

**INDUSTRY STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

JT/T 798-2011

Replacing JT/T 798-2011

Crumb rubber asphalt for highway engineering

公路工程 废胎胶粉橡胶沥青 清晰版

(English Translation)

Issued on: December 24, 2019

Implemented on: March 1, 2020

Issued by: Ministry of Transport

Table of Contents

Foreword
1 Scope
2 Normative references
3 Terms and definitions
4 Classification
5 Technical requirements
6 Test method
7 Inspection rules
8 Marking, transportation and storage

Foreword

This standard is in accordance with GB/T Draft the rules given in 1-2009.

This standard replaces JT/T 798-2011 "road engineering waste rubber powder rubber asphalt". Compared with JT/T 798-2011, except for editing Apart from the modifications, the main technical content changes are as follows.

--- Revised the definition of waste rubber tire rubber asphalt (see 3.1, 3.1 of the 2011 edition);

--- Added the definitions of polymer rubber powder composite modified asphalt and modified rubber powder rubber asphalt (see 3.2 and 3.3);

--- Modified the definition of admixture (see 3.4, 3.2 of the 2011 edition);

--- Increased classification (see Chapter 4);

--- Added technical requirements for polymer rubber powder composite modified asphalt and modified rubber powder rubber asphalt (see Tables 2 and 3);

--- Modified the viscosity detection method (see 6.2, 5.2 of the 2011 edition);

--- Deleted rubber asphalt processing method, 180 ° C rotational viscosity measurement method and portable viscometer viscosity measurement method (see 2011) (Appendix A, Appendix B, and Appendix C).

This standard is proposed and managed by the National Technical Committee for Traffic Engineering Facilities (Highway) Standardization (SAC/TC 223).

This standard was drafted. Highway Research Institute of the Ministry of Transport, Beijing

Municipal Road and Bridge Building Materials Group Co., Ltd., Sichuan Jinmoer Environmental New Materials Co., Ltd., China Road and Bridge Engineering Co., Ltd., Xinjiang Communications Construction Group Co., Ltd., Jiangxi Expressway Investment Group Co., Ltd., Gansu Road and Bridge Construction Group Co., Ltd., CNOOC Refining & Chemical Co., Ltd., Zengda Highway Maintenance Pipeline in Anhui Province Management Co., Ltd.

1 Scope

This standard specifies the classification, technical requirements, test methods, inspection rules, and marking, transportation, and storage of waste rubber powder for road use.

Deposit and other requirements.

This standard is applicable to the production, inspection and use of asphalt rubber powder for road use.

2 Normative references

The following documents are essential for the application of this document. For dated references, only the dated version applies to this article. For undated references, the latest version (including all amendments) applies to this document.

GB/T 6326 Tire terms and definitions GB/T 11147 Asphalt sampling method GB/T 19208 vulcanized rubber powder JT/T 997 Road tire vulcanized rubber powder JT G E20 Highway Engineering Asphalt and Asphalt Mixture Test Procedures JT G F40 Technical specifications for highway asphalt pavement construction

3 Terms and definitions

The terms and definitions defined in GB/T 6326, GB/T 19208 and the following terms apply to this document.

Waste tire rubber powder asphalt (asphalt rubber) crumb rubber asphalt (asphalt rubber) Waste tire rubber powder and asphalt (may also be added with a certain proportion of admixtures) through on-site processing, using special equipment in a certain proportion and the products that meet the requirements of relevant technical indicators.

Polymer rubber powder compound modified asphalt polymer crumb rubber modified asphalt Waste tire rubber powder and polymer are mixed with asphalt in a certain proportion, supplemented with stabilizer, and compound modified asphalt produced by factory processing technology.

Modified rubber powder rubber pitch modified crumb rubber asphalt Modified waste tire rubber powder and asphalt (may also be added with a certain proportion of admixtures), mixed with on-site or factory-specific equipment in a certain proportion and the products that meet

the requirements of relevant technical indicators.

Admixture agent

A material added in a certain proportion during processing to improve the performance of waste tire rubber powder asphalt.

4 Classification

Road used tire rubber powder rubber asphalt (hereinafter referred to as "rubber asphalt") is divided into.

JT/T 798-2019

- a) waste rubber powder rubber asphalt;
- b) polymer rubber powder composite modified asphalt;
- c) Modified rubber powder rubber asphalt.

5 Technical requirements

5.1

raw materials

5.1.1

Asphalt

Asphalt for the production of rubber asphalt shall be selected from Class A and B road petroleum asphalt or SBS modified asphalt in accordance with JT G F40.

5.1.2

Waste tire rubber powder and its content

5.1.2.1

Waste rubber powder shall meet the requirements of JT/T 797.

5.1.2.2

The rubber powder content of waste tire rubber powder rubber asphalt shall generally not be less than 20% of the asphalt quality (external admixture). For the calculation of the admixture ratio, see Equation (1).

$\times 100\%$ (1)

Where. m_f --- mass of waste tire rubber powder, unit is gram (g);

m_l --- mass of base asphalt, unit is gram (g);

A --- admixture ratio.

5.1.2.3

The rubber powder content of modified rubber powder rubber asphalt should generally not be less than 25% of the asphalt quality (external blending). For the calculation of the admixture ratio, see Equation (1).

5.1.3

admixture

The admixture should meet the technical standards of the corresponding materials.

5. Physicochemical properties of rubber asphalt 5. 2. 1. Rubber asphalt can be produced in batch or continuous mode, which is suitable for on-site processing and can also be factory-integrated.

5.2.2

Technical specifications of waste rubber powder rubber asphalt shall meet the requirements of Table 1.

Table 1 Technical requirements for waste rubber powder rubber asphalt

Project Unit

skills requirement

Steel Deck Pavement in Cold and Hot Zones Rotational viscosity at 180 ° C Pa · s 5 to 3. 0 2. 5 to 3. 5 3. 0 to 4 0 3. 0 to 4 Five Penetration at 25 ° C (0.1mm, 100g, 5s) 60 ~ 80 50 ~ 70 40 ~ 60 40 ~ 60 Softening point °C > 50 > 58 > 65 > 65 Elastic recovery (25 ° C)% > 50 > 55 > 60 > 75 Ductility (5 ° C, 1cm/min) cm > 10 > 10 > 5 > 20 Note. Refer to JT G F40-2004 Appendix A for climatic zoning.

5.2.3

Technical specifications of polymer rubber powder composite modified asphalt shall meet the requirements of Table 2.

JT/T 798-2019

Table 2 Technical requirements of polymer rubber powder composite modified asphalt

Project unit technical requirements Rotating viscosity Pa · s at 135 ° C 2. 0 to 3. Five Penetration at 25 ° C (0.1mm, 100g, 5s) 40 to 60 Softening point °C > 65 Elastic recovery (25 ° C)% > 80 Ductility (5 ° C, 5cm/min) cm > 20 Separation softening point °C < 3

5.2.4

The technical index of modified rubber powder asphalt shall meet the requirements in Table 3.

Table 3 Technical requirements of modified rubber powder asphalt