STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard

AS 2983.2

METHODS OF TEST FOR SYNTHETIC SPORTING SURFACES

METHOD 2: DETERMINATION OF ROLLING RESISTANCE

1 SCOPE. This Standard sets out a method for determining the rolling resistance and uniformity, in terms of distance and direction, of a synthetic sporting surface. The method involves testing in both laboratory and field conditions using a standard ball.

2 APPARATUS. The following apparatus is required:

(a) An inclined plane comprising two parallel tubes mounted on a rigid frame with adjustable feet shall be used for levelling the apparatus (see Figure 1). The tubes shall be set 25 mm ±2 mm apart and shall be flared apart at the ends to allow the ball to contact the horizontal surface smoothly.

(b) Standard ball which shall be a seamless international standard hockey ball.

NOTE: The 'Kookaburra' Dimple Hockey Ball manufactured by A G Thompson Pty Ltd, Melbourne has been found suitable.

3 LABORATORY TEST.

3.1 Test specimen. Each test specimen shall be a piece of the surface not less than 3.5 m square. The surface should be level in both directions and fixed in accordance with the manufacturer's recommendations.

3.2 Procedure. The procedure shall be as follows:

(a) Condition the test specimen for a minimum period of 3 h at 23 ±2°C, immediately prior to testing. Testing shall be conducted in an environment controlled at 23 ±2°C.

(b) Place the apparatus on the test specimen and ensure that it is level. When setting up the apparatus it is most important that the horizontal portion of the inclined plane tubes are level and are at such a height that the periphery of the ball just touches the test specimen.

(c) Release the ball from a height of 300 +5, –0 mm. This height shall be measured from the top of the test specimen to the bottom of the ball.

(d) Allow the ball to come to rest and measure to within 10 mm and record the distance in metres from the end of the inclined plane tubes to the periphery of the ball nearest to the apparatus. Measure to within 10 mm any deviation of the travelled path from the apparatus centre line.

(e) Roll five balls for each test. Calculate and record the median rolling distance.

4 FIELD TEST.

4.1 Procedure. The procedure shall be as follows:

(a) Place the apparatus on the finished surface and ensure that it is level. When setting up the apparatus it is most important that the horizontal portion of the inclined plane tubes are level and are at such a height that the periphery of the ball just touches the surface.

(b) Release the ball from a height of 1000 +5, –0 mm. This height shall be measured from the top of the surface to the bottom of the ball.

(c) Allow the ball to come to rest and measure to within 10 mm and record the distance in metres from the end of the inclined plane tubes to the periphery of the ball nearest to the apparatus. Measure to within 10 mm any deviation of the travelled path from the apparatus centre line.

(d) Roll five balls for each test. All surfaces shall be tested in the dry state.

If the surface has any form of directional pattern, for example, the lay of the pile in artificial grasses, repeat the test so that measurements are obtained in directions giving maximum and minimum values of rolling resistance. This will also apply when site laid surfaces are tested which have been laid with a deliberate incline for drainage.

Calculate and record the median rolling distance.

NOTE: When testing out of doors, wind can make a considerable difference to the rolling distance. Tests should not be carried out in windy conditions. Similarly, debris on the surface (for example small stones) can affect the consistency of results and all surfaces should be swept clean before test.

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