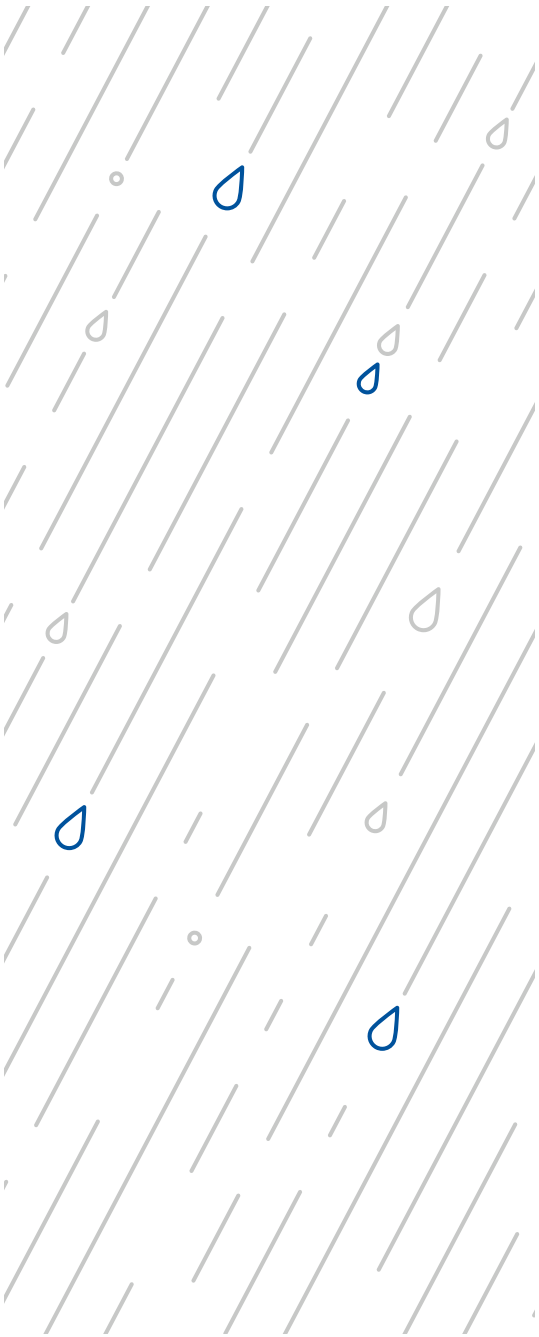
INTELLIPAC™
MOISTURE SYSTEM

ASTEC®

THE IMPORTANCE OF
MOISTURE MEASUREMENT



Moisture measurement at an asphalt plant is essential for ensuring quality control, consistency, and cost efficiency. Accurately measuring the moisture in the aggregates is crucial for consistent asphalt quality. This accuracy impacts nearly everything at an asphalt plant, from the metering of virgin aggregates and recycled material, to how much liquid asphalt is added. By monitoring moisture content, plants can optimize material use and reduce waste.

Introducing Astec's IntelliPac™ Moisture System an advanced solution for automated moisture monitoring, enhancing productivity and product quality. The IntelliPac system gives operators enhanced visibility into virgin aggregate and RAP moisture levels, enabling precise metering for accurate mix design and stable asphalt cement content, ensuring optimal mix consistency. Fully integrated into Astec's control system, it automatically adjusts processes based on real-time data, ensuring consistent outcomes.

This functionality makes IntelliPac an indispensable tool for modern asphalt production, combining precision and efficiency to meet the demands of today's industry.

CUSTOMER TESTIMONIAL

"I've never seen as consistent results in the lab as I have with the IntelliPac Moisture System."
Mike Fields - Plant Operations Manager

INTELLIPAC MOISTURE SYSTEM
SENSOR OVERVIEW

The IntelliPac Moisture Sensor, powered by Near Infrared (NIR) technology, provides highly accurate moisture measurements ranging from 0.1% to 95%, with a precision of ±0.1%. It operates in a wide temperature range of -4°F to 176°F, offering fast sample rates of 60 calculations per second.

MOUNTING BRACKET
This sturdy hardware attaches the sensor to the cold feed bins and allows for retrofit capabilities.

SENSOR BODY
The durable aluminum enclosure weighs just 12 lbs. (5.4 kg) and is IP69K-rated, making it both lightweight and robust for demanding applications.

DUST SHIELD
The protective dust shield ensures accurate moisture readings with integrated compressed air nozzles to extend maintenance intervals.

SUN SHIELD
Protects against direct sunlight to ensure accurate sensor readings.

NOT YOUR AVERAGE
MONITORING TOOL

ASTEC CONTROLS INTEGRATION

Seamlessly integrates with Astec control systems to deliver precise monitoring and real-time adjustments for optimal plant performance and consistent product quality. By incorporating real-time moisture data directly into plant controls, it improves final product quality while enabling more accurate liquid asphalt dosing and inventory control.

