

Australian/New Zealand Standard™

Methods of sampling and testing asphalt

Method 1.1: Sampling—Loose asphalt

AS/NZS 2891.1.1:2013

PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee CE-006, Asphalt and Sprayed Surfacing, to supersede AS 2891.1.1—2008.

METHOD

1 SCOPE

This Standard sets out procedures for obtaining samples of loose asphalt using manual or mechanical methods and includes sampling from stockpiles.

The Standard also specifies methods for the preparation of bulk samples to produce test portions ready for testing. It does not include methods of sampling asphalt from a road pavement, whether compacted or not.

NOTE: Guidance on the principles of obtaining samples of asphalt is given in Appendix A.

2 REFERENCED DOCUMENTS

The following document is referred to in this Standard:

AS

1141 Methods for sampling and testing aggregates

1141.2 Method 2: Basic testing equipment

3 DEFINITIONS

For the purpose of this Standard, the definitions below apply.

3.1 Asphalt

A mixture of bituminous binder and aggregate with or without added mineral filler.

3.2 Bulk sample

Approximately equal sized sample increments, mixed thoroughly until uniform throughout.

3.3 Nominal size of mix

A designation for a mix, chosen to give an indication of the largest size particle present expressed as a convenient whole number above the largest sieve size to retain greater than 0% and less than 10% of the aggregate material.

3.4 Sample increment

The basic unit of sampling being a quantity of the material taken directly from the sample site.

3.5 Sample site

The location within the quantity of asphalt at which a sample increment is taken.

3.6 Stockpile

A heap or stack of material held in stock for future use.

3.7 Test portion

Material derived from a bulk sample by further division and used for a particular test.

4 SAFETY PRECAUTIONS

This Standard may involve hazardous material, operations and equipment. This Standard does not purport to address all of the safety problems associated with its use. It is the responsibility of the user of this Standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.

5 APPARATUS

The following apparatus may be required to undertake the sampling and preparation procedures described in Clauses 7 and 8.

5.1 Mechanical sampling device

Consisting of a mechanical sampling head that can be inserted and withdrawn from the asphalt within the truck or trailer body. The sampling head shall be capable of being heated and closed and opened remotely (see Figure 1). (Optional.)

5.2 Oven

Thermostatically controlled capable of maintaining temperatures of up to 180°C.

5.3 Personal protective equipment

Gloves, glasses, safety footwear, long sleeved apparel, long trousers.

5.4 Quartering tray

5.5 Quartering tool

Either a straight metal plate or sheet metal formed in the shape of a cross. The dimensions of the tool should be wider and higher than the asphalt cone to be quartered.

5.6 Sample container

Where a sample is to be tested immediately after sampling a dish, a tray or bucket may be used. Where a sample is to be transported or stored, a container with a closely fitting lid is to be used. The container shall be free of contaminants (e.g. dust, water or fuels) that could alter the nature and condition of the asphalt and shall be sufficiently durable to ensure the sample is not spilt or contaminated. When the moisture and/or volatiles content is to be determined a metal container with a close fitting lid shall be used.

5.7 Sample divider

Complying with the requirements of AS 1141.2. Due to the adhesive nature of asphalt, 50 mm wide slots should be used for all mixes of 10 mm nominal size and greater, whilst 25 mm wide slots should be used for smaller nominal size dense graded mixes and all fine gap graded mixes (optional).

5.8 Sampling tool

Tool for hand sampling, e.g. a scoop or shovel.

5.9 Thermometer

Covering the range 0°C to 200°C and readable and accurate to 1°C (optional).



FIGURE 1 MECHANICAL SAMPLING DEVICE

6 SAMPLE SIZES

The size of the samples shall be commensurate with the required testing but the minimum mass of a bulk sample shall not be less than the quantities shown in Table 1.

TABLE 1
SAMPLE MASSES

Nominal mix size	Less than 10 mm	10–20 mm	Greater than 20 mm
Mass (kg)	4	6	12

7 SAMPLING PROCEDURE

7.1 General

Sampling of loose asphalt is carried out for, amongst other purposes, the following:

- (a) Quality control, quality assurance or auditing of mix production.
- (b) Mix design evaluation.

The reason for sampling should be considered and one of the following five procedures described in this Standard adopted:

- (i) Sampling from a truck, front end loader or trailer by hand sampling. See Clause 7.2.2.
- (ii) Sampling from a truck or trailer using a mechanical sampling device. See Clause 7.2.3.
- (iii) Sampling during discharge from a plant. See Clause 7.3.
- (iv) Sampling from stockpiles. See Clause 7.4.
- (v) Sampling from paver augers. See Clause 7.5.