2026 Best Practice for ASTM F1805-20:

This is only considered best practice since it must conform to F1805-20. The best practice has restored reproducibility of F1805 to historic levels and had been improved based on studies from 2023 -2025.

Specify Range of Relative Performance vs New 16" SRTT

Definitions:

witness SRTT, n - a witness F2493 SRTT is considered "new" when less than 25 spins have been performed in each direction on the SRTT. All witness F2493 SRTTs should have a DOT date code of 3225 or 3325 or 3425. The tire wheel assembly shall only be installed and used at the test site to prevent the tread surface being altered from the condition when it was manufactured.

primary SRTT, *n* - a single F2493 SRTT tire used as a reference to generate candidate tire ratings.

Procedure:

1. Pre-conditioning of the primary SRTT prior to rating candidate tires: Pre-conditioning must include 50 spins in the rotational direction of use while on medium compaction snow. Additional pre-conditioning is likely necessary to ensure the SRTT snow grip level is 1.000 or below. Pre-conditioning may include on-the-road conditioning of up to 322 km (200 miles) or additional spins on the snow.
2. Initial Validation - primary SRTT performance is below the upper thresholds:
    a. $Adj.Coefficient\ (witness\ SRTTx) = Coefficient\ (witness\ SRTTx) * F$
        i. For witness SRTT first test run (includes spin 5) in either direction F=1.0
        ii. For witness SRTT second test run (includes spin 20) in either direction F=0.98
    b. Test Tire Matrix (either option below is acceptable):
        i. Primary SRTT – witness SRTTa – Candidate tire (optional) - Primary SRTT
            1. $Relative\ Performance\ Rating\ 1\ witness = \frac{Coefficient\ (primary\ SRTT\ Avg.)}{Adj.\ Coefficient\ (witness\ SRTTa)}$
        ii. Primary SRTT – witness SRTTa – witness SRTTb - Primary SRTT
            1. $Relative\ Performance\ Rating\ 2\ witnesses = \frac{Coefficient\ (primary\ SRTT\ Avg.)}{((Adj.\ Coefficient\ (witness\ SRTTa)+Adj.\ Coefficient\ (witness\ SRTTb))/2)}$
    c. If using 2 different witness SRTTs for relative performance ratings, then the ratings must be equal or below 1.000 before using the primary SRTT for candidate tire ratings
        i. Alternatively, two values of "Relative Performance Rating 1 witness" can be averaged together if different witness SRTTs were used for the two ratings
    d. If using 1 witness SRTT for relative performance ratings, then the relative performance must be below 0.980 before using the primary SRTT for candidate tire ratings
    e. Once the primary SRTT is validated as below the upper threshold, the SRTT can be used for rating candidate tires until it is below the lower threshold (even if the relative performance is measured to be above 1.000 during the 200 spin interval witness checks)
3. Periodic Validation - primary SRTT performance is above the lower threshold:
    a. Test Tire Matrix: Primary SRTT – witness SRTT – Candidate tire (optional) - Primary SRTT
    b. $Relative\ Performance\ Rating = \frac{Coefficient\ (primary\ SRTT\ Avg.)}{Adj.\ Coefficient\ (witness\ SRTT)}$
    c. The relative performance of the primary SRTT must be checked once per day and every 200 spins unless any of the following situations exist: The frequency may be extended to 250 spins to avoid interrupting a test matrix; The frequency may be extended to once per day and every 300 spins if the relative performance of the primary SRTT is greater than 0.95 on the previous check.

d. The primary SRTT should no longer be used for rating candidate tires once the relative performance is measured to be less than 0.936. Results prior to the measurement below 0.936 are acceptable even if the primary SRTT performance was potentially less than 0.936 for some tests within the spin interval.

4. Daily Surface Rating Monitor using 17" winter SRTT (ASTM F3675)
   a. When testing on medium pack snow, ratings from the ASTM F3675 tire vs a 16" primary SRTT are recommended to monitor that the test method produces consistent results relative to historical values on each test day.
   b. Test Tire Matrix:
      Primary SRTT – witness SRTT – ASTM F3675 - Primary SRTT
   ~~d.~~c. The ASTM F3675 should be less than 2 years old based on the week/year manufacture date molded into the tire sidewall.
   ~~e.~~d. The tire wheel assembly should only be installed and used at the test site to prevent the tread surface being altered from the condition when it was manufactured.
   ~~f.~~e. The ASTM F3675 should be replaced before reaching 2,600 spins.

Data Reporting

- The relative performances of the primary SRTT vs witness SRTT should be reported for each test
- F3675 rating vs. a 16" primary SRTT from the same day and surface a candidate tire was tested
- Spin count of candidate tire, 17" SRTT and 16" SRTT at the time of test
- Break-in procedure for SRTT and each candidate tire (if known); ie. Check box Y/N/Unknown, OR more details: spins, distance/surface