

North Central Superpave Center

Work on Pavement Friction



Several Friction Projects

- *Identification of Laboratory Technique to Optimize Superpave HMA Surface Friction Characteristics*
- *Investigating the Feasibility of Integrating Pavement Friction and Texture Depth Data in Modeling for INDOT PMS*
- *Evaluation of Recycled Asphalt Pavement for Surface Mixtures*
- *Maximizing the Use of Local Materials in HMA Surfaces*

Goals for Lab Method

- Test friction and texture and accelerate polishing
- Test asphalt mixtures, not aggregates only, to capture macrotexture effects in various mixes
- Ideal to be able to test in lab and field
- Led to identification of Dynamic Friction Tester and Circular Track Meter
- Needed a polisher to match
- Idea from NCAT, refined by NCSC

Dynamic Friction Tester (E1911)



Circular Texture Meter (E2157)



Slab Polisher



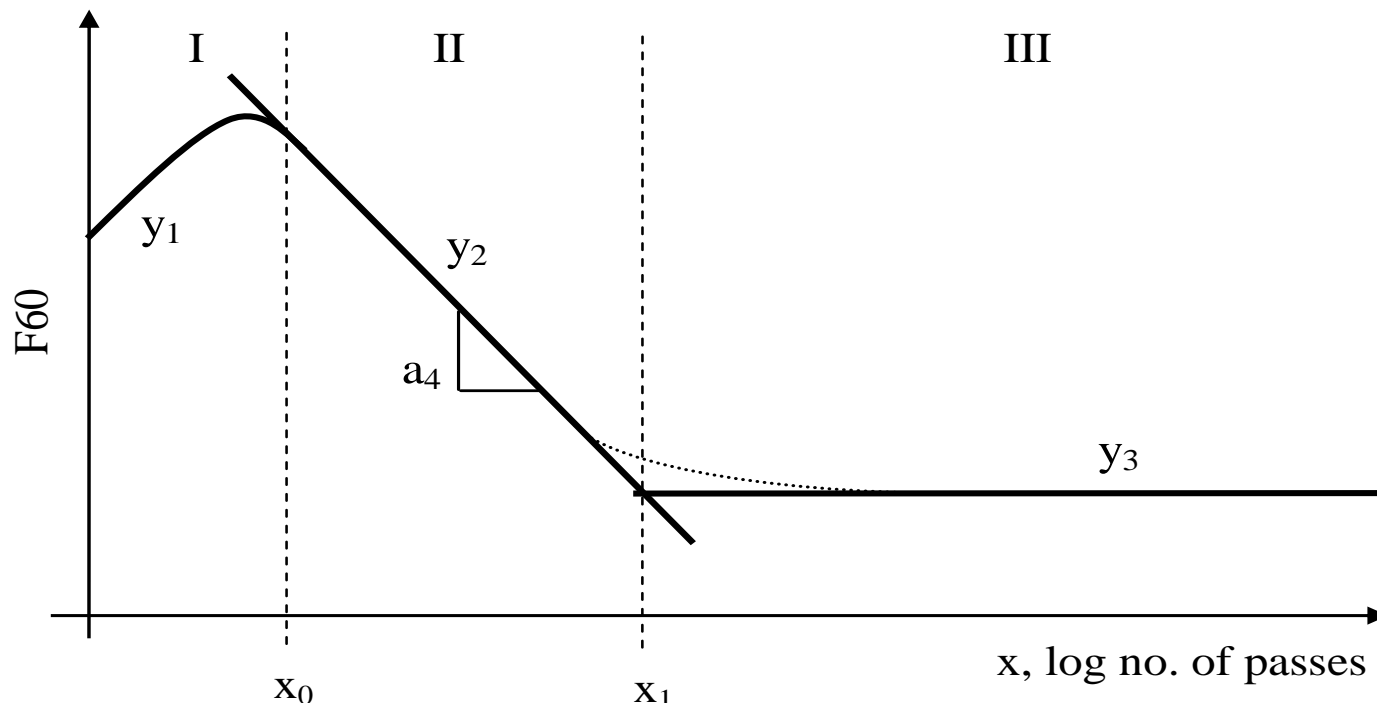
Added Recirculating Bath



Polishing Model

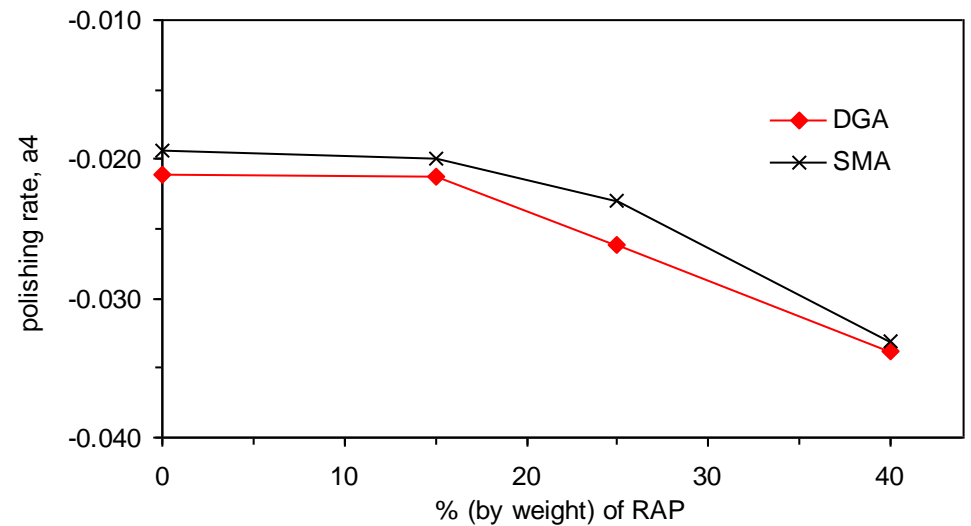
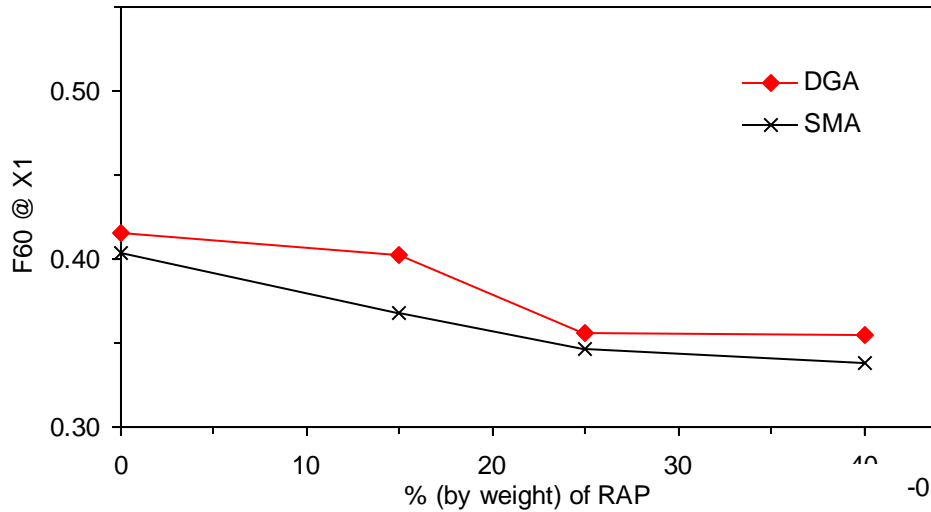
Initial Pavement Life Zone Decreasing Friction Zone

Friction Stabilization Zone



Calculate F60 (IFI Value) per E1960. See AAPT 2009, Kowalski et al.

