

Scientific Description of Table Tennis Racket Evaluation

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ABSTRACT

This article presents scientific information about the importance and features of the table tennis racket in the game. Racket base, raw material quality and handle classification norms are shown with specific examples. The structure of the racket is evaluated by professional players who express their opinion during the testing of the equipment. And although it is not completely objective, the evaluations carried out by experts will help to choose the most suitable foundation for specific purposes.

INTRODUCTION

The characteristics of the base significantly affect the characteristics of the finished racket. The base can be fast or slow, light or heavy, hard or soft, it can have handles of different shapes, different amounts of wood and other materials (carbon, etc.). Racket blade shapes also vary significantly, so it's important to understand where a racket has the same rebound point and what size it is. Slow knives are usually used by defenders, medium-speed knives are designed for universal play and attack with rotation. Fast bases are usually used by hitters. The speed of the base has little effect on strong spinning shots, because during such shots the racket hits the ball tangentially, and all the bases in this direction are almost not deformed. The weight of the base depends mainly on the type of wood used in the manufacture of the racket, and partly on the properties of the adhesive that holds the veneer layers. Most bases weigh between 70 and 70 95 grams, although much lighter or heavier bases can be found. The lighter the base, the less inertia it has and the easier it is to move. A heavy base has more inertia, but at the same time, the weight of the base does not directly affect its speed characteristics. As a general rule, the harder the base, the faster it will be. Bases usually consist of several layers. In most cases, it is 5-7 layers, although there are 3,4,6 or 9 layers or even 1 layer. For single-layer rockets, a unique type of wood is used - the core of Japanese cypress.

METHODS

Table tennis (according to the percentage and thickness ratio of wood and other materials used in the production of the base), the base may contain two very thin layers of carbon or two layers of other similar materials that give additional strength to the base, and etc. The quality of the base is the quality of the glue that binds the layers: the glue must be applied in a very thin layer and its

structure must be absolutely homogeneous. There are four main types of grips for tennis rackets, with a wide variety of grips, thick, thin, long or short. There are rackets with straight, anatomical, conical and twisted handles (so-called "pigeon tail"). Flared grips typically provide less room to change grips or rotate the racquet during play. Therefore, athletes who swing the racquet while playing ball usually use racquets with a flat handle. Anatomical handle, as well as an extended handle, limit the possibility of changing the grip of the racket, but nevertheless, rackets with such grips are very common. A taper grip is a cross between a straight grip and a flared grip and is rarely used. Most basic models do not have this modification at all. When choosing a racket with one or another handle, you should pay attention to the thickness of the handle. The thickness should depend on the size of the athlete's hand. A racket with a very thick handle is difficult to hold, which causes excessive hand strain. It is especially important to consider this factor when dealing with children. If necessary, special children's rackets with a thin handle and reduced blade area should be used. Nowadays, many manufacturers make racquets with special holes in the handles or make the handle from different materials so that the handle resonates in its own way during impact and optimizes the use of the same bounce zone. The shape and size of the racquet blade are not defined by the rules, but the height and width of the playing surface of the blade are usually between 15 and 18 cm. The shape of the blade is usually close to a circle, but there are others. For example, a violin-shaped base was invented. According to laboratory studies, this shape of the blade provides better resonance during impact and, accordingly, creates better control, increases the same rebound zone and, in addition, slightly increases the speed characteristics of the blade. The types of coatings used for the production of bases differ significantly in their properties: from soft and light varieties to very hard and heavy ones. Depending on the purpose of the racket, different combinations of veneer layers with different properties are used. Thus, bases differ in the sequence of changes of soft and hard veneer layers and the number of these layers. Good quality pallets are made from specially selected wood veneer boards. These plates are given the desired shape and are carefully glued under special conditions with special glue. Based on the required characteristics, only the production technology can be carefully monitored. It should be noted that natural materials are used to manufacture the bases, so rackets of the same model may differ slightly from each other. The fact that the base changes its properties over time is also due to the naturalness of the materials: after 10 years of service, the base will have properties that are significantly different from their original properties. That's why many athletes play the same blade for many years and flatly refuse to change it to a new one. After all, even the basis of the same model is different from what they are used to! Since the base is made of natural material, it is affected by moisture. In wet environments, the blade can "lead" and become unplayable, so the racket should always be kept dry. Table tennis equipment manufacturers and sellers usually list some numbers that correspond to base speed as well as control. The characteristics of the racket are evaluated by professional players who express their opinion during the testing of the equipment. And although such tests are not completely objective, evaluations carried out by experts help to choose the most suitable foundation for specific purposes.

RESULTS AND DISCUSSIONS

As you can see, there is a huge variety of covers and blade models, and the modern table tennis fan has a lot of choice to choose the most suitable racket for him. A racket is a completely individual piece of equipment, and it is very important that it fits the needs of the player. And if someone says that this racket is good or bad, can play with it or can't play, it doesn't matter at all! It is only your racket and only the athlete himself can choose what is convenient for him to play. When choosing a racket, you need to consider everything from the characteristics of different rubbers and bases to the nuances of your playing style, your capabilities and abilities. Only after considering all the above points, you can choose a really suitable inventory. Some help in choosing inventory can be provided by the description of the coating and foundation produced by the manufacturer. For some athletes, we remind you once again that the characteristics of the

racket affect not only the rubber on the surface of the lining, but also the thickness of the sponge and, of course, the properties of the sole. The choice of one or another form of grip is primarily determined by comfort for the athlete. We discussed the characteristics of handles earlier. The size and shape of the racquet are very important because they are directly related to the player's style of play. The coach can only advise the player on the choice of a particular racket. The coach should not impose his opinion on the athlete. And if a tennis player does not feel that a particular racket is suitable for him, then you should not play with such a racket. Each athlete has their own, subjective sense of equipment, and for one reason or another it is wrong to impose an "uncomfortable" racket on a player. When choosing a coating, as they say, it is not necessary to go only off the beaten path. Each player must test the maximum number of inventory models in all possible combinations. With this approach, it is easier and more reliable to find a racket that really suits you. On the other hand, it should not be made from the inventory of the cult: neither knives nor rubbers can play! In addition, even if someone plays the same rubber for a long time, this does not mean that it is not recommended to try other types of rubber. In competition, every top athlete should have a spare racket similar to the one he is going to play. Because rackets tend to break or disappear at the most inopportune moment. And if there is a spare racket on hand that has already been tested and is familiar to the athlete, in case of problems with the inventory, the player can easily switch to the spare and continue the game in the original version. If there is no spare racket, the game is most likely lost. Rackets with classic grips for European grips are designed to be played on both sides of the blade, so different liners are often attached to them. With this, the tennis player can choose more accurately. In addition, by turning the racket during the draw and making similar shots with rubbers of different characteristics, the athlete makes it difficult for the opponent to receive the ball, because the ball receives different rotation and speed when returning from different rubbers. The use of two types of surfaces on a racquet complicates life not only for the opponent, but also for the player himself, because he needs to have the skills and technical skills necessary to play each type of surface. When playing with different rubbers, the athlete feels less and must constantly think about which rubber is more useful to hit in a particular situation. And during a ball game, that choice is not so easy to make!

CONCLUSION

Three main types of combination rackets are used in modern table tennis:

1. A combination racket with the same type of rubber, but with different characteristics. Usually it is two smooth rubber rackets on either side of the blade, but one rubber is faster and the other spins well, but slower than the first. Such a racket is usually not rotated during the ball.
2. Racket combined with different types of rubber, designed for active play. Almost always it is a combination of smooth coating (right) and spines (left). Usually such a racket is rotated only when serving.
