Frequently Asked Questions (FAQ)

How will the Maturix® Smart Concrete® Sensors help me?

The Maturix® Smart Concrete® Sensors are reusable devices that are designed to monitor and log the real-time temperature of your concrete wirelessly via the Sigfox network when plugged into a thermocouple cable. That way, you can see your concrete's temperature whenever and wherever you like. You won't have to worry about sending people to your jobsite to retrieve data from a conventional data logger.

Additionally, these sensors use a calibrated maturity curve to calculate your concrete's strength development in real time, which gives you a better idea of what's happening to the concrete. In turn, you'll be able to make better decisions that will reduce project risk, speed striping, loading, tensioning, and opening.

How are the reusable Maturix® Smart Concrete® Sensors better than the typical single-use sensors?

Because Maturix® Smart Concrete® Sensors are reusable, they will save you money. For instance, they won't expire after being used once for one project like single-use sensors would. Single-use sensors also operate via Bluetooth technology, which forces you to scan the sensor while at the jobsite. However, with Maturix®, you can receive data on your concrete wirelessly in real time from the cloud, saving you time that you might otherwise have spent on extra jobsite visits.

The only sacrificial component you'll need to consider for these sensors is the type K thermocouples, which are available at a reasonable price, so you can spend much less on concrete monitoring when working with Maturix®.

How long are the thermocouples?

Kryton offers type K thermocouples in 1-, 3-, 5-, and 10-meter lengths. Since this particular thermocouple is an industry standard, contractors who monitor concrete frequently can also buy the cables in bulk and cut them to the desired size.

Additionally, each Maturix® Smart Concrete® Sensor only uses a single thermocouple, so it can typically be placed within close proximity to the monitoring area, which reduces the costs usually associated with multiport data loggers that need long runs of cables.

What does real-time monitoring mean?

Real-time monitoring means that data is being sent from the sensors directly to your digital device in real time. You don't need to send someone to the jobsite to scan or retrieve data in any way. Instead, you'll know exactly what is happening to your concrete when it happens.

Can I set up alerts?

Yes, you can have the Maturix® Smart Concrete® Sensors alert you to a number of situations, such as the following:

- Concrete temperature goes above or below a specific value
- Differential of the temperature exceeds a specific value
- Strength exceeds a specific value
- Data is not being received due to a disconnected wire that's not transmitting

What happens if I'm in a remote location and don't have Sigfox coverage?

All you need to do is use a Sigfox base station. This device connects to the Internet on-site and receives the data transmitting from the Maturix® Smart Concrete® Sensors.

Can I use the Maturix® Smart Concrete® Sensors instead of a temperature data logger?

Yes, if specifications need you to measure your concrete's temperature or temperature differential, you can use the Maturix® Smart Concrete® Sensors instead of the typical temperature data logger. Once set up, Maturix® will wirelessly monitor and log what happens to the concrete's temperature and temperature differential in real time. You can even make sure Maturix® sends this information to key decision makers to help move your project forward more swiftly. This will let them know what's happening to the concrete instantaneously and can even alert them to when temperatures exceed target values.

At the same time, Maturix® will also wirelessly log that data and give you the option to create and share a detailed report with just a push of a button.

Why would Maturix® Smart Concrete® Sensors be better than my data logger?

Maturix® Smart Concrete® Sensors make your work more convenient, sending data directly to you. You don't have to send someone to a jobsite to get the data, and you can set the sensors so they inform both you, engineers, and the rest of your construction team on what's happening to your concrete in real time. That way, you can better understand and deal with issues before they become a problem.

How do the Maturix® Smart Concrete® Sensors predict concrete strength?

Maturix® Smart Concrete® Sensors predict concrete strength using inputs from your concrete mix design's pre-calibrated maturity curve, which is based on and supported by the ASTM C1074-19 — Standard Practice for Estimating Concrete Strength by the Maturity Method. Using this knowledge of the maturity curve, Maturix® uses time and temperature to accurately predict your concrete's strength in real time.

Can the Maturix® Smart Concrete® Sensors be used together on one cast?

Yes, you can use any number of Maturix® Smart Concrete® Sensors together to monitor one cast. The data they gather will be listed under that one cast, giving you an easy understanding of the differences in strength and temperature for the placed concrete.

How many casts can I monitor at once?

You can monitor as many casts as you want. Simply assign the sensors to a particular cast.

Do I have to manually go and collect any data?

No, you don't have to manually collect any of the data that your sensor is monitoring. All of it is transmitted directly from the project through the Sigfox wireless network.

How often is data sent and logged?

Data is sent every 15 minutes and then logged.

Who owns the data?

The data is owned solely by the customer.

Do I still need to do crush tests?

Maturix® Smart Concrete® Sensors continue to replace the need for crush tests, but that is typically up to the discretion of an engineer.

We recommend working with all the decision makers involved in your construction project to get them more comfortable with Maturix®. After all, the best way to increase your team's level of comfort with a different set of tools is by including them in the process.

With that in mind, consider discussing with them how the maturity method is more accurate than typical on-site samples used for crush tests. For instance, you and your team will find those samples do not have the same internal temperatures of the mass concrete, which will result in differences between the crush sample and your actual concrete.

How are the Maturix® Smart Concrete® Sensors sold?

Maturix® Smart Concrete® Sensors come in a durable weatherproof case and are sold in sets of four within a tough orange carrying case.

What is the warranty for Maturix® Smart Concrete® Sensors?

The sensors are warrantied for life so long as their monitoring service subscription is upheld.

What is the battery life like for Maturix® Smart Concrete® Sensors?

In general, you can expect a long battery life as the sensors use a network that has a very low power requirement. However, the battery life will still depend upon how frequently the sensors are used. Sensors that are used often will typically have a battery life of two to five years. For sensors that aren't used so often, they may have a battery life that can last as long as 10 years.

Of course, under Kryton's warranty, you won't have to worry about the battery life as expired sensors will always be replaced at no extra cost to you.