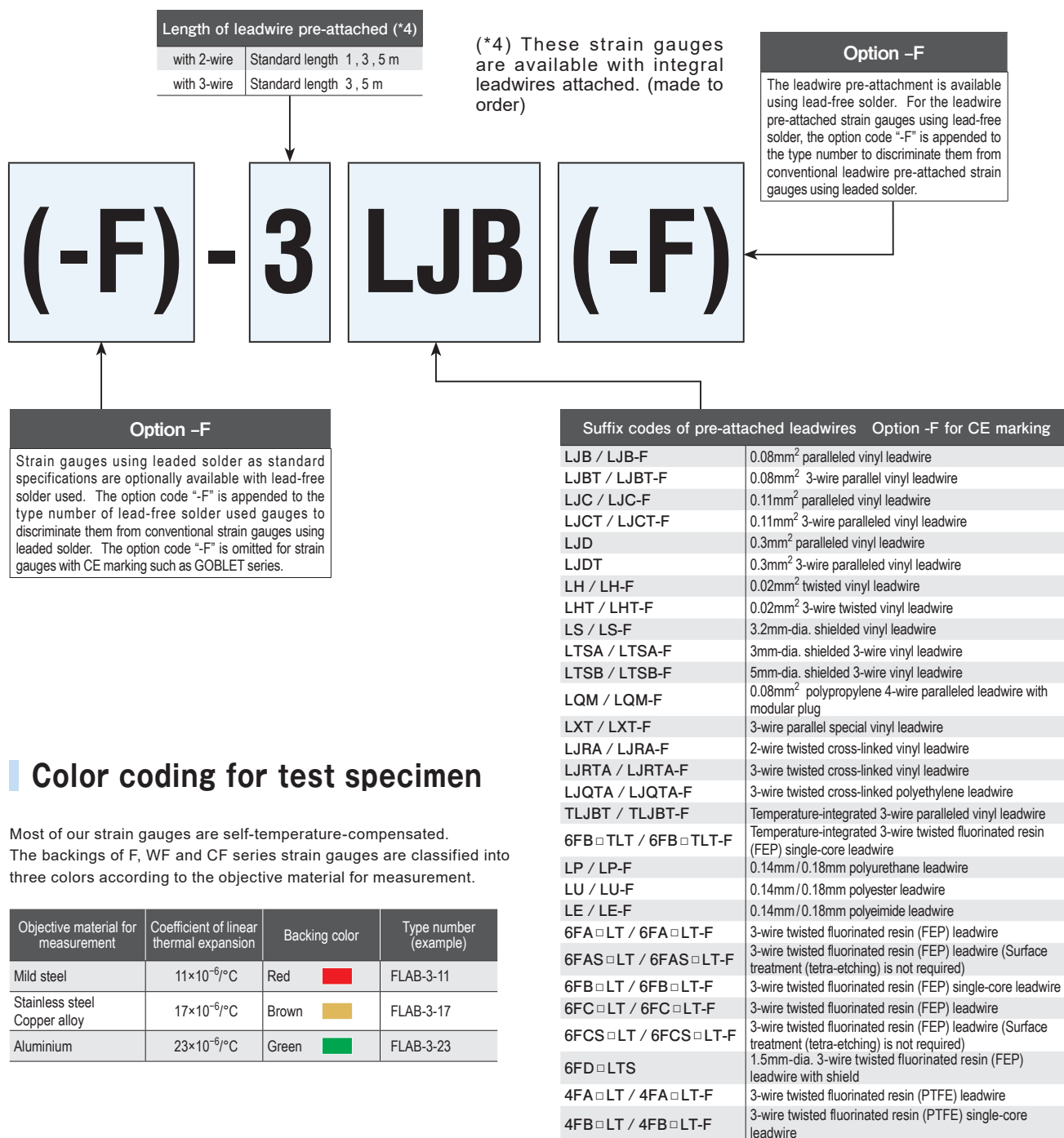
(\*2) Not indicated for general strain gauges

Compensation material ppm/°C (*3)			
3	Composite material	17	Stainless steel/Copper alloy
	Ceramic (Si <sub>3</sub> N <sub>4</sub> )	2.6-3.3	SUS 304 16.2
	CFRP	3 - 5	SUS 310 15.8
5	Composite material		SUS 316 16
	Ceramic (SiC)	4.6	SUS 321 16.7
	CFRP	3 - 5	Copper 16.7
8	Composite material		Beryllium copper 16.6
	Glass	7.9	Brass 16.7
	Titanium	8.9	Bronze 17
	Titanium alloy (Ti-6Al-4V)	8.8	Constantan 14.9
11	Mild steel	23	Aluminium
	Mild steel (0.1-0.2C)	11.8	Aluminium 23.4
	Hard steel (0.4-0.5C)	11.2	Aluminium 2024-T4 23
	Cast iron	10.5	Lead and its alloy 29
	Hastelloy-276	11.2	Gypsum 25
	Inconel 600	13.3	Polyimide 20-30
	Inconel 750	12.1	28 Magnesium
	Monel	13.5	Magnesium alloy 27
	SUS 630 (17-4PH)	10.8	50 Plastics
	SUS 631 (17-7PH)	10.6	Epoxy (Cast) 45-65
	Concrete	7-13	70 Plastics
			Acrylics 70
			ABS 74
			Polyacetal (POM) 80
			Polycarbonate (PC) 66-70
			Polystyrene (PS) 60-80

(\*3) Indicated only for self-temperature-compensated strain gauges.  
For other materials, contact TML or your local representative.

The following strain gauges are CE marked.

- Strain gauge without integral lead wire
- Strain gauge with "-F" appended to the type number
- Strain gauge indicated with "CE" mark in this catalog

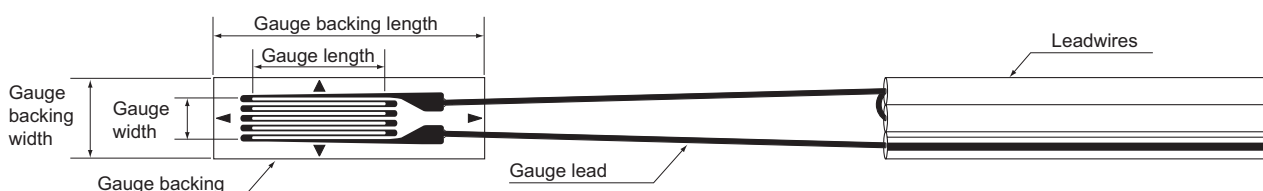


## Color coding for test specimen

Most of our strain gauges are self-temperature-compensated. The backings of F, WF and CF series strain gauges are classified into three colors according to the objective material for measurement.

Objective material for measurement	Coefficient of linear thermal expansion	Backing color	Type number (example)
Mild steel	$11 \times 10^{-6} / ^\circ\text{C}$	Red <span style="color: red;">■</span>	FLAB-3-11
Stainless steel Copper alloy	$17 \times 10^{-6} / ^\circ\text{C}$	Brown <span style="color: brown;">■</span>	FLAB-3-17
Aluminium	$23 \times 10^{-6} / ^\circ\text{C}$	Green <span style="color: green;">■</span>	FLAB-3-23

## Name of each part of strain gauge



For further information on combination use with strain gauges, refer to pages 37~38.