I-FIT Testing
A Contractor’s Point of View

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University of Illinois Bituminous Paving Conference

Background

• Why did ORP decide to invest time and money into I-FIT at this point?

  – Background in pavement materials research (U of I / HRG)
  – Already performing Hamburg Wheel testing
    • Purchased in Spring 2012
    • Tested all mixes for 2013 season (Design & Production)
    • Learned a lot about sample preparation
  – Location
Hamburg Wheel

Hamburg Wheel – Specimen Testing
I-FIT

• Purchased Testing Equipment in Fall of 2015
  – Received Equipment the day after the 2015 Bituminous Paving Conference
  – Planned on Testing Split Samples from 2015
    • QCP / PFP Plate Samples
  – Low Bidder on an I-FIT “Pilot Project” for 2016
    • Became an incentive to “turn it on” - 😊

I-FIT

• Initial Struggles in a QC Lab
  – Space – We are already maxed out
  – Saws – Precision / Messy / Must not Freeze
  – Cutting Jigs
  – Saw Blades
  – Time
  – Temperature Control
Space / Saws

Space / Saws
Space / Saws

I-FIT – Half Cut
I-FIT – Notch Cut

I-FIT – Saw Blade for Notch
Illinois Flexibility Index (I-FIT)
What do Contractors Want to Know about I-FIT?

- Where do my mixes fall?
- How do I make them better (Higher FI)?
  - Without hurting Hamburg
- Are there simple adjustments that can be made?

What Can We Try?

- We all probably have “gut” feelings of what can effect the I-FIT FI value
- What can we easily change and hope to see an effect?
- Let’s see what different liquids do
  - Original Design – PG 58-28 (Grade Bumped)
  - PG 64-22
  - PG 70-22 (SBS)
  - PG 64-28 (SBS)
  - PG 64-22 with extra AC
  - PG 64-22 with an additive
Hamburg Wheel and Flexibility Index - N50 C

- Fl=10.9
- Fl=16.4
- Fl=15.5
- Fl=14.7
- Fl=8.4
- Fl=13.7

- NGOC with 58-28
- NGOC with 64-22
- NGOC with 70-22
- NGOC with 64-28
- NGOC with 64-22 and Pfix 0.4% AC
- NGOC with 64-22 and 3% Additive
Hamburg Wheel and Flexibility Index - N50 C

- N50C with 58-28
- N50C with 66-22
- N50C with 66-22 and Plus 0.4% AC

FI = 15.5
FI = 13.7
FI = 8.4

Hamburg Wheel and Flexibility Index - N50 C

- N50C with 64-22
- N50C with 66-22 and 3% Additive

FI = 14.7
FI = 8.4
What Do We Need to Consider?

- Can we make this work in a QC Lab?
  - Maybe?
- Where do our mixes stand now?
  - Start testing them (IDOT / Consultants)
- Can we make an adjustment?
  - Possibly
  - Need to see how other variables effect FI (NMAS)
- Can we get away from Method Specs?
  - Possibly
  - Moving in the right direction
Final Questions or Comments?

Thank You!