SCALABLE SOLUTIONS

Offers customizable options to fit plants of various sizes, providing flexibility to meet the specific needs of different operations.

MIX CONSISTENCY

Optimizes asphalt cement (AC) usage by accounting for moisture content, ensuring a consistent and high-quality final mix.

RETROFIT CAPABILITY

Easily retrofits into existing plants, enabling operators to enhance moisture measurement without a complete system overhaul.

INVENTORY MANAGEMENT

Helps maintain accurate records of material usage and moisture levels, contributing to better inventory control and operational efficiency.

CUSTOMER TESTIMONIAL

"We always wondered why we chased AC. Once we installed this sensor, our AC is consistent."
Paul Bowden - Plant Superintendent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WHAT AGGREGATES
CARRY THE MOST MOISTURE?

Aggregates with smaller particles, also called “fines”, have a higher capacity to retain moisture due to their small particle size and increased surface area, which enable them to hold water more effectively. Fines are crucial for the performance and stability of asphalt mixtures, as they fill the voids between larger aggregate particles and contribute to the overall density and cohesion of the mix. Inaccurate moisture readings in fine aggregates can disrupt mix ratios, leading to inconsistent asphalt quality. This may result in issues such as reduced binder adhesion, premature cracking, or instability, ultimately compromising the durability of the road surface.

Common fines used in asphalt mix may include, but are not limited to: crusher dust, natural clay particles, silt, and fine particles from manufactured sand. Moisture fluctuations of aggregates exceeding 1% throughout the day should also be carefully monitored to maintain consistent performance.

CUSTOMER TESTIMONIAL

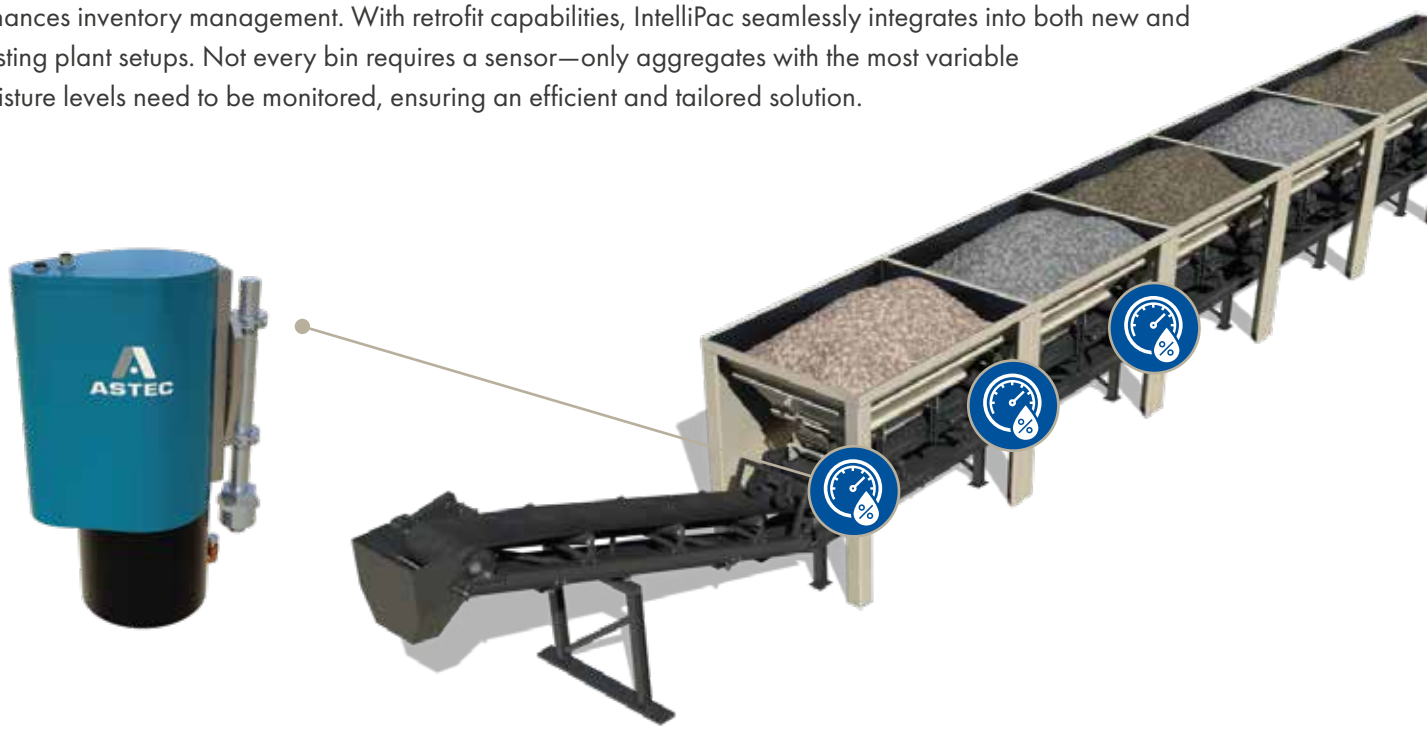
“We fully integrated this system into our operations, and I truly believe it's going to pay for itself. It would be beneficial for anyone in our industry to get this product - it is a game changer. All you have to do is input your safeguards and the IntelliPac Moisture System will do the job”.
Donnie Strickland - Asphalt Mix Designer

