



**THERMOCOAX<sup>®</sup>**  
stick-on thermocouples  
(self-adhesive)

**THERMOCOAX**

- *Easy to use*
- *Excellent heat transfer*
- *Miniature*
- *Short response time*
- *High accuracy*



## Application

The stick-on thermocouples are particularly designed to measure surface temperatures.

They are applied in research, development, testing and production lines, in single point or multichannel measuring arrangements to provide important information on temperature distribution on, for example, gearbox-casings, temperature gradients on casings, heat absorp-

tion of bearings, heat radiation, heat transfer and on thermal efficiency.

Main advantages over standard thermocouples are :

- High flexibility,
- Fast response time,
- Low heat capacity,

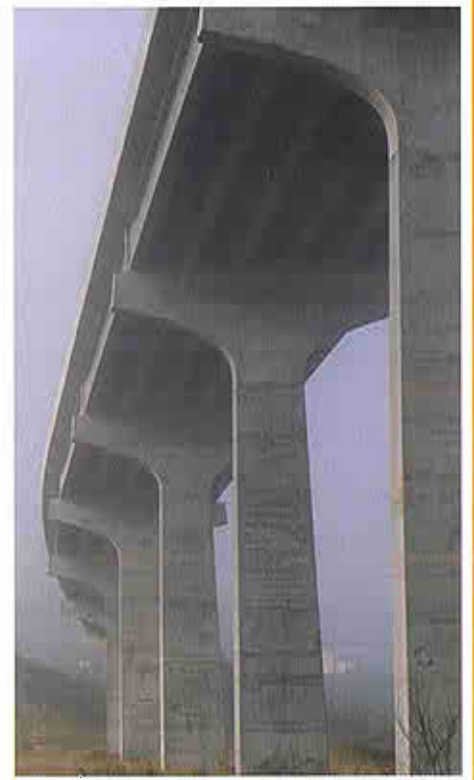
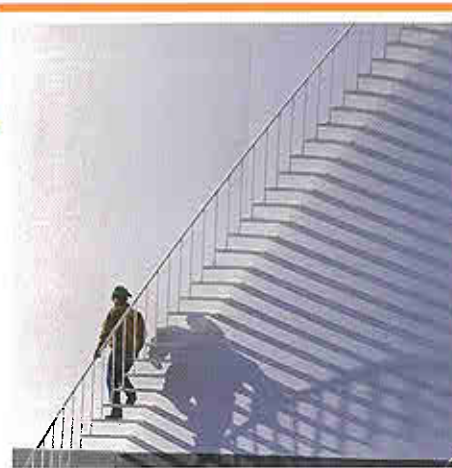
which together ensure fast and reliable

measurements of surface temperatures.

## Cost effective

The easy and fast fixing to the surface is another labour-saving advantage especially where short time measurements

have to be realised. The thermocouples are just self-stuck onto the surface to be measured.



## Construction

To ensure a good temperature contact to the measuring surface as well as a low heat transfer away from the thermocouple surface to the environment, the elements have been designed extremely flat and thin.

To allow easy connection of the extension cables, the thermocouples are equipped with two metal strips.

The positive lead of the strips is marked with a red colour mark to avoid connection with the wrong polarity.

# Types J, T et K

**Type J : PR 6442 AJ** : Iron - Copper/nickel (Fe-CuNi), embedded in a cresol resin impregnated foil.

**Type T : PR 6452 AT** : Copper - Copper/nickel (Cu-CuNi), embedded in a cresol resin impregnated foil.

**Type K : PR 6462 BK** : Nickel/Chrome - Nickel alloy (NiCr-Ni), embedded in oxide coated, phenol resin impregnated aluminium foil.

	Type J PR 6442 AJ/02	Type T PR 6452 AT/02	Type K PR 6462 BK/02
Reference	PR 6442 AJ/02	PR 6452 AT/02	PR 6462 BK/02
Code	9408 064 42029	9408 064 52029	9408 064 62029
Packing	per 10 pieces		
Thermocouple	Fe-CuNi	Cu-CuNi	NiCr-Ni
Response time	< 100 ms	< 100 ms	< 60 ms
Carrier foil	Cresol	Cresol	Aluminium
Temperature range	-100°C - +200°C	-100°C - +200°C	-100°C - +200°C
Typical insulation resistance at 100V DC	10 <sup>6</sup> MΩ	10 <sup>6</sup> MΩ	10 <sup>6</sup> MΩ
Insulation strength 1 min	> 500V DC	> 500V DC	> 500V DC
Electrical resistance	< 0.085Ω	< 0.085Ω	< 0.085Ω
Overall thickness	~100 μm	~100 μm	~140 μm
Tensile strength of the sticking surface	0.2 kp over 10°		
Storage	2 years		
Thermo-electromotive force	according to IEC 584 Class 2		
Recommended extension cable	2 FK 17/12 MVS	2 CK 17/12 MVS	2 AB 17/12 MVS

The very high thermal conductivity of aluminium makes the PR 6462 BK/02 (with aluminium-foil carrier) specially suitable for surface temperature shock tests.

The combination of an extremely thin thickness of the sensor and a remarkable thermal conductivity, assure an excellent temperature path between the measured

surface and the sensor's hot junction. Even in extremes' conditions alike thermal shocks, it results in a very fast response time.

## Temperature range

Generally, cresol and phenol resins can only be used up to temperatures of approx. 200°C since they burn above this temperature.

## Mounting

The surface to be measured must be rough, clean and degreased :

- Peel off the protection foil at the rear side,
- Fix the element with thumb pressure.

