High-elongation Gages (KFEM & KFEL)

Patterns, Gage Resistance, Gage Factor		Dimensi	ons (mm)	
	Models	Gage (Grid) Base	Base	Remarks
dage Resistance, dage ractor		Length Width	Length Width	

KFEM Series Ultrahigh-elongation Foil Strain Gages

When ordering, suffix the lead-wire cable code (see table at the right) to the model number with a space in between.

E.g.
For the gage with a vinyl-coated flat 2-wire cable 10 m long pre-attached

→ KFEM-5-120-C1 L10M2R

If no lead-wire cable code is suffixed, the gage is delivered with gage leads only. (Silver-covered copper wires 25 mm long)

- *Strain limit of 20% to 30% is ensured for simple tension applied to the gage bonded on stainless steel (SUS 304) or aluminum alloy (A1050) at normal temperature.
- *Strain limit will be decreased under the following conditions.
- ●In case of bonding to non-adhesive materials such as aluminum alloy (A7075)
- and plastics (Polypropylene)

 ●In case of the targets have discontinuous distortion, or any crack on its surface
- In case of measurement at high/low temperature.

Uniaxial

Resistance: 120 Ω Gage factor: Approx. 2.0



KFEM series ultrahigh-elongation foil gages allow strain to be measured on various regions of structures, from elastic to plastic, and are suitable for large strain measurement. They can measure 20 to 30% of material deformation.

- Measurement of 20% to 30% material deformation possible
- Laminate protruding from the tip of gage base ensures improved adhesive property, making the gages hard to peel off.

 • Foil material has an improved elongation property and is hard to disconnect.

Applicable Adhesive

1010 000	
	Operating Temp. after Curing the Adhesive
CC-36	−20 to 80°C

■Types, lengths and codes of lead-wire cables pre-attached to KFEM gages

Type	2 polyester-coated copper wires	Vinyl-coated flat 2-wire cable	Vinyl-coated flat 3-wire cable	
Length	C1			
15 cm	N15C2	L15C2R	L15C3R	
30 cm	N30C2	L30C2R	L30C3R	
1 m	N1M2	L1M2R	L1M3R	
3 m		L3M2R	L3M3R	
5 m		L5M2R	L5M3R	
Operating temp.	-20 to 80°C	-10 to 80°C		
Remarks	Twisted for ≥ 50 cm	L-6, L-9 for ≥ 6 m	L-7, L-10 for ≥ 6 m	

* For other lead-wire cable lengths, contact us.

KFEM-10-120-C1	10.0	2.5	17.5	4.5
KFEM-5-120-C1	5.0	1.5	11.5	3.0
KFEM-2-120-C1	2.0	1.5	8.5	3.0
KFEM-1-120-C1	1.0	1.3	7.0	2.5

Patterns,		Dimensi		
Gage Resistance, Gage Factor	Models	Gage (Grid)	Base	Remarks
dage Resistance, dage ractor		Length Width	Length Width	

KFEL Series High-elongation Foil Strain Gages

RoHS

When ordering, suffix the lead-wire cable code (see table at the right) to the model number with a space in between.

E.g.

For the gage with a vinyl-coated flat 2-wire cable 10 m long pre-attached

→ KFEL-5-120-C1 L10M2R

For the gage with a vinyl-coated flat 3-wire cable 5 m long pre-attached

→ KFEL-5-120-D35 L5M3S

If no lead-wire cable code is suffixed, the gage is delivered with gage leads only. (Silver-covered copper wires 25 mm long)

Uniaxial

Resistance: 120 Ω Gage factor: Approx. 2.1



Developed to measure strain from elastic to plastic region on structures, the KFEL series foil gages allow the strain to be measured as large as 10% to 15% with simple tension strain.

Applicable Adhesive

	Operating Temp. after Curing the Adhesive
CC-36	−10 to 80°C

■Types, lengths and codes of lead-wire cables pre-attached to KFEL gages

Туре	2 polyester-coated copper wires	Vinyl-coated flat 2-wire cable					ated flat e cable
Length	C1, D34, and D35	C1	D34, D35	C1	D34, D35		
15 cm	N15C2	L15C2R	L15C2S	L15C3R	L15C3S		
30 cm	N30C2	L30C2R	L30C2S	L30C3R	L30C3S		
1 m	N1M2	L1M2R	L1M2S	L1M3R	L1M3S		
3 m		L3M2R	L3M2S	L3M3R	L3M3S		
5 m		L5M2R	L5M2S	L5M3R	L5M3S		
Operating temp.		-10 to 80°C					
Remarks	Twisted for ≥ 50 cm	L-6, L-9 for ≥ 6 m		L-7, L-10	for≥6 m		

* For other lead-wire cable lengths, contact us.

Note: Besides the usual surface treatment with sandpaper, the gage bonding surface should be treated with the surface treatment agent S-9B if the gage is bonded to non-adhesive plastics such as polyethylene and polypropylene. Then, bond the gage using the adhesive CC-36. For S-9B and bonding conditions for other special materials, contact us.

KFEL-5-120-C1	5	2.1	11	3.5
KFEL-2-120-C1	2	2.1	8	4

Biaxial, 0°/90°

Resistance: 120 Ω Gage factor: Approx. 2.1



KFEL-5-120-D34	5	2.1	13	13
KFFI -2-120-D34	2	2.1	10	10

Triaxial, 0°/90°/45°

Resistance: 120 Ω Gage factor: Approx. 2.1



KFEL-5-120-D35	5	2.1	13	13
KFEL-2-120-D35	2	2.1	10	10

Strain Gages	

Outline

Lead-wire cable

General

Waterproof

Composite material

Plastics Ultra-small strain High temp Low temp

High elongation

Nonmagnetoresistive

Hydrogen gas Bending

With protector Embedded

Crack

Adhesive

Coating agent

Customdesigned