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Standard Practice for Recovering Residue from Emulsified Asphalt Using Low Temperature Evaporative Technique[1]

This standard is issued under the fixed designation D7497; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This practice covers a method for recovering the residue from emulsified asphalts such as those specified in Specifications D977 and D2397 using a low temperature evaporative technique that is similar to pavement conditions. The recovered residue can be used for further testing as required.

1.2 The values stated in SI units are to be regarded as the standard. The values given in parentheses are for information only.

1.3 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 *ASTM Standards:*[2]
D977 Specification for Emulsified Asphalt
D2397 Specification for Cationic Emulsified Asphalt
D6934 Test Method for Residue by Evaporation of Emulsified Asphalt
D6997 Test Method for Distillation of Emulsified Asphalt
2.2 *Other Standard:*
NF EN 13074 Recovery of Binder from Bitumen Emulsions by Evaporation[3]

3. Significance and Use

3.1 The procedure described in this practice is used to obtain a residue from an emulsified asphalt that may be used for further testing in devices such as a dynamic shear rheometer. The lower evaporative temperatures of this procedure provide conditions that are very close to that of application techniques for these materials. This practice could be used in place of recovery techniques such as those of Test Methods D6934 and D6997, when the temperatures used in those standards would negatively affect the residue.

4. Reagents and Materials

4.1 *Silicone Mat*—The mat used can be similar to that specified in NF EN 13074 or any mat that will allow an emulsified asphalt spread rate of ~~1.5–2.0~~ 1.5 to 2.0 kg/m^2. The mat may have a lip to contain the emulsified asphalt to the appropriate area.

NOTE 1—A silicone mat can be purchased at various restaurant supply stores and a good size for this application is a half-sheet pan size to fit in most laboratory ovens.

4.2 *Spatula*—Palette knife or other suitable material for spreading the emulsified asphalt.

4.3 *Forced Draft Oven*—Capable of maintaining a temperature of ~~25°C~~25 ± ~~2°C~~2°C and ~~60°C~~60 ± ~~2°C.~~2°C. The racks should be able to be spaced a minimum of 10 cm from the top and bottom of the oven and with a spacing of a minimum of 4 cm between racks with samples. The oven racks must be checked for level, with a bubble level of 250 mm minimum length, from side to side and front to back of the oven.

[1] This practice is under the jurisdiction of ASTM Committee D04 on Road and Paving Materials and is the direct responsibility of Subcommittee D04.42 on Emulsified Asphalt Test.

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[2] For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

[3] Available from AFNOR (French Standard Institute), 11, rue Francis de Pressensé 93571 La Plaine Saint-Denis Cedex, France, http://www.afnor.org.