## Measuring equipment

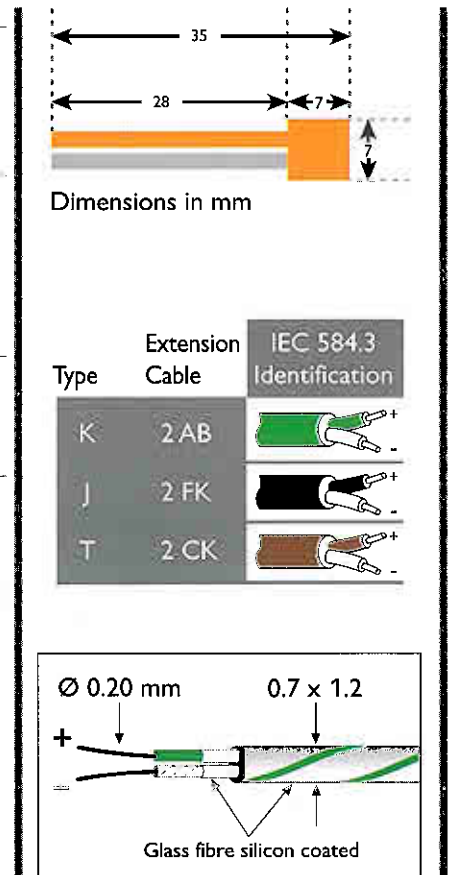
Any standard measuring equipment for usual thermocouples can be used.

## Extension cable

The wires of the extension cable and thermocouple are the same material to avoid any measurement errors. This is recommended for all THERMOCOAX thermocouples.

### 2AB17/12 MVS - 2FK17/12 MVS - 2CK17/12 MVS

- Outer sheath : 1.7 x 1.2, insulated by silicon coated glass fibre
- Leads : glass fibre insulated single wires Ø 0.20
- Operating temperature : 280°C continuous
- According to IEC 584.3



## To order

Minimum ordering quantity : 5 pieces

Example : thermocouple only : PR 6462 BK/02

thermocouple and 2 m extension cable : PR 6462 BK/02/2 AB 17/12 MVS

We can mount the extension cable onto the thermocouple.

# Thermo-electromotive force in mV in steps of 10°C (reference temperature : 0°C)

## PR 6442 AJ/02 Fe-CuNi - Type J

°C	0	-10	-20	-30	-40	-50	-60	-70	-80	-90	-100
-100	-4.63	-5.04	-5.43	-5.80	-6.16	-6.50	-6.82	-7.12	-7.40	-7.66	-7.89
0	0	-0.50	-1.00	-1.48	-1.96	-2.43	-2.89	-3.34	-3.79	-4.22	-4.63
°C	0	10	20	30	40	50	60	70	80	90	100
0	0	0.51	1.02	1.54	2.06	2.59	3.12	3.65	4.19	4.73	5.27
+100	5.27	5.82	6.36	6.91	7.46	8.01	8.56	9.12	9.68	10.22	10.78
+200	10.78	11.33	11.89	12.44	13.00	13.55	14.11	14.66	15.22	15.77	16.33

## PR 6452 AT/02 Cu-CuNi - Type T

°C	0	-10	-20	-30	-40	-50	-60	-70	-80	-90	-100
-100	-3.38	-3.66	-3.92	-4.18	-4.42	-4.65	-4.87	-5.07	-5.26	-5.44	-5.60
0	0	-0.38	-0.76	-1.12	-1.48	-1.82	-2.15	-2.48	-2.79	-3.09	-3.38
°C	0	10	20	30	40	50	60	70	80	90	100
0	0	0.39	0.79	1.20	1.61	2.06	2.47	2.91	3.36	3.81	4.28
+100	4.28	4.75	5.23	5.71	6.20	6.70	7.20	7.72	8.24	8.76	9.29
+200	9.29	9.82	10.36	10.91	11.46	12.01	12.57	13.14	13.71	14.28	14.86

## PR 6462 BK/02 NiCr-Ni - Type K

°C	0	-10	-20	-30	-40	-50	-60	-70	-80	-90	-100
-100	-3.553	-3.852	-4.138	-4.410	-4.669	-4.912	-5.141	-5.354	-5.550	-5.730	-5.891
0	0	-0.392	-0.777	-1.156	-1.527	-1.889	-2.243	-2.586	-2.920	-3.242	-3.553
°C	0	10	20	30	40	50	60	70	80	90	100
0	0	0.397	0.798	1.203	1.611	2.022	2.436	2.850	3.266	3.681	4.095
+100	4.095	4.508	4.919	5.327	5.733	6.137	6.539	6.939	7.338	7.737	8.137
+200	8.137	8.537	8.938	9.341	9.745	10.151	10.560	10.969	11.381	11.793	12.207

## THERMOCOAX,

The specialist of the shielded mineral insulated cable technology and its applications.

## THERMOCOAX,

A wide range of catalogue or tailor-made products which meet your requirements.

### Temperature sensors

Thermoelectric cables,  
Thermocouples,  
Differential thermocouples,  
Thermal fluxmeters,  
Resistance sensors.

### Specific sensors

VIBRACOAX® vibrations detectors,  
NEGACOAX® overheating and fire detectors,  
TURBOCOAX® clearance and displacement detectors,  
NEUTROCOAX® neutron detectors.

### Heating elements and devices

Standard heating elements and cables,  
Tailor-made heating devices,  
Heating platens,  
Rod heaters,  
Trace heating, De-misting, De-icing.

### Mineral insulated cables

Signal transmission cables,  
Mineral and organic insulated cables,  
Silica insulated cables.

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