

40+ Plastic Ball FAQ

By Jay Turberville

What is the 40+ Plastic ball?

It is a new ball that is not made of celluloid that has been promoted by the ITTF and is being used in all ITTF Pro Tour events.

I've heard the 40+ ball is larger. Is that true?

Yes. The 40+ ball typically measures around 40.2mm in diameter while the celluloid balls we've been playing with typically measure about 39.7mm in diameter. The ITTF raised the lower tolerance limit for the ball up to 40.0mm minimum, forcing manufacturers to make a larger plastic ball.

I've heard the 40+ ball is slower and spins less.

Yes. That is the experience almost universally reported. The difference isn't radical, but it is different. This is probably due to the increase size while maintaining the same 2.7 gram nominal weight spec.

I've heard that different makes of balls play substantially different from each other. The differences are greater than we are used to seeing with the celluloid ball. Why?

Yes, they do play differently. It probably boils down to four major causes.

- 1) The use of plastics now allows for the possibility of producing a seamless ball as well as a seamed ball. Seamless wasn't possible with celluloid. So we now have two different types of ball construction.
- 2) There is no standard for the material that is used. Any plastic material can be chosen so long as the ball meets ITTF specs as published in their T3 Technical leaflet. It is obvious that the plastic used by DHS is different than the plastic used by Nittaku.
- 3) The ITTF Technical leaflet and the guidelines may not be adequate given the different materials and processes now being used.
- 4) Manufacturers haven't developed enough experience with the new materials and processes.

Someone told me that the new 40+ balls are junk, that they break frequently and sometimes give bad bounces.

That is partially true. Right now there are five manufacturers of the 40+ ball. Four of them have produced and delivered 40+ balls. All 40+ balls are either labeled as being from these four makers, or are simply re-brands with another brand stamped on the ball. The four manufacturers are, DHS, DoubleFish, Nittaku and Xushaofa.

DHS and DoubleFish balls are both seamed balls and made in China. Any 40+ seamed ball made in China is from one of these two makers. For instance, it is generally understood that the Joola ball and the Nittaku SHA ball are both made by DHS. They are believed to be the same exact ball. The balls from DHS and DoubleFish are the ones that have earned the reputation for bad bounces and early breakage. Club members and people in other countries have reported essentially the same thing. They also bounce noticeably lower than celluloid balls. Keep in mind that the manufacturers are still working to improve their balls and that the situation may change. The ITTF is allowing relaxed standards for 40+ balls until 2016.

Next we have the Nittaku Premium ball made in Japan by Nittaku. This is also a seamed ball, but they are using a different plastic and technology. These balls have a seam that is very subtle and not as thick as we see in the old celluloid balls or the Chinese seamed 40+ balls. The bounce of this ball is essentially identical in height to the typical celluloid ball. These balls are generally considered to play consistently and their durability is very good by most accounts. Unfortunately, availability has been very poor. We can't order them from our usual Nittaku resource, Paddle Palace. They are constantly out of stock. When we could order them, these were the most expensive 40+ balls being sold.

And finally we have the Xushaofa seamless ball. This is the ball that was initially being promoted by the ITTF as the future table tennis ball. But the first samples that came out were quite poor. They sounded cracked and they didn't play well. But the ball evolved and the current balls are generally regarded as not only playing the most consistently but also as being the most durable. These balls bounce a bit higher than the typical celluloid balls and because of that, many people think that they play the closest to celluloid since the higher bounce and faster rebound off of the racket compensate a bit for the larger ball being slower in flight.

Is it true that the reason for moving to plastic was that celluloid is being banned?

No. While the ITTF officially made that claim, there was no truth to it. Celluloid is perhaps the first plastic ever and it has simply been used less and less over the years as more suitable plastics have been found to replace it. Consequently, production of celluloid has been on a steady decline with table tennis balls being one of a handful of items remaining that still use celluloid.

I heard that the reason for moving to plastic was that celluloid is so flammable. Is that true?

No. At best was at was a minor factor. The celluloid used in balls is low nitrate celluloid. It isn't explosive and in the form of a ball isn't particularly hazardous. Nonetheless, celluloid is considered a hazardous substance for shipping (especially via air) and that presents an additional cost and annoyance for vendors who must ship balls and products packaged with balls. This became a bigger issue as controls were tightened after the 9/11 attack on the U.S. But it was never a major cause cited by the ITTF. Note that there are no requirements for low flammability for the new plastic ball. The ITTF primarily referred to the non-existent impending ban on celluloid and the unsubstantiated claim of concerns over factory worker safety as the reasons driving the change. More recently, they have been saying that the purpose is to slow the game down.

So, are celluloid balls being banned?

No. They remain legal and the ITTF has now stated (changing their earlier position) that they have no plans to make the celluloid ball illegal. However, as a practical matter, there will be very few (if any) ITTF events that will use the celluloid ball and it seems that most National organizations are following suit. So while the celluloid balls remain legal, it is very unlikely that we'll see them used in major tournaments any more.

Can I get a 40+ ball in orange?

While orange is a legal color for the 40+ ball, no manufacturer is currently making an orange 40+ ball. They apparently have their hands full either meeting demand for balls, or getting the formulation right for consistency of bounce and durability to be bothered with creating orange colored balls.

