Binder testing for quality: Beyond PG specifications

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Background
1. Current PG specs and gaps
2. Catalog of properties beyond PG
3. Next steps...

Background – Performance Grading System

Implicit assumption / Theory:
Binder meets PG specs → Binder "performs" well

Practice:
Binders with the same PG specs can be vastly different

Background
1. Current PG specs and gaps
2. Catalog of properties beyond PG
3. Next steps...

TxDOT Binder Properties Catalog
**TdDOT Binder Properties Catalog**

- PG grading of binders +
- 1. XRF (metal content)
- 2. MSCR Continuous Grade (rutting and temperature sensitivity)
- 3. Spot test (chemical stability)
- 4. ΔTc (compositional difference from traditional binders)
- 5. Percent change with aging (age sensitivity)
- 6. Strength at intermediate temperature (strength)
- 7. Strength at low temperature (strength)

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**TdDOT Binder Properties Catalog – 1. XRF**

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**TdDOT Binder Properties Catalog – 2. MSCR cont. grade**

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**TdDOT Binder Properties Catalog – 3. Spot test**

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**TdDOT Binder Properties Catalog – 4. ΔTc**

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**TdDOT Binder Properties Catalog – 5. Aging Sensitivity**

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Ongoing work – 1 of 2: Binder catalog

- A subset of tests continued on additional binder samples
- Binder samples are being sampled from field mixes and tied to field performance and mixture performance
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Also Cannon Instrument for BBR-Pro

Questions?