

pyromation inc.
beyond measure

Compound Mixer Temperature Sensors

Tough Sensors for Rubber Compound Mixing Equipment

Speed, Service, Solutions...
Beyond Measure™

// COMPOUND MIXER TEMPERATURE SENSORS

COMPATIBLE, RELIABLE, DURABLE

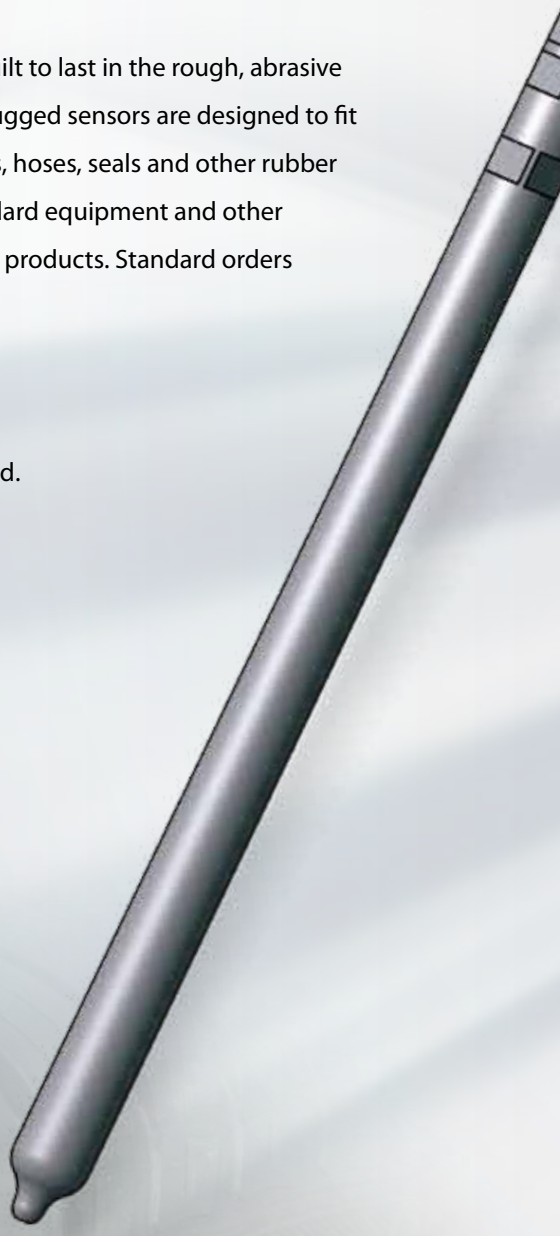
Developing new compound mixing equipment or maintaining existing mixers requires the installation of sensors that will reliably provide temperature measurements of the process. These temperature sensors must be able to stand up to the physical abuse of the rapidly-moving solid materials, as well as the abrasive and corrosive characteristics of the compound being mixed. Pyromation has been building sensors for this very purpose for over 20 years.

// BUILT FOR ABRASIVE APPLICATIONS

Pyromation makes a variety of compound mixer temperature sensors that are built to last in the rough, abrasive environments found in the production processes of the rubber industry. These rugged sensors are designed to fit most compound mixer configurations used by companies that manufacture tires, hoses, seals and other rubber products. Pyromation also custom-designs sensors and assemblies for non-standard equipment and other processes, such as those used in the production of Teflon®, Nylon or other plastic products. Standard orders typically ship within five working days.

Using Pyromation sensors allows you to:

- Save Time – Fewer change-outs needed, machine downtime reduced.
- Save Money – Fewer sensors used over the long term.
- Gain Confidence – 100% temperature and response-time testing on all compound mixer temperature sensors.



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Teflon® is a registered trademark of E.I. du Pont de Nemours and Company.



