



INDIANA DEPARTMENT OF TRANSPORTATION Division of Materials and Tests

Directive 302

Asphalt Materials

Asphalt materials will be categorized into paving grade asphalts and non-paving grade asphalts. Paving grade asphalts are performance graded asphalt binders used in HMA mixtures. Nonpaving grade asphalts are asphalt emulsions, utility asphalts, and asphalts for coating corrugated metal pipe. The sampling, sample frequency, testing, acceptance, and appeal procedures for asphalt materials will be as follows:

PAVING GRADE ASPHALTS

Sampling

Samples shall be obtained from the asphalt delivery system during production at the HMA plant in accordance with AASHTO R 66 and the exceptions listed in 902.02(a). Samples shall be taken by the Contractor's Level 1 Asphalt Technician or Qualified Technician, and witnessed by a Department representative. Two 1 qt (1.0 L) samples shall be obtained (original and back-up). The containers for the samples shall be metal cans with air-tight covers that are supplied by the HMA production facility and the cans will be labeled as follows:

Sample Date:
HMA Plant No.:
PG Supplier No.:
PG Grade:
PG Tank No.:
SiteManager ID No.:

Sampling Frequency

All asphalt binders will each be sampled during HMA mixture production at a frequency of twice each year for each HMA plant.

PG binder samples being used in sealing or crack filling operations will be taken from each source supplying material to a Department contract. One sample will be obtained from the source each year that the source is supplying material. Samples will not be taken at any other time unless necessary to resolve a specific problem.

Sample Submittal

The Department representative will enter necessary sample information into SiteManager and will ensure delivery of the PG binder samples, including back-ups, to Materials and Tests (M&T). M&T will receive and store the back-ups.

Testing

All asphalt binders will have verification complete testing conducted for comparison against the type A certifications provided by the asphalt binder supplier. The type A certifications are on

file at the HMA plant laboratory and a copy of the most recent results should accompany the samples to the appropriate location for testing.

Complete testing will consist of Dynamic Shear Rheometric (DSR) testing of the Rolling Thin Film Oven (RTFO) Residue and Bending Beam Rheometric (BBR) testing of the Pressure Aging Vessel (PAV) Residue. Elastic Response will also be analyzed for binders required to be in accordance with AASHTO M332.

Rotational viscosity and flash point testing will not be required for complete testing.

Acceptance Criteria

If the test results from the verification complete testing for asphalt binders are in accordance with the Specifications, the type A certifications provided by the asphalt binder supplier will be considered to be acceptable.

If the test results from a verification complete test for asphalt binder are not in accordance with the Specifications, the back-up sample will immediately be ran to confirm the results. If the back-up sample test results are in accordance with the specifications, the type A certifications will be considered acceptable.

If the test results from a verification complete test for asphalt binder are not in accordance with the Specifications and confirmed with the back-up sample, the original results will be reported to the District Testing Engineer (DTE). The DTE will obtain a copy of the type A certification and prepare a Failed Material Report (TD 305). All failed material samples should be retained until final adjudication is made.

The Asphalt Engineer will review the Supplier's PGABS Program Quality Control Plan and the DTE will review the Certified HMA Producers Quality Control Plan for compliance with these Programs if there are failing complete test results.

NON-PAVING GRADE ASPHALTS

Asphalt emulsions will be accepted by Type C Certification. Utility asphalts, and asphalts for coating corrugated metal pipe will be accepted by a Type A Certification in accordance with 902.01 at the point of use. The Type A Certification shall consist of a certified copy of a laboratory report which lists results of the specified tests and shall certify that the materials furnished comply with the specifications. The specified tests required for non-paving grade asphalts are included in the following sections:

Asphalt Emulsions -- 902.01(b)

Utility Asphalts -- 902.01(d)

Asphalt for Coating Corrugated Metal Pipe -- 902.01(e)

Samples will be tested by the Department to verify compliance with the Specification requirements.

Sampling

Samples shall be taken from the sampling valve in the source storage tank in accordance with AASHTO R 66 and the exceptions listed in 902.02(a). Samples shall be obtained by a representative of the source and witnessed by a Department representative. Samples for all grades of asphalt emulsions shall be a minimum of 1/2 gal. (1.9 L). The size of samples of other asphalt materials shall be 1 qt (1.0 L). Plastic or glass containers will be required for all emulsion samples. Metal cans will be required for cutback asphalts, utility asphalts, and asphalts used for coating corrugated metal pipe.

Sample Frequency

Samples will be taken from each source supplying material to a Department contract. One sample will be obtained from the source each year that the source is supplying material. Samples will not be taken at any other time unless necessary to resolve a specific problem.

Sample Submittal

Samples will be submitted for testing as soon as possible. **M&T** will test all non-paving grade asphalt samples.

Emulsion samples will be kept above 50°F (10°C). The Department representative will enter the sample information into SiteManager.

Testing

Asphalt emulsions, utility asphalts, and asphalts for coating corrugated metal pipe will require that all of the tests listed in the Specifications be conducted for each sample. All samples will be tested as quickly as possible. Tests will not be conducted on asphalt emulsions more than 14 days after sampling unless specifically requested.

Failed Materials

Failing test results will be immediately reported to the source. The dates, locations, and quantities for all shipments of the failed material will be obtained from the source for the day of sampling. Additional samples of the material in question may be obtained from the delivery locations or the source if necessary to determine the extent of the failure.