Specification Year: January 2015
AASHTO T 40
Sampling

• Sampling procedures are designed so that representative samples are obtained
• Important for:
  • Consistent test results
  • Results which represent most of the material

This module describes AASHTO T 40, Sampling Procedure for Liquid Binders. This is not an acceptance test but is used as a check to ensure that the binder properties meet the specifications. Proper sampling is discussed in this module, as well as safety dealing with hot liquids.
The asphalt binder properties need to be tested to ensure compliance. In order to ensure accuracy, new, clean sample cans with tight fitting lids must be used. A one quart can of liquid asphalt is required for FDOT testing. The contractor may take an additional can (sample) for reference.

If emulsion samples are taken, a one-gallon sample is required. One-gallon plastic containers include lids and liners. They come in a case of four. Make sure the liners are included. It also helps to wrap electric tape around the lid for an even better seal.
The sample cans should be properly marked with the type of binder, source, date sampled, and contract number. Mark the side of the can, not the lid. Once the lid is off the can, it is no longer valid for identifying the sample.
At the start of the project, samples are taken and sent to the State Materials Office for compliance testing. Each binder grade should be sampled. Reference Specification 916.
Safety is a real key here. As the valve opens, there typically is a plug of cold asphalt binder in the line at the open end of the discharge. As the heat of the asphalt warms the plug, eventually it will come out. Do not try and stick something in there to pry it loose. Hot asphalt burns are permanent and must be treated properly.

Sample by bleeder valve or tap in transfer line or at back of truck. During unloading, center 1/3 of load.

**Safety equipment is a must.**
As the line starts to flow, draw off at least a gallon of binder before sampling. This allows the line to be free of obstructions or debris and allows a representative sample to be taken.

Draw and discard at least a gallon of binder to clear line.
Immediately take at least a quart sample.

Then using the clean sample can(s), take the test sample. Note: As the can fills up, it also heats up quickly transferring heat to the gloved hand. Make sure you wear insulated gloves or use a can holder and hang on tight. Also, make sure there is a flat place underneath/nearby to place the filled can. The last thing you want to be doing is looking for a place to set it down as it is burning your hand.

Immediately take at least a quart sample.
Once the samples are taken, cover them immediately. This keeps dust from entering the can and protects the sample.

Take care not to contaminate containers. Fill, cover, and then seal. Do not immerse in solvent.
AASHTO T 40
Protection and Preservation

• Store emulsions so they are protected from freezing
• Avoid transferring from one container to another
• Retain samples not tested (point of delivery)
• Take precautions to avoid contamination during sampling, handling, shipping, and storage

Review general notes from AASHTO T 40 regarding protection and preservation. A significant amount of time and effort goes into testing asphalt binders and we want to make sure we have a representative sample. If there is a question about whether the sample was not taken properly, discard the sample and start over with a clean can.
It is also possible to sample from the feed lines at the plant. Again, all the same principles discussed earlier apply here. Asphalt plants can have multiple tanks and the lines can be confusing. Consult the plant operator to make sure you sample from the correct tank.

When sampling at a plant the same sampling directions apply.
QUESTIONS?