



## OGFC BEST PRACTICE GUIDELINES HMA QIC Task Group - 2014

### **Paving Preparations**

#### ***Pre-Paving Meeting***

- Have all key field and plant personnel present to discuss the upcoming OGFC project, but be sure to include others including trucking foreman, plant foreman, and members of the placement crew so that a clear communication is known from day one.
- Discuss lane restrictions with the RCE/DCE and see if there are any opportunities to place OGFC during daylight hours to assist with higher ambient temperature, etc. Placement during the day is critical to help with loss in mix temperature, laydown operations, and overall mix quality.
- It is recommended that the RCE have an additional QA Inspector to monitor the paver and the tacking operations (i.e. - break time prior to placing OGFC). It is also recommended that an additional QA Inspector be stationed at the asphalt plant to monitor mix temperatures, truck cleanliness, and use of release agents.

#### ***Milling***

- Ensure that care is taken when micro milling or milling into bridges and away from bridges.
- Ensure that milling is done to proper depth or slightly above the average milling depth for the mainline to provide a good tie into the bridges. Care should be taken not to damage the concrete approach slabs if present. Portable milling machines such as skid steer machines should be used to transversely mill to get a vertical edge at the bridges.
- Allow the road to dry for at least 2 days for the pavement to properly dry and remove fines often not completely removed by the initial sweeping operations

#### ***Trucking Operations***

- Develop a plan to establish constant flow of asphalt to the job site, being extra careful not to use too many trucks. An excessive number of trucks in front of the paver can cause OGFC materials to cool down or begin to drain-down if held for extended amounts of time on site.
- Lack of enough trucks often causes paver stops and provides a less than desirable job through segregation and poor ride quality.
- Discuss with all truck drivers the importance of having clean truck beds along with the importance of good housekeeping practices during construction (i.e., no garbage in the beds of trucks).
- Strapped tarps must be used on all trucks to prevent excessive loss of mix temperature and crusting of the mix.

#### ***Release Agents***

- Department's QA Inspector should inspect trucks and all paving equipment prior to loading OGFC mixtures.
- No diesel fuel or solvents should be used inside of trucks or the paver without being completely washed out prior to load-out. Apply only approved release agents to prevent buildup from occurring. The paver and MTV should be free of pooled or excess cleaning products.
- A sacrificial load of OGFC mix should be run through to preheat equipment and keep any contamination from occurring with the mix that is being used on the project.

## **Plant Operations**

- Run the plant so that the paver will not have to wait on mix to arrive on site. Communicate with the roadway foreman, and stagger trucks during load-out operations to maintain a continuous flow of trucks to the MTV-Paver.
- Run the plant in order to provide consistency in mixing and drying and with the flow of fibers into to the mixture as well as to prevent unnecessary stops in production that could cause swings in mix temperature.
- Do not store OGFC in the silo for periods over one hour to prevent drain-down and excessive buildup inside of the silos.
- Monitor mix temperature on all loads leaving the plant to ensure that mix is within temperature range.

## **Paving Operations**

### ***Tack- Bond Coats***

- Ensure that a uniform bond coat is used with at least 0.10 gal/SY of emulsified tack material.
- Special attention must be given to the distributor drivers to ensure that the material is applied in advance of paving operations to prevent hauling trucks and paving equipment from being on the fresh tack until the material has had enough time to break. This will help prevent excessive pick-up and removal of the tack especially in the wheel paths.
- The key to this operation is proper planning of the tacking operations.

### ***Roadway Mix Temperature***

- Continuously check trucks and record temperatures to ensure mix is within range for OGFC mixtures.

### ***Pavers***

- Additional measures will be permitted such as adding slotted screens inside of the paver to prevent clumps of mix or fibers from being fed into the paver. These clumps can cause excessive laydown problems that are difficult to repair in the finished mat. Check with your quality control staff and discuss ways to maintain uniform mixture to the screed.
- Paver Speed - Set in order for the paver to maintain a constant flow of material without stopping.
- If trucking operations are not optimized for a short period of time, do not allow the paver to stop; instead adjust paver speed to keep the operation moving, and allow the rollers to continue without stops.
- In the event that more than 30 minutes elapses without a fresh load of OGFC mix, create a transverse joint, and remove the paver and MTV from the paving lane and clean out mix to prevent thermal segregation.

### ***Areas of concern when paving OGFC***

- Bridge tie-ins, take offs, ramps, and gore areas require special care.
- Load out trucks only as needed for low production paving such as ramps, gore areas, bridges, etc.
- Adjust trucking operations and add extra field staff to assist in areas where hand work is necessary.
- To prevent excessive pick-up, special attention must be taken to ensure that trucks do not travel on the fresh mat or onto tacked areas until bonding materials have broken.

### ***Compaction***

- OGFC mixes are very susceptible to losing temperature due to thin placement rate, and open void texture. Paving when ambient temperatures are lower (mostly at night) causes the mix to cool rapidly, often within less than 15 minutes. Ensure the rollers remain close the paver to provide compaction while the mixture is still hot. Using extra wide steel static rollers running in tandem generally works well for the first pass of the breakdown roller phase.
- Closely monitor the rollers so there is no visible fracturing the aggregate when the mix is placed at the specified contract placement rate.
- Use technology, if available, on your rollers such as intelligent compaction or similar software to provide the operators with the number of passes and to ensure complete coverage (visually at night).