

Compaction Procedure Checklist

Below is a checklist describing the steps for compacting a prepared hot mix asphalt (HMA) mixture.

Note that some specifications described in the following content may not be the same as the specifications followed by your agency. Always check with your State agency's standards and specifications when using these guidelines.

Sections

- Step 1
- Step 2
- Step 3
- Step 4

Step 1

- The first step for the compaction procedure begins when the compaction temperature of the mixture is achieved
- Once it's been achieved, remove the heated mold, base plate, and upper plate (if required) from the oven

Step 2

- Place the base plate and a paper disk in the bottom of the mold
- Place the mixture into the mold in one lift
- Care should be taken to avoid segregation in the mold
- After all the mix is in the mold, level the mix, and place another paper disk and upper plate (if required) on top of the leveled material

- The entire mold will be hot
- Be sure you are wearing the proper personal protection equipment (long gloves, long sleeves)

Step 3

- Load the charged mold into the compactor and center the loading ram
- Apply a pressure of 600 ± 18 kPa on the specimen
- Apply a 20.2 ± 0.35 mrad (1.16 ± 0.02 degrees) average internal angle to the mold assembly, and begin the gyratory compaction
- Make sure the compactor gyrates the specimen molds at a rate of 30.0 ± 0.5 gyrations per minute throughout compaction
- Allow the compaction to proceed until the desired number of gyrations specified in AASHTO R 35 is reached and the gyratory mechanism shuts off

Step 4

- Remove the angle from the mold assembly, remove the ram pressure, and retract the loading ram in the order specified by the Superpave Gyratory Compactor (SGC) manufacturer (the preceding steps are almost always performed automatically by the compactor on some models of SGCs)
- Remove the mold from the compactor (if required) and extrude the specimen from the mold
- Remove the paper disks from the top and bottom of the specimens
- Before reusing the mold, place it in an oven for at least 5 minutes
- The use of multiple molds will speed up the compaction process