

TROXLER[®] MMS

Moisture Measurement System

REAL TIME moisture content of aggregate
for asphalt plants.



Outline

- Current Issues
- Explanation of MMS and
- What it measures
- MMS locations
- Benefits
- User's experience and results

Current Issues

- Fluctuations in moisture unknown throughout the day
- QC tech does not always get moistures (correctly)
- Available sensors break and wear easily
- QA disputes are hard to show data for
- Loader operator errors
- Rain delays

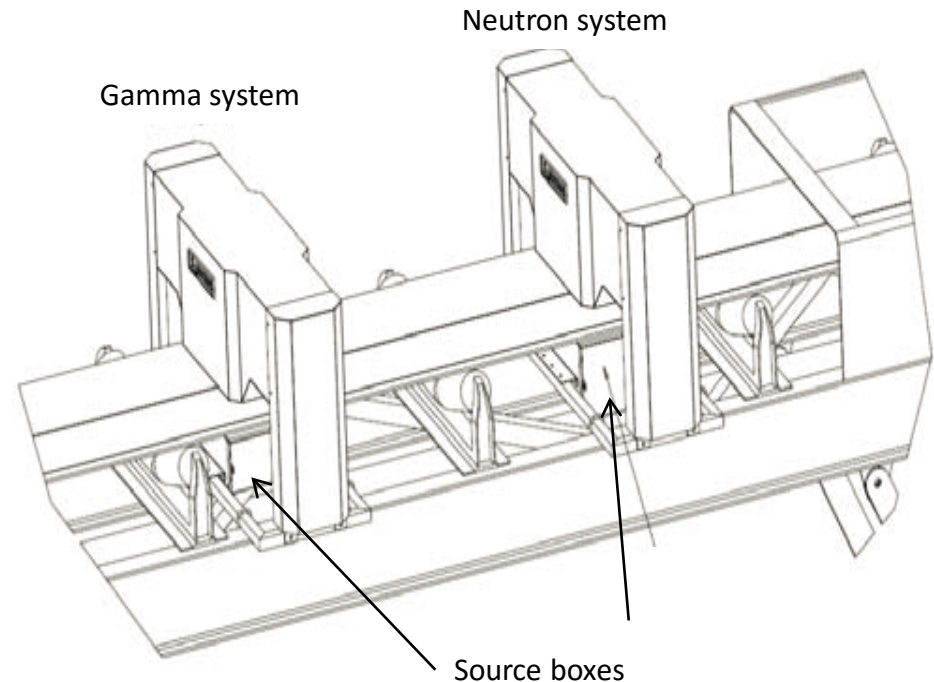
Moisture Measurement System - MMS

- Uses proven nuclear moisture and density measurement technology
- Measures any virgin aggregate with minimum 2" thickness
- Consistent, real-time numbers displayed in the control room
- Integration into control system for full automation with almost all systems on the market



MMS and what it measures

- It measures the moisture in an aggregate mix moving on the **virgin aggregate** conveyor belt
- There is ***no physical contact*** to the aggregate mix or belt
- Unlike microwave probes that require contact with the material in the bin or in the stream of aggregate on the belt, the ***MMS is situated above the belt*** with the sources below the belt.
- Measurements are made ***every second*** but the user can choose different time settings.



MMS – Moisture Measurement System

- The geometry of the system is designed to scan a large volume on the belt
- A plant specific calibration provides accurate moisture content with a less than $\pm 0.5\%$ (by weight) precision for a 5.0 second measurement.



Current MMS Locations



- New Jersey
- North Carolina
- Pennsylvania
- Utah
- Wisconsin
- Texas





Knowing the moisture of aggregates in asphalt is very important because it leads to:

- Improve product quality – pavement performance more like mix design
- Better control of binder – less variability due to water weight
- More efficient heating (burner control) leading to reduction in fuel used and greenhouse gases emitted
- Fewer stockpile measurements- QC techs can focus on lab work
- On rainy days - shorter down time and better moisture control

***REAL TIME moisture content
of aggregates for asphalt plants***

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