INTELLIPAC

SENSOR APPLICATIONS

COLD FEED BINS

IntelliPac sensors are strategically placed on cold feed bins to provide precise measurements of aggregate moisture at the source. By monitoring moisture levels directly at the bins, the system ensures consistent material metering and enhances inventory management. With retrofit capabilities, IntelliPac seamlessly integrates into both new and existing plant setups. Not every bin requires a sensor—only aggregates with the most variable moisture levels need to be monitored, ensuring an efficient and tailored solution.



RAP (RECLAIMED ASPHALT PAVEMENT)

Accurately measuring RAP moisture enables better control over feed rates, ensuring a more stable and consistent AC content. By going beyond virgin material monitoring, this approach provides an even more thorough understanding of moisture levels, leading to greater precision in mix design.

INTEGRATED

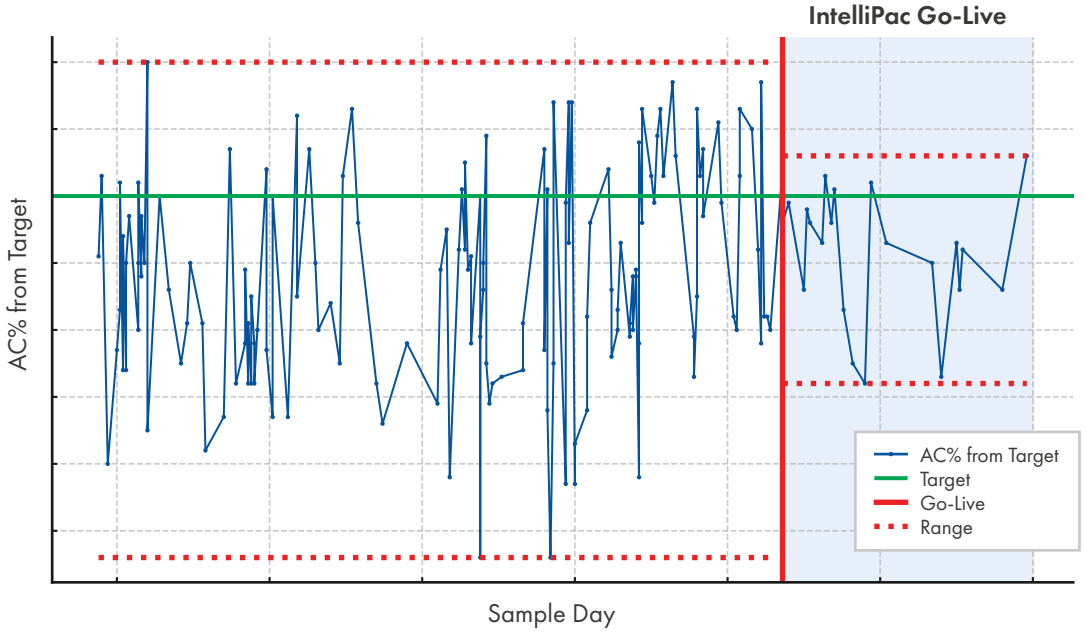
ASTEC CONTROLS

This seamless connection enables automatic adjustments to plant processes based on real-time moisture data, eliminating the need for manual operator intervention. As a result, it improves accuracy in asphalt mix production, reduces human error, and enhances overall efficiency. Additionally, integration provides a unified system that simplifies monitoring and decision-making, ensuring consistent, high-quality results and maximizing productivity.

THE DATA

MORE CONSISTENCY. LESS GUESSWORK. BETTER RESULTS.

The chart below shows the impact of implementing the IntelliPac™ Moisture System. Before go-live (left of the red line), the asphalt content percentage (AC%) often missed the target—resulting in inconsistent mix quality and material waste. After IntelliPac went live, variability decreased significantly, with results staying much closer to target.
The IntelliPac system gives you greater control over moisture levels in your mix—maximizing quality and minimizing risk.



RETURN ON INVESTMENT

- Savings of up to $150k per year on liquid asphalt.
- Liquid asphalt content standard deviation reduced by up to 50%.
- Enhanced inventory management.
- Minimized non-conforming material risks.

INTELLIPAC™ MOISTURE SYSTEM

IntelliPac™ Moisture System

LEARN MORE ABOUT INTELLIPAC

Scan to explore videos, case studies, and testimonials showcasing how IntelliPac transforms operations.

OPTIMIZATION.

EFFICIENCY.

INNOVATION.

ASTEC PARTS

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