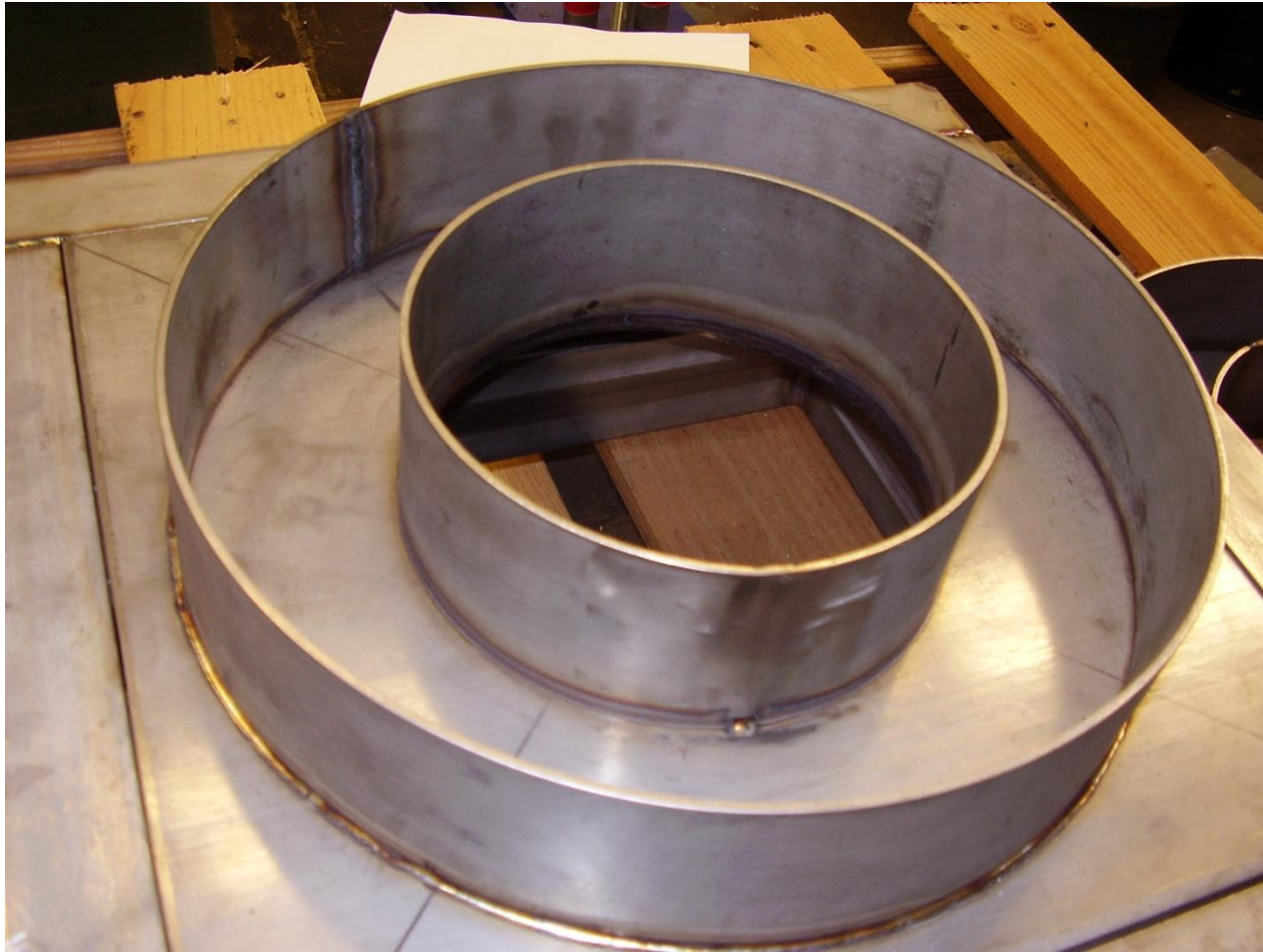
Use of the Model



Maryland State Highway Administration

- Learned of NCSC work
- Wanted to use the technique to test aggregates only, not mix.
- NCSC built polisher for them.
- Molds to hold aggregates only.
- They (MSHA) are working on refining mold and techniques.

