

Activity 171 Sanding

Description

Activity 171 involves applying abrasives, including cinders, universally accepted by road authorities for sanding operations, either alone or mixed with pre-wetting agents, to roadway surfaces to assist with traction.

General Instructions

Perform sanding to maintain the level of service described in the District's Winter Operations Plan and the *Desired Conditions of Maintenance Features on State Highways*. Also refer to the guidelines discussed below.

Appropriately monitor roadway and weather conditions and apply abrasives, according to the guidelines discussed below.

Refer to Activity 174 for performing winter road patrol.

Refer to Activity 176 for applying anti-icing and deicing products.

Generally, do not perform sanding in areas designated as a Winter Recreation Parking Location (Sno-Park).

As needed, calibrate the sander or other application device to assure proper application rates for abrasives. Also calibrate the application rate for pre-wetting agents that are applied with the abrasives. As appropriate, post information about speed, tachometer reading, and sander adjustment in the sander vehicle as needed to achieve needed application rates.

If pre-wetting agent will be applied to the sanding material in the sander, assure that each operator knows the proper application method and rate or amount of application.

For each pre-wetting agent used, follow instructions included in the General Instructions section preceding Activity 170 in this section of this Guide, including:

- Sample each shipment.
- Post a copy of the MSDS and the bill of lading for each product and shipment.
- Record information about use of each agent, such as in the sanding log.

Assure that all lights on the sander vehicle are operating properly and are not obscured by debris. Operate the vehicle's rotobeam or warning lights when applying sand. Turn on the rotobeam or warning lights in advance of starting the sand application to warn other vehicles. Generally do not use the rotobeam or other warning lights for routine patrol work. Also refer to discussion in the Safety section of this Guide on the use of rotobeams and warning lights.

Take appropriate precautions, while applying abrasives, to prevent damage to oncoming or following traffic, vehicles adjacent to the roadway, etc. or injury to pedestrians or bicyclists.

As appropriate, modify the sanding operation to minimize impact to waterways and other environmentally sensitive areas.

ODOT should minimize the use of sanding material as sanding materials are handled five times including grinding, stock piling, loading, applying, and cleaning up.

- Sanding material:
 - Is costly.
 - Requires use of aggregate, cinder, or other material that is becoming less available.
 - Can be a hazard on bare pavement and may damage vehicles.
 - Can cause environmental damage.
 - Is costly to clean up and may impair drainage and drainage facilities.
 - May have other undesirable effects.

Anti-icing and deicing products also have concerns, including those discussed in Activity 176.

The District Manager, Transportation Maintenance Manager, and other involved maintenance personnel should use good judgment to effectively, but minimally, use sanding materials to meet the District Winter Operations Plan and *Desired Conditions of Maintenance Features on State Highways*, and as discussed in the following general guidelines:

- Do not apply sand if anti-icing or deicing products has been applied and conditions are proper for the product to control icing.
- If an icy condition is imminent and anti-icing/deicing products should not be used, sand may be applied according to the District Winter Operations Plan, consistent with the *Desired Conditions of Maintenance of Features on State Highways* and as described below. Generally, do not apply sand to bare pavement because of the concerns addressed above.
 - Apply sand only to help clear a crash scene, including the traffic backup caused by the crash.
 - Do not apply sand if the area is in a snow zone where chains are required and most vehicles with adequate tires are not losing traction, except as necessary to remove the chain requirement.
- Generally, do not apply sand while snow is falling or is intermittently falling. Refer to the District Winter Operations Plan and the *Desired Conditions of Maintenance Features on State Highways*.
- Generally, do not apply sand if chains are required on all vehicles, except to treat a specific location addressing an icy condition.
- Generally, do not apply sand if snow or ice is thawing and likely will not re-freeze or otherwise create icy conditions.
- Near environmentally sensitive areas, apply sand according to the management plan for the area.

After use, wash the sander and clean the lights, signs, and warning devices to prevent damage to the equipment and allow needed inspection and maintenance.

Store sanding material in sand sheds or other covered facilities where available to keep it dry before use. It may be appropriate to cover the sanding material or to add appropriate freeze resistance materials, that have been tested and approved by the State Maintenance and Operations Engineer, to the sanding material that is not stored in a covered facility.

Each sanding vehicle must maintain a log, with entries by each operator, listing the times of operation, locations where sand was applied, and information about incidents or crashes related to roadway conditions during the time of operation. This log may also include information about Activities 174 and 176.

Controlling Erosion, Sedimentation, and Pollutants or Contaminants

Plan and implement methods to control erosion, sedimentation, and pollutants or contaminants, including those discussed in the Control of Erosion, Sedimentation, and Pollutants or Contaminants section of this Guide and the ODOT *Routine Road Maintenance Water Quality and Habitat Guide Best Management Practices*.

As appropriate, implement and maintain devices and processes including those described in the *Field Manual for Erosion and Sediment Control*.

Temporary Protection and Direction of Traffic

Assure that overhead and other warning lights on each sander vehicle are clean and operating at all times during this work. Use the vehicle headlights at all times during the sanding operation. Also refer to discussion in the Safety section of this Guide on the use of rotobeams and warning lights.

Equipment

Select equipment as identified in the District's Winter Operations Plan or suitable for the work and situation.

Materials

Materials may include:

- Sanding material.
- Pre-wetting agent as appropriate.

Work Method

1. Plan sanding operations as specified in the District Winter Operations Plan.
2. Load sanding material into calibrated sanding equipment. As appropriate, apply pre-wetting agent to sand in the sander or assure that an adequate supply of pre-wetting agent is available on the sander.
3. Apply sand, with pre-wetting agent as appropriate, at desired application rates according to the District Winter Operations Plan.

4. When sanding work is completed, wash vehicle and reload it with sanding material and pre-wetting agent as appropriate.

Measurement of Accomplishment, Expenditure Account, and Charge Activity

Measurement is number of worker hours involved. Expenditure account type is Section EA.

- Charge all work to TEAMS Activity 171.