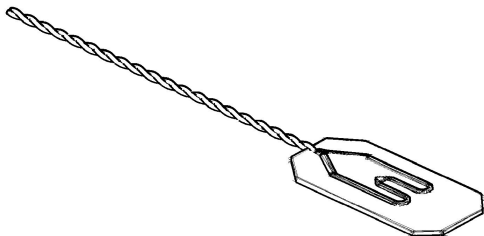


1 YEAR
WARRANTY

Ω OMEGA™

User's Guide



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**CO4-K
Ultrafast Surface Foil Thermocouples**



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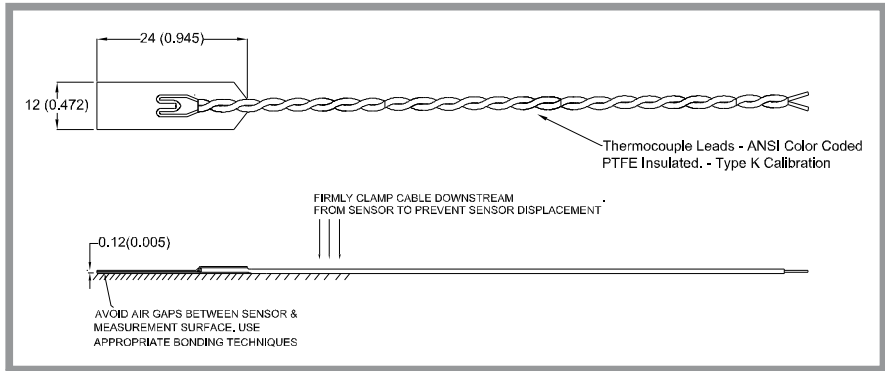
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GENERAL DESCRIPTION

OMEGA's CO4-K *Ultrafast* Surface Foil Thermocouples have been designed and fabricated to work in harsh environments where response time characteristics for the process are required to be measured in the order of a few milliseconds.

The **0.002"** Thermocouple Junction Foil Thickness provides for Low Mass & Thermal Inertia. Using such a delicate *bare* foil on the measurement surface could have resulted in a lot of installation losses. We protect the sensing junction with a polymer encapsulation to offer a *flexible* yet *tough **plug and play*** sensor - quick to install with accurate and repeatable measurements every time.

Maximum Continuous	Temperature° C		Catalog Number
	600 hr	10 hr	
260°C	315°C	370°C	CO4-K

SECTION 2 : INSTALLATION

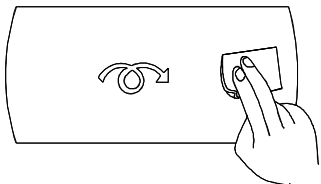
2.1 Using Adhesives

1. *Ultrafast* Response Surface Foil Thermocouples can be bonded to most surfaces using OB Epoxy Adhesives 100, 101, and 200. Each epoxy has different temperature ratings, cure characteristics, and thermal conductivity factors. Refer to the Omega Temperature Measurement Handbook for more information on OB Epoxies
2. When using epoxies, be sure that the surfaces to be bonded are clean. Use an appropriate solvent or detergent for cleaning.
3. For temperature above 500^oF, use Omega CC High temperature Cement
4. For applications under 260^oC (500^oF), use OB 200 Epoxy. OB 200 is a specially formulated epoxy with high thermal conductivity, To retain the fast speed of response, use a thin layer of adhesive

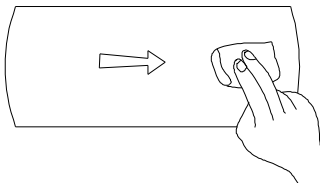
2.2 Installation Tips.

The bonding process of the Ultrafast Surface Thermocouple to the measurement surface depends on a number of parameters like operating temperature, mounting surface , adhesive to be used etc.

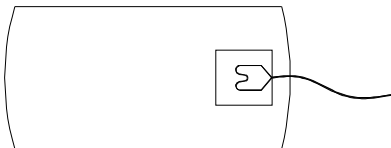
For optimum response time , all air gaps between sensor and measurement surface have to be eliminated so that the sensor polymer matrix is always in contact with the measurement surface.



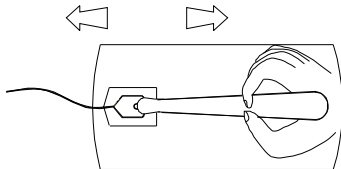
STEP I : Polish the bonding site with a coarse sandpaper in a considerably wider area than the thermocouple film size. Remove paint, rust and plating with a grinder or sand blast. Then, polish with sandpaper.



STEP II : Using an absorbent cotton/ gauze dipped in a highly volatile solvent such as acetone, strongly wipe the bonding site in a single direction to remove oils and fats. Please Note reciprocated wiping does not clean the surface.



STEP III : Place the Ultrafast Thermocouple on the clean surface and anchor / clamp the leads downstream from the sensor measuring junction



STEP IV : Spread the Adhesive / Cement Paste uniformly over CO4-K Thermocouple such that the sensor is sandwiched between the Adhesive and the measurement surface.

WARRANTY/DISCLAIMER

OMEGA ENGINEERING, INC. warrants this unit to be free of defects in materials and workmanship for a period of **13 months** from date of purchase. OMEGA's WARRANTY adds an additional one (1) month grace period to the normal **one (1) year product warranty** to cover handling and shipping time. This ensures that OMEGA's customers receive maximum coverage on each product.

If the unit malfunctions, it must be returned to the factory for evaluation. OMEGA's Customer Service Department will issue an Authorized Return (AR) number immediately upon phone or written request. Upon examination by OMEGA, if the unit is found to be defective, it will be repaired or replaced at no charge. OMEGA's WARRANTY does not apply to defects resulting from any action of the purchaser, including but not limited to mishandling, improper interfacing, operation outside of design limits, improper repair, or unauthorized modification. This WARRANTY is VOID if the unit shows evidence of having been tampered with or shows evidence of having been damaged as a result of excessive corrosion; or current, heat, moisture or vibration; improper specification; misapplication; misuse or other operating conditions outside of OMEGA's control. Components in which wear is not warranted, include but are not limited to contact points, fuses, and triacs.

OMEGA is pleased to offer suggestions on the use of its various products. However, OMEGA neither assumes responsibility for any omissions or errors nor assumes liability for any damages that result from the use of its products in accordance with information provided by OMEGA, either verbal or written. OMEGA warrants only that the parts manufactured by the company will be as specified and free of defects. OMEGA MAKES NO OTHER WARRANTIES OR REPRESENTATIONS OF ANY KIND WHATSOEVER, EXPRESSED OR IMPLIED, EXCEPT THAT OF TITLE, AND ALL IMPLIED WARRANTIES INCLUDING ANY WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE HEREBY DISCLAIMED. LIMITATION OF LIABILITY: The remedies of purchaser set forth herein are exclusive, and the total liability of OMEGA with respect to this order, whether based on contract, warranty, negligence, indemnification, strict liability or otherwise, shall not exceed the purchase price of the component upon which liability is based. In no event shall OMEGA be liable for consequential, incidental or special damages.

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FOR **WARRANTY** RETURNS, please have the following information available BEFORE contacting OMEGA:

1. Purchase Order number under which the product was PURCHASED,
2. Model and serial number of the product under warranty, and
3. Repair instructions and/or specific problems relative to the product.

FOR **NON-WARRANTY** REPAIRS, consult OMEGA for current repair charges. Have the following information available BEFORE contacting OMEGA:

1. Purchase Order number to cover the COST of the repair,
2. Model and serial number of the product, and
3. Repair instructions and/or specific problems relative to the product.

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