

Overview of Emulsion TFASH Harmonization:

Rational:

- Changes made are highlighted in blue
- Outstanding inconsistencies are highlighted in pink

Rotational Paddle Viscosity Changes (AASHTO only):

AASHTO was using an older conversion factor for setting the rotational paddle viscosity limits based off the existing Saybolt Furol limits. ASTM implemented 2.2 times higher for the rotational paddle viscosity based on research studies and comparison of values received from the AASHTO re:source proficiency sample program. The following AASHTO emulsion grades were updated to harmonize with ASTM limits:

- RS Emulsions (RS-1h, RS-1, RS-1s, RS-2h, RS-2, RS-2s, and HFRS-2)
- MS Emulsions (MS-1, MS-2, MS-2h, HFMS-1, HFMS-2, HFMS-2h, and HFMS-2s)
- SS Emulsions (SS-1h and SS-1)
- CRS Emulsions (CRS-1h, CRS-1, CRS-1s, CRS-2h, CRS-2, and CRS-2s)
- CQS Emulsions (CQS-1h and CQS-1)
- CMS Emulsions (CMS-2h and CMS-2)
- CSS Emulsions (CSS-1h and CSS-1)

Penetration of Emulsion Residue Changes (ASTM only):

ASTM had multiple grades where there was a gap in the penetration ranges between the different hardness levels of similar emulsions (same setting time and viscosity designations). AASHTO did not have the dead zones and the ASTM limits were adjusted according to AASHTO limits. The following ASTM emulsion grades were updated to harmonize with AASHTO limits:

- RS Emulsions (RS-1 and RS-2)
- MS Emulsions (MS-1, MS-2, HFMS-1, and HFMS-2)
- SS Emulsions (SS-1)
- Cationic Emulsions (CRS-1, CRS-2, CMS-2, and CSS-1)

There are still outstanding inconsistencies between different emulsion grades for the upper penetration limit. Those limits don't have a clear direction for harmonization and will not be addressed in this stage.

Residue by Distillation (AASHTO and ASTM):

There were a few emulsion grades where the minimum percent residue limit was inconsistent between AASHTO and ASTM or inconsistent between similar emulsion grades. The following emulsion grades were updated:

- ASTM Emulsions (RS-2 and HFRS-2)
- AASHTO Emulsions (CQS-1h and CQS-1)

Demulsibility (ASTM only):

There was one emulsion grade (HFRS-2) where there was an inconsistency in the limits. The ASTM grade was updated to harmonize with the existing limit in the AASHTO specifications.