



Missouri Department
of Natural Resources

Missouri Department of Natural Resources
Missouri Department of Health and Senior Services



Standards for the Use of Tire Chips in
Onsite Wastewater Treatment Systems

MEMORANDUM

DATE: JAN 29 2007

TO: Interested Parties and Onsite Wastewater Treatment System Contractors

FROM: Daniel R. Schuette, Director
Division of Environmental Quality, Department of Natural Resources and
[Signature]
Glenda R. Miller, Director
Division of Community and Public Health, Department of Health and Senior
Services
[Signature]

SUBJECT: Use of Tire Chips in Onsite Wastewater Treatment Systems

The Missouri Department of Health and Senior Services and the Missouri Department of Natural Resources are pleased to announce that you may now begin using tire chips in onsite wastewater treatment systems. The procedures for using these tire chips in Missouri are contained in the attached Standard for the Use of Tire Chips in Onsite Wastewater Treatment Systems.

Under the authority of Section 701.033.1.(4) RSMo, the Department of Health and Senior Services has the power and duty to authorize trial or experimental systems, after consultation with the staff of the Missouri Clean Water Commission. Under the law, the Department of Health and Senior Services has developed standards for the size and location of sewage tanks and soil absorption trenches, 19 CSR 20-3.060, the "Minimum Construction Standards for On-Site Sewage Disposal Systems." County or city governments may adopt the state standards or stricter standards by ordinance.

The Missouri Department of Natural Resources regulates all other sewage lagoons, other discharging sewage treatment facilities, and systems that discharge more than 3,000 gallons per day into a subsurface soil absorption system. Anyone subdividing or developing property must comply with the Department of Natural Resources residential development regulations as well as the onsite sewage law.

For questions concerning onsite wastewater treatment system installation and the substitution of tire chips for aggregate, please call your local health official or call the Missouri Department of Health and Senior Services' Onsite Sewage Program at (573) 751-6095. It is important to provide markets for scrap tires to ensure they are properly managed. Several scrap tire processors, both inside and outside Missouri, can supply tire chips to meet the required specifications. For questions on tire chips or suppliers, call the Missouri Department of Natural Resources' Scrap Tire Unit at 1-800-361-4827 or (573) 526-3909.

Attachment



Missouri Department
of Natural Resources

Missouri Department of Natural Resources
Missouri Department of Health and Senior Services



Standards for the Use of Tire Chips in
Onsite Wastewater Treatment Systems

Chips produced from recycled tires may be used as coarse aggregate in onsite wastewater treatment systems and may be substituted for mineral aggregate on a one-for-one volumetric basis. When used in this application, chips must conform to the requirements below:

CHIP SPECIFICATIONS

1. Chips are to be a nominal 2 inches in size and may range from ½ inch to a maximum of 4 inches in any one dimension.
2. Exposed wire may protrude no more than ½ inch from the chip.
3. At least 95 percent of the aggregate by weight shall comply with the above specifications.
4. Fines, defined as any material less than 2 mm in size, shall not exceed 2 percent by weight. Fines settle to the bottom of the wastewater treatment system and contribute to the clogging or blocking of infiltrative surfaces. Examples of fines include dust, dirt, grit and similar substances.
5. Tire chips for use in onsite wastewater treatment systems shall be shipped, stored and handled in a manner that prevents contamination by soil or other foreign material.

INSTALLATION PROCEEDURES

1. There are no changes to construction permit application and permit requirements. The proposed use of tire chips must be indicated on construction permit applications and approved by the local onsite wastewater treatment administrative authority. Tire chips cannot be substituted for another material or product in systems designed by a professional engineer unless the professional engineer approves the change in writing prior to approval by the local administrative authority.
2. Standard siting requirements for onsite wastewater treatment systems will apply, except that tire chips meeting the above specifications may be substituted for gravel or crushed stone. The minimum vertical separation requirements of the Minimum Construction Standards may not be reduced based on the use of tire chips.
3. Onsite wastewater treatment system sizing must be based on the same criteria as systems using gravel or crushed stone. Also, absorption trench construction must comply with the Minimum Construction Standards, 19 CSR 20-3.060(5)(A)5. through 10.

4. No soil can be allowed to contaminate the tire chips during installation. Tire chips must be covered with a geotextile fabric or other approved barrier material prior to backfilling the soil absorption trench to help prevent soil from infiltrating through the aggregate.
5. All tire chips not used in the onsite wastewater treatment system must be removed from the site by the installer. Clean unused tire chips may be used in another onsite wastewater treatment system; alternatively, unused chips must be disposed of at a permitted solid waste disposal facility. Note: It is illegal to burn tires in Missouri except at facilities approved by the Missouri Department of Natural Resources. Uncontrolled burning of tires can pollute our air, water and groundwater.
6. Operation and maintenance requirements will be the same for onsite systems using tire chips as for systems using gravel or crushed stone.