

State Discussion Topics – 2004

State: North Dakota, NDDOT

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1. Have you adopted the Superpave aggregate consensus properties? **Yes, FAA, Thin and Elongate, and Sand Equivalent** Were any of these specifications more restrictive than your previous specifications? **No** If you did not adopt the Superpave aggregate standards have you made any significant changes to your aggregate specifications in the last 10 years. **NA**
2. Have aggregate producers had to modify practices and equipment to meet the new specifications? **No** As an example: have you seen changes in crushing equipment, equipment to remove fine dust, and the number of stockpiles and cold feed bins used? **No**
3. Do you have aggregate sources that were being used before the changes that no longer meet your specifications? **No** Do aggregates or filler have to be hauled to some locations, in order to meet Superpave requirements, where local sources were being used before Superpave? **No**
4. Do you require QC or QA testing of aggregates during aggregate production or only during the mixing process? **Yes, during aggregate production and mix production.** Do you require the contractor to perform QC testing at required frequencies? **One test/1000 ton for each stockpile.** Which properties must be checked? **Specific Gravities, Gradation, FAA, Shale, Flat and Elongated, CAA, and Sand Equivalent.**
5. For aggregate properties, excluding gradation, do you test or require testing at a specified frequency during production or do you only verify aggregate properties at the time of the mix design? **Yes, during Hot Mix Production.** For which properties and at what frequencies are the tests performed? **Shale, Fractured Faces, FAA, Flat and Elongated, and Sand Equivalent @ 3 tests/10,000 tons.**
6. Please list the test specified and the limits for each of the properties shown below for an aggregate you would use for surface course on a high volume rural interstate. **The limits listed below are for the above mentioned type of project:**
 - A. Soundness = **NA**

- B. Durability = **L.A. Abrasion = 40% maximum**
 - C. Course Aggregate Fracture = **75% minimum.**
 - D. Fine Aggregate Fracture = **45 minimum**
 - E. Cleanliness (sand equivalent, PI, or other) **Sand Equivalent = 40% minimum**
 - F. Flat and Elongated = **10% maximum**
 - G. Polish Resistance
7. Has your state done any research with Micro Deval? **No** Is Micro Deval testing performed on the coarse aggregate, fine aggregate, or a combined sample? **No** Do you have any plans to replace your present specifications for aggregate soundness or durability with Micro Deval? **No**
8. Is your state using any wheel tracking devices (Hamburg, APA, or Other) to test HMA? **No** Do you use the devices to evaluate rutting, moisture damage, or fatigue? What are your testing parameters (number of cycles, temperature, rut depth, and such)? Do you have specification for HMA and if so please list? Does the state perform the testing or is the contractor required to perform the testing? **We are currently in the process of doing research with the University of North Dakota using an APA.**