Original Aggregate Mold Design



Aggregate Placed in Mold

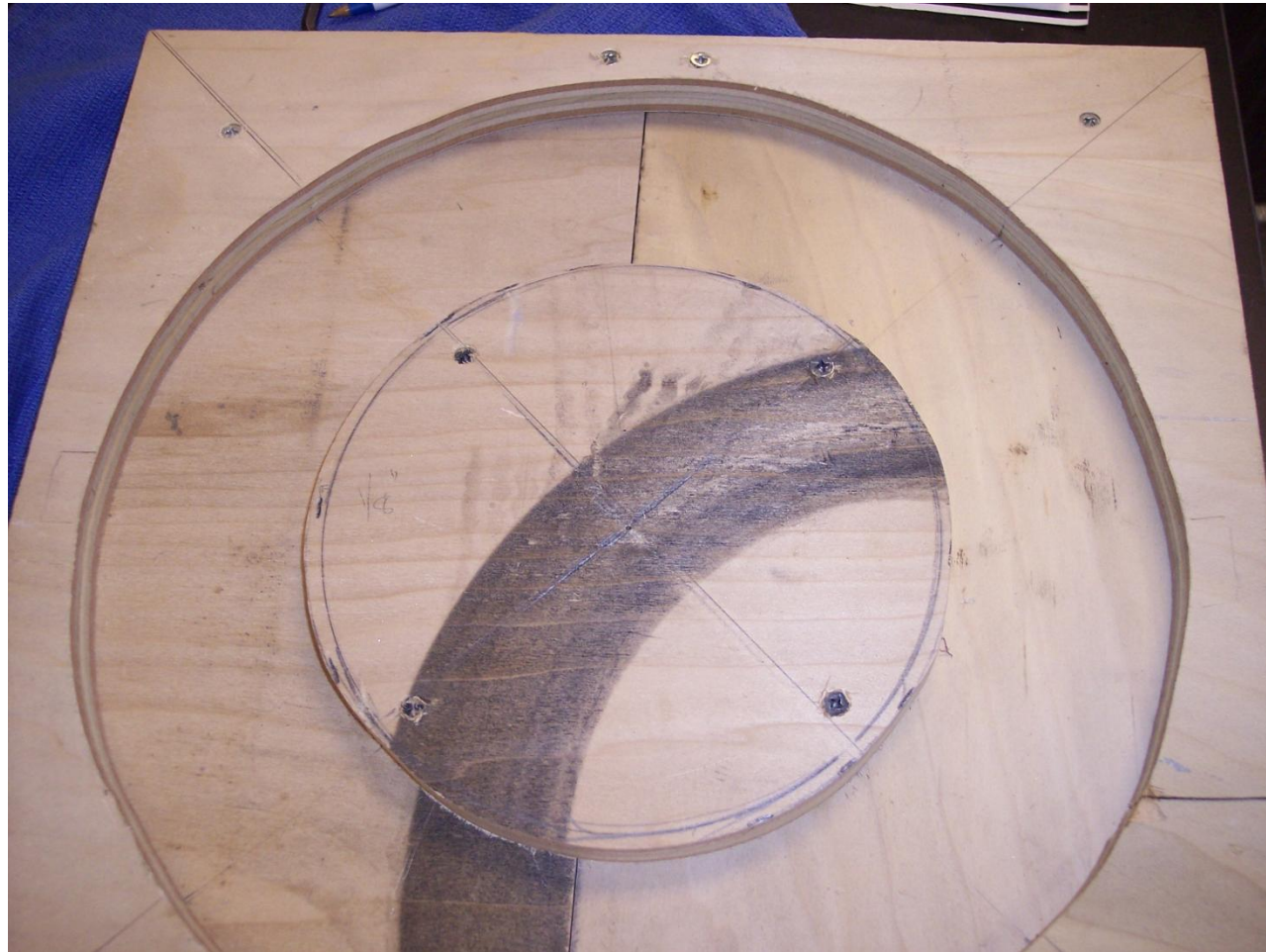


Trying manual placement vs. vibration.

Testing Aggregate Only (MSHA)



MSHA New Mold Design Prototype



Questions?