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Road construction and road maintenance machinery and equipment - Environmental protection technical specifications for asphalt pavement hot-in-place recycling unit

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents". Drafting.

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Road construction and maintenance machinery and equipment Environmental Technical Specifications for In-situ Thermal Recycling Units for Asphalt Pavements

1 Scope

This document specifies the emission limits for in-situ thermal recycling units for asphalt pavement and the environmental protection requirements for each functional unit, and describes the corresponding requirements. Experimental methods.

This document applies to the design, production, inspection, and engineering application of in-situ thermal recycling units for asphalt pavements.

2 Normative references

GB 5959.6

GB/T 21153

GB/T 25697-2013

GB 36886

3 Terms and Definitions

The following terms and definitions apply to this document.

3.1

A device that uses hot air circulation, infrared radiation, or microwaves to heat asphalt pavement.

3.2 hot milling unit

A device that uses a milling rotor to loosen heated and softened asphalt pavement and form asphalt mixture ridges.

3.3 hotscarifying unit

A device that uses rake teeth and other structures to loosen heated and softened asphalt pavement.

3.4

A device that uses hot air circulation, infrared radiation, or microwaves to heat the asphalt mixture formed during the recycling process.

3.5 Additive adding unit

A device for adding admixtures such as recycling agents and hot asphalt to asphalt pavements or asphalt mixtures.

3.6 remixing unit

A device that has functions such as adding new asphalt mixtures, heating asphalt mixtures, and mixing asphalt mixtures.

Note. Some mixing units only perform some functions instead of all functions.

3.7 Asphalt pavement hot-in-place recycling unit

It has functions such as asphalt pavement heating, hot rake loosening, hot milling, admixture addition, asphalt mixture temperature raising and remixing, and is equipped with a paver and roller.

A complete set of asphalt pavement maintenance equipment consists of multiple self-propelled mobile machines capable of performing in-situ hot recycling of asphalt pavement.

Note 1.Some in-situ thermal recycling units for asphalt pavement only perform some functions, not all functions.

Note 2.Hereinafter referred to as "the unit".

3.8

A purification system that collects and treats gaseous pollutants generated during thermal regeneration operations through combustion.

3.9

A purification system that uses solid or liquid adsorbents to remove gaseous pollutants generated during thermal regeneration operations.

3.10 4 Technical Requirements

The percentage of incident luminous flux through the flue gas medium to its total incident luminous flux.

4.1 Environmental protection requirements for the unit

4.1.1 The emission limits for flue gas generated during unit operation shall meet the following requirements.

a) PM10.5 mg/m3;

b) Benzo[a]pyrene. 10 ng/m3;

c) Nitrogen oxides (NOx). 1.0 mg/m3;

d) Sulfur dioxide. 0.5 mg/m3;

e) Asphalt fumes. 10 mg/m3.

4.1.2 During unit operation, the air temperature within a range of 0.5m horizontally from the outer edge of the equipment and 1.8m above the ground should not exceed 50°C.

4.1.3 External emission noise and operator position noise shall comply with the provisions of JB/T 13712.

4.1.4 The atmospheric transmittance during unit operation should not be less than 90%.

4.1.5 When using microwave heating, the microwave leakage should not exceed 3mW/cm2.