

Australian Standard™

AS 2891.7.1

Methods of sampling and testing asphalt

Method 7.1: Determination of maximum density of asphalt—Water displacement method

1 SCOPE

This Standard sets out a method for determining the maximum density of asphalt. It measures the density of voidless asphalt by displacement of water.

2 REFERENCED DOCUMENT

The following document is referred to in this Standard:

AS

2891 Methods of sampling and testing asphalt
2891.1 Method 1: Sampling of asphalt

3 SAFETY PRECAUTIONS

To minimize the possibility of damage if a pycnometer implodes under vacuum it is necessary to provide a protective metal cage around the pycnometer.

4 DEFINITIONS

For the purpose of this Standard the definitions in AS 2891.1 apply.

5 MATERIALS

The following materials are required:

- (a) Paper towels.
- (b) Potable water.

6 APPARATUS

The following apparatus is required:

- (a) *Pycnometer*—a thick-walled annealed glass flask of about 2 L capacity. It shall be equipped with either a stopper incorporating a water trap or a separate water trap. In either case the water trap shall be connected to a vacuum pump. The top of the mouth of the pycnometer shall be ground flat.
- (b) *Pycnometer lid*—a glass disc slightly larger than the top of the pycnometer and ground flat on one or both sides.
- (c) *Vacuum pump*—capable of producing a vacuum of about 8 kPa in the pycnometer.
- (d) *Water bath*—thermostatically controlled at a temperature of $25 \pm 1^\circ\text{C}$ and of sufficient capacity to contain the immersed body of the pycnometer.
- (e) *Balance*—not less than 5 kg capacity, and with a limit of performance not exceeding ± 0.5 g.
- (f) *Oven*—to heat asphalt so that it can be prepared satisfactorily. Temperatures should not exceed 150°C .