Australian/New Zealand Standard™

Methods of sampling and testing asphalt

Method 14.3: Field density tests—Calibration of nuclear thin-layer density gauge using standard blocks

PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee CE-006, Asphalt and Sprayed Surfacing, to supersede AS/NZS 2891.14.3:1999.

METHOD

1 SCOPE

This Standard sets out the methods for the following:

(a) The calibration of the density systems of a nuclear thin-layer density gauge, using standard blocks. The density calibration equations, so derived, define the relationships between density count ratio and field density reading.

(b) The calibration of the depth factor systems of a nuclear thin-layer density gauge, using standard blocks and plates. The depth factor calibration equations, so derived, define the relationships between the depth factors and the thickness of a surface (top) layer.

NOTE: The gauge calculates the density of a surface layer of nominated thickness, using the densities measured at two different backscatter systems (system 1 and system 2) and the depth factors for the nominated thickness.

An adjustment of the calibration equation is determined for each material tested from measurements of field density, as detailed in AS/NZS 2891.14.2.

2 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

AS	
1289	Methods of testing soils for engineering purposes
1289.5.8.4	Method 5.8.4: Soil compaction and density tests—Nuclear surface moisture-density gauges—Calibration using standard blocks
1289.5.8.5	Method 5.8.5: Soil compaction and density tests—Nuclear surface moisture-density gauges—Density of a Type A or Type C standard density block
AS/NZS	
2891	Methods of sampling and testing asphalt
2891.14.2	Method 14.2: Field density tests—Determination of field density of compacted asphalt using a nuclear thin-layer density gauge