// DURABILITY BY DESIGN, FLEXIBILITY BY CHOICE

Pyromation uses superior 410 stainless steel shafts to protect the elements of its rubber compound mixing sensors. One-piece 410 stainless steel solid bar stock is gun-drilled, machined and hardened to produce a shaft that provides ***superior tensile strength and excellent abrasion and corrosion protection*** for our sensors. This construction allows them to last longer than most others in the harsh environments of rapidly-moving compound materials in rubber mixers.

In addition, Pyromation offers its line of compound mixing sensors with the option of a hard chrome-plated tip or an XH-5 coated tip.

Chrome-Plated Tip

› Industry standard; better wear resistance than uncoated tip in rubber and most other compound mixing applications.



// CHROME-PLATED TIP

XH-5 Coated Tip

› Excellent wear resistance in all compound mixing processes, including tile and clay applications. Superior durability compared to the hard-chrome tip.



// XH-5 COATED TIP

Other standard construction options:

› Single or dual type J or K thermocouple elements

› One-, two- and three-notch mounting configurations

› Nipple extensions available

› Aluminum screw-cover or flip-top termination head (private labeling available on head cover at nominal cost)

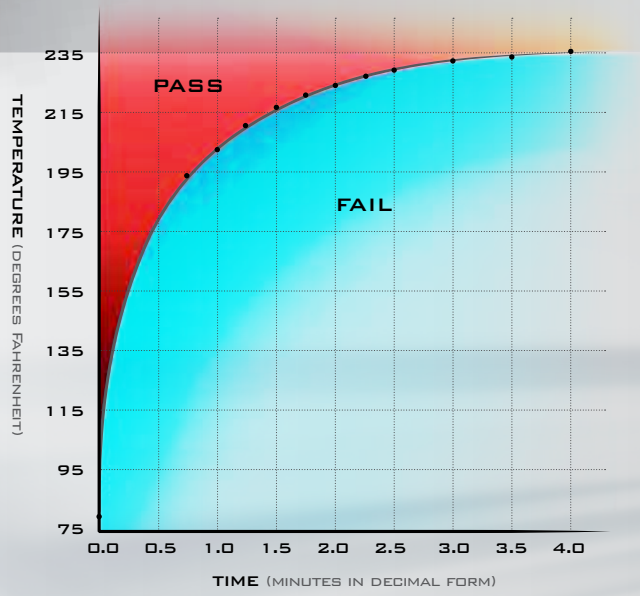
› Head-mounted transmitters

If the standard constructions do not meet your needs, Pyromation's experienced sales engineers will build a compound mixing sensor for your specific application.



// WHEN PERFORMANCE IS CRITICAL, THINK PYROMATION

Pyromation knows that compound mixing processes depend on reliable temperature measurements and quick responses to changes in material temperatures. That is why we individually build and test each sensor before it ships out. We also attach a serialized number to each unit, which can be traced back to the sensor's specific functionality and response-time test data generated by Pyromation's on-site metrology lab.



Accuracy

› Readings at ± 2.2 °C [4 °F] for standard sensors (special limits available upon request).

Response Time

› Meets or exceeds the "Industry Time Response Test Standard" (see chart). Response time is measured by the length of time the sensor takes for its output to reach cardinal temperature points after being immersed one inch into a stirred liquid bath at 121 °C [250 °F].

// TEMPERATURE SENSORS FOR RUBBER MOLDING AND OTHER PROCESSES

Pyromation produces temperature sensors for rubber and plastic molding, extruding and vulcanizing processes, some of which are listed below. Pyromation also builds custom-designed sensors for special applications.

RTDs & Thermocouples in Thermowells

› Thermocouples and RTDs in drilled thermowells for high-pressure steam, oil-heated and other pressurized heating processes. Available with spring-loaded measuring elements, connection heads, head-mounted transmitters and a variety of thermowell styles.

Adjustable & Fixed Immersion Thermocouples & RTDs

› Thermocouples and RTD sensors typically used in electrically-heated molding presses to measure platen perimeter and cavity temperatures. Low-cost sensors with adjustable or fixed immersion lengths.

