

Rollers

Vibratory

- Range from 1 to 14 tons.
- 1 to 5 ton rollers are considered small and 7 to 14 ton rollers are considered full size.
- Most paving jobs will require one small roller and two full size rollers.
- Capable of running in both static and dynamic (vibratory) mode.
- Have variable frequency and amplitude settings to control the vibration.



Oscillation

- Range in size from 7 to 15 tons.
- Most oscillating rollers are capable of static, vibratory, and oscillatory mode.
- Usually one drum is set up for oscillation and the other for vibration.
- Manufacturer recommends that both settings shall not be used at the same time.
- Widely used in Connecticut and required for most structures unless specifically excluded by bridge design.
- Oscillation allows for compactive effort to be exerted at lower temperatures than the vibratory mode is capable of. Oscillation will increase compaction as low as 135° F whereas vibration will cease to increase density at 175°F.



Rubber Tire Rollers (a.k.a. Pneumatic Tire Rollers)

- Not seen regularly in Connecticut.
- Instead of a steel drum, uses a series of rubber tires to provide compaction.
- Must always be kept moving in order to keep the tires hot, otherwise HMA tends to build up on the tires. This adds difficulty when compacting and detracts from the smooth finish.
- Used as the intermediate roller in the rolling pattern. Never as the Breakdown or Finish roller.
- Manipulates HMA to achieve a less permeable finish.
- Required for seating of aggregate of Rubberized Chips Seal.



Pavers

- Can be steel tracked, rubber tire or rubber belt driven
- Come in sizes ranging from 4 feet to 10 feet wide.
- Contains a heated vibrating screed to assist in producing a smooth finish and provide initial compaction.
- Has extendable wings to achieve wider paving.
- Will have cut off plates for smaller widths and extension for bigger widths.
- Automatic slope and grade controls required.



Spray Pavers

- Work like regular pavers but are equipped with spray nozzles that emit emulsion directly in front of the auger and screed attachment.
- This emulsion is wicked into the hot mix.
- Used for ultrathin surface treatment in Connecticut.



Notched Wedge Joint Device

- Required for lifts between 1.5" and 3"
- Secondary compaction is required (such as a wheel, vibratory sled or small plate)



Secondary
Compaction



Material Transfer Vehicle (MTV)

- Required for paving on all surface courses (a single or multiple lifts) in CT.
- Trucks carrying mix dump their load into the front of the machine, and the mix is passed through a mixing auger or paddle system and fed up a conveyor belt where it is dropped into the paver.
- Helps reduce segregation due to the auger remixing the HMA.
- Helps to reduce paver stops by keeping the mix flowing into the paver nearly continuous in a balanced operation.
- Helps eliminate temperature segregation.
- Must have remixing capabilities.



Tack Truck

- Applied by a pressurized spray system resulting overlapping coverage at an application rate of 0.03 to 0.05 gal./s.y. for a non-milled surface and an application rate of 0.05 to 0.07 gal./s.y. for a milled surface.
- Heated and applied at 160 +/- 10 °F
- Must be given sufficient time to break prior to any haul vehicles driving on it.



Proper application
with overlapping
spray



Aggregate Spreader

- Used to spread the aggregate after binder is spread in a chip seal operation.
- Must have be capable of spreading aggregate from 4.5 to 18 feet wide.
- Equipped with electronic radar to monitor ground speed and automatically adjust aggregate application rate based on application width and speed.
- Must have a minimum capacity of 5 ton of stone.

