Australian/New Zealand Standard™

Methods of sampling and testing asphalt

Method 14.1.2: Field density tests—Determination of field density of compacted asphalt using a nuclear surface moisture-density gauge—Backscatter mode

PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee CE-006, Asphalt and Sprayed Surfacing, to supersede AS/NZS 2891.14.1.2:1999.

METHOD

1 SCOPE

This Standard sets out the method for determining the field density of layers of asphalt using a nuclear surface moisture-density gauge in the backscatter mode of operation. The method is applicable to asphalt layers between 50 mm and 100 mm thick and to asphalts having a nominal maximum size not greater than 40 mm.

The method does not detail the operation of the gauge but refers the operator to the manufacturer's handbook.

When nuclear gauges are used for density measurement, the quantity of material being assessed is not precisely known. However, reference to the manufacturer's handbook and to current literature may indicate the likely volume.

A nuclear gauge gives an indirect measure of field density and, hence, the backscatter mode requires calibration, in accordance with AS/NZS 2891.14.4. Regular checks on the operation and the calibration of the gauge are also required (see Appendix A). When used in the backscatter mode, a density offset is determined for each combination of asphalt mix/layer thickness to be tested (see Appendix B).

2 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

AS

2891	Methods of sampling and testing asphalt	
2891.1.2	Method 1.2:	Sampling—Coring method
2891.9.1	Method 9.1:	Determination of bulk density of compacted asphalt—Waxing procedure
2891.9.2	Method 9.2:	Determination of bulk density of compacted asphalt—Presaturation method