4 mm Update

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Task Force Activities

1. Sample preparation – new procedures are needed to ensure adhesion between plates and binder

2. Machine compliance correction – fixture-specific machine compliance is needed for low-temperature testing

3. Ancillary activity – verification of time required for specimen thermal equilibrium
   ✓ Incorporated in forthcoming update of DSR test method

Working drafts received limited circulation now ready for general distribution to ETG and beyond
Two protocols appear to give similar results
- Draft protocol is available for general distribution

Equilibrium occurs rapidly – within few minutes
- Time to equilibrium is not an issue

Physical hardening is binder dependent as expected
- Can be significant/Binder dependent
- Test protocol needs to account for physical hardening
- If unaccounted for test variability may be unacceptable

Depending on purpose of testing, physical hardening may be an issue.
Issues Remaining

- Specifying linear region
  - Broader than first expected
- Testing sequence
  - Increasing or decreasing temperature steps
  - Increasing or decreasing frequency
- Consideration of physical hardening
  - Test sequence?
  - Data correction by extrapolation to zero time?
- Ruggedness testing
- Training and subsequent Round robin testing
  - Need supplier and user labs with proper training before RR!
- Algorithms for specification use
Conclusion…………

- All test data for main experiment is complete
  - Data mining essentially complete
  - Need to document work in comprehensive final report
- Original goals of task force on 4mm are essentially complete
  - Have protocol that can be used by researchers and that can form basis of ruggedness and round robin testing
  - Consensus is that while useful tool that should be promoted replacement for BBR as specification tool is doubtful
  - Need funding to continue work
- Focus on 8 mm repeatability
  - Also charge of group