MgO Thermocouples

› General purpose Magnesium Oxide (MgO)-insulated thermocouples for use in a variety of rubber processing applications, including steam, hot oil and electrical heating applications.

// RUBBER COMPOUND MIXER TEMPERATURE SENSORS

FIGURE 1

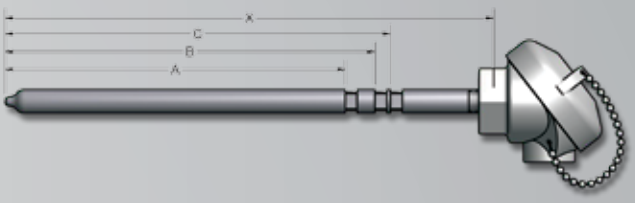


FIGURE 2

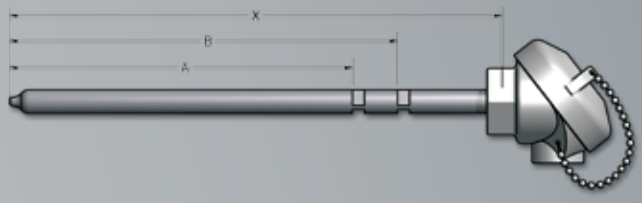


FIGURE 3

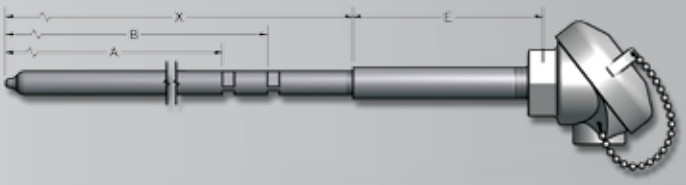


FIGURE 4



All mill slots are 5/16" wide. Abrasion resistant tips are 0.625" OD x 0.50" long.

// ORDERING CODES

1 - 2 - 3

J050G - CM - 10 - 31 *(Example)*

1 MEASURING ELEMENT

CODE		ELEMENT TYPE
SINGLE	*DUPLEX*	
J050G	JJ050G	Type J thermocouple
K050G	KK050G	Type K thermocouple

2 MOUNTING CONFIGURATION

CODE		MOUNTING NOTCH CONFIGURATION	FIG. NO.
HARD CHROME-PLATED TIP	XH-5 COATED TIP		
10	12	3 notch (square)	1
20	22	2 notch (triangular)	2
20E	22E	2 notch (triangular) w/nipple	3
40	42	1 notch (triangular)	4
90	92	2 notch (triangular)	2

Applications are typical, but may vary by machine.

3 TERMINATION OPTIONS

CODE	ELEMENT TYPE
31	Aluminum screw-cover head
49	Aluminum flip-top head
[1]K1_ _ _	Kapton® - solid conductor

[1] Specify lead length in inches using 3 digits.

CRITICAL SENSORS DIMENSIONS

MOUNTING CONFIG. CODE	FIG. NO.	DIMENSIONS (inches)				
		A	B	C	X	E
10 or 12	1	9 1/16	9 13/16	10 5/16	13	
20 or 22	2	13 31/32	15 31/32		18	
20E or 22E	3	13 31/32	15 31/32		17 5/8	5
40 or 42	4	10 7/32			12	
90 or 92	2	13 15/32	15 15/32		18	

All notches are 5/16" wide (nominal).

Kapton® is a registered trademark of E.I. du Pont de Nemours and Company.

// SPEED, SERVICE, SOLUTIONS... BEYOND MEASURE™

Operating since 1962, Pyromation is the premier temperature sensor manufacturer in North America. From RTDs and thermocouples to thermowells, connection heads, accessories and complete assemblies, Pyromation can make the right temperature sensor for your process and deliver it faster than anyone in the industry. A broad product line, industry experience, friendly customer service and quick delivery make Pyromation the best choice for your temperature measurement applications.

For more information, contact Adaptive Industrial Solutions.

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