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SURFACE SYSTEMS & INSTRUMENTS, INC. smoothroad.com

Custom Test Equipment • Mobile Technology Solutions • Inertial Profilers • ADA Compliance • FF/FL Testing

How To Prepare for Inertial Profiler Certification

Most profiling systems can be certified or have certified operators from the manufacturer. However, for inertial profilers the DOT or highway agency will conduct certifications. Verify with your project or local specifications to determine your criteria. All of the SSI systems are guaranteed to comply with DOT or agency standards.

Typical test methods are:

- Local specifications
- AASHTO r56
- AASHTO r57
- AASHTO m328
- ASTM e950
- TxDOT 1001-S

An inertial profiler certification may include a repeatability and accuracy correlation. At the least there will be a repeatability or comparison of ride values. Repeatability is comparing the inertial profiler runs against each other while accuracy compares all of the inertial profiler runs to a reference device. A reference device is usually a walking inclinometer based system like the ICC SurPro or the SSI CS8800 Walking Profiler. These calculations are completed within the FHWA ProVAL program Profiler Certification Module (PCM). The ProVAL program can be downloaded at roadprofile.com

The inertial profiler operator test may include questions from the local specification and the test methods listed above. Operators should be familiar with:

1. Laser height verification and tolerances,
2. Bounce test and tolerance,
3. Distance calibration with Electric Eye (EE),
4. Data collection with Electric Eye (EE),
5. Exporting data to PPF,
6. Importing PPFs into ProVAL,
7. Comparing runs for repeatability in ProVAL PCM module.

SSI can train new or current operators to prepare for any certification. Contact us at info@smoothroad.com for more information.

Much of the certification procedure is the practical test. The practical verifies the ability of the operator to drive in a straight line that is over the reference lines. In fact, most certification failures are related to this reason. Make sure you have enough run-up length to accelerate to speed and get a reference point on the road ahead. Operators frequently use a laser guide that SSI can supply to your system or the operator moves the side mirror down to view the reference lines passing below the laser.

It is recommended that the operator check the repeatability of all collection runs in ProVal before submitting to the agency. This will help confirm whether your repeatability is compliant. A good repeatability is going to be 96% and above. Although you only need 92% repeatability to be compliant with AASHTO r56.

The accuracy will be determined by the agency's reference profiler. Many times operator are 99% repeatable, but fail the accuracy requirement of at least 90%. This is usually because the lasers were not collecting data over the reference lines. Ask SSI for a laser tracker if this persists.