

## BALLS

The ball, along with the racket, is arguably the most important piece of tennis equipment. The tennis ball must lie within the specifications laid down in the Rules of Tennis, while providing consistent playing properties and being sufficiently durable to withstand repeated high-speed impacts with the racket and surface.



To that extent, any choice for the consumer is strictly controlled.

Consistency is assured by the tight specification of a variety of physical properties in the Rules of Tennis, which ensures that all of the 300 or so brands approved by the ITF are recognisable as tennis balls in appearance and playing characteristics.

For any location and court type, there is a variety of balls available that may be matched to the prevailing conditions. In addition to the standard (Type 2) ball, the Rules of Tennis provide for a slightly harder, faster ball (Type 1) which is intended for use on 'slower' court surfaces (such as clay), and a larger, slower ball (Type 3) for faster courts.

There is also a pressurised ball that is specifically designed to be used at high altitude, whilst pressureless balls are also suitable to use at high altitude, provided they have been acclimatised for 60 days at altitude.

All Type 1, 2 and 3 tennis balls are constructed of two hemispheres of rubber (mixed with other ingredients) glued together and covered in felt. The more common of these is the pressurised ball, which, as the name suggests, is characterised by being inflated (or pressurised, typically at 10-13 psi above atmospheric pressure, or 70-90 kpa), while the air inside the pressureless ball is at atmospheric pressure.

The elasticity (bounce) of a pressurised ball is derived from its internal pressure to a greater extent than the pressureless ball, the latter of which derives a greater amount of its bounce from the rubber core, which is necessarily thicker.

Tennis balls that are suitable for use by players who are learning to play are also available. These introductory balls are designated as Stage 3, 2 and 1 (the intention being for players to progress from using Stage 3 to Stage 1 and then on to the standard Type 2 ball). Introductory balls are generally lighter and softer than standard balls and therefore easier to control.