Standard Strain Gage Series Selection Chart

GAGE SERIES	DESCRIPTION AND PRIMARY APPLICATION	TEMPERATURE RANGE	STRAIN RANGE	FATIGUE LIFE	
				Strain Level in με	Number of Cycles
EA	Constantan foil in combination with a tough, flexible, polyimide backing. Wide range of options available. Primarily intended for general-purpose static and dynamic stress analysis. Not recommended for highest accuracy transducers.	Normal: –100° to +350°F [–75° to +175°C] Special or Short Term: –320° to +400°F [–195° to +205°C]	±3% for gage lengths under 1/8 in [3.2 mm] ±5% for 1/8 in and over	±1800 ±1500 ±1200	10^5 10^6 10^8
CEA	Universal general-purpose strain gages. Constantan grid completely encapsulated in polyimide, with large, rugged copper-coated tabs. Primarily used for general-purpose static and dynamic stress analysis.	Normal: –100° to +350°F [–75° to +175°C] Stacked rosettes limited to +150°F [+65°C]	±3% for gage lengths under 1/8 in [3.2 mm] ±5% for 1/8 in and over	±1500 ±1500	10^5 10^{6*}
				*Fatigue life improved using low-modulus solder.	
C2A	General-purpose stress analysis strain gages. Supplied with preattached cables for direct connection to instrumentation.	–60° to +180°F [–50° to +80°C]	±3%	±1700 ±1500	10^5 10^6
L2A	General-purpose stress analysis strain gages. Supplied with preattached leadwire ribbons.	–100° to +250°F [–75° to +120°C]	±3%	±1700 ±1500	10^5 10^6
N2A	Open-faced constantan foil gages with a thin, laminated, polyimide-film backing. Primarily recommended for use in precision transducers, the N2A Series is characterized by low and repeatable creep performance. Also recommended for stress analysis applications employing large gage patterns, where the especially flat matrix eases gage installation.	Normal Static Transducer Service: –100° to +200°F [–75° to +95°C]	±3%	±1700 ±1500	10^6 10^7
WA	Fully encapsulated constantan gages with high-endurance leadwires. Useful over wider temperature ranges and in more extreme environments than EA Series. Option W available on some patterns, but restricts fatigue life to some extent.	Normal: –100° to +400°F [–75° to +205°C] Special or Short Term: –320° to +500°F [–195° to +260°C]	±2%	±2000 ±1800 ±1500	10^5 10^6 10^7
SA	Fully encapsulated constantan gages with solder dots. Same matrix as WA Series. Same uses as WA Series but derated somewhat in maximum temperature and operating environment because of solder dots.	Normal: –100° to +400°F [–75° to +205°C] Special or Short-Term: –320° to +450°F [–195° to +230°C]	±2%	±1800 ±1500	10^6 10^7
EP	Specially annealed constantan foil with tough, high-elongation polyimide backing. Used primarily for measurements of large post-yield strains. Available with Options E, L, and LE (may restrict elongation capability).	–100° to +400°F [–75° to +205°C]	±10% for gage lengths under 1/8 in [3.2 mm] ±20% for 1/8 in and over	±1000	10^4
				EP gages show zero shift under high-cyclic strains.	
ED	Isoelastic foil in combination with tough, flexible polyimide film. High gage factor and extended fatigue life excellent for dynamic measurements. Not normally used in static measurements due to very high thermal-output characteristics.	Dynamic: –320° to +400°F [–195° to +205°C]	±2% Nonlinear at strain levels over ±0.5%	±2500 ±2200	10^6 10^7

Standard Strain Gage Series Selection Chart

GAGE SERIES	DESCRIPTION AND PRIMARY APPLICATION	TEMPERATURE RANGE	STRAIN RANGE	FATIGUE LIFE	
				Strain Level in με	Number of Cycles
WD	Fully encapsulated isoelastic gages with high-endurance leadwires. Used in wide-range dynamic strain measurement applications in severe environments.	Dynamic: –320° to +500°F [–195° to +260°C]	±1.5% Nonlinear at strain levels over ±0.5%	±3000 ±2500 ±2200	10^5 10^7 10^8
SD	Equivalent to WD Series, but with solder dots instead of leadwires.	Dynamic: –320° to +400°F [–195° to +205°C]	±1.5% See above note	±2500 ±2200	10^6 10^7
EK	K-alloy foil in combination with a tough, flexible polyimide backing. Primarily used where a combination of higher grid resistances, stability at elevated temperature, and greatest backing flexibility are required. Supplied with Option DP.	Normal: –320° to +350°F [–195° to +175°C] Special or Short-Term: –452° to +400°F [–269° to +205°C]	±1.5%	±1800	10^7
WK	Fully encapsulated K-alloy gages with high-endurance leadwires. Widest temperature range and most extreme environmental capability of any general-purpose gage when self- temperature compensation is required. Option W available on some patterns, but restricts both fatigue life and maximum operating temperature.	Normal: –452° to +550°F [–269° to +290°C] Special or Short Term: –452° to +750°F [–269° to +400°C]	±1.5%	±2200 ±2000	10^6 10^7
SK	Fully encapsulated K-alloy gages with solder dots. Same uses as WK Series, but derated in maximum temperature and operating environment because of solder dots.	Normal: –452° to +450°F [–269° to +230°C] Special or Short-Term: –452° to +500°F [–269° to +260°C]	±1.5%	±2200 ±2000	10^6 10^7
S2K	K-alloy foil laminated to 0.001 in [0.025 mm] thick, high-performance polyimide backing, with a laminated polyimide overlay fully encapsulating the grid and solder tabs. Provided with large solder dots for ease of leadwire attachment.	Normal: –100° to +250°F [–75° to +120°C] Special or Short-Term: –300° to +300°F [–185° to +150°C]	±1.5%	±1800 ±1500	10^6 10^7

The performance data given here are nominal, and apply primarily to gages of 0.125-in [3-mm] gage length or larger.
Refer to Gage Series/Optional Feature data sheet for more detailed description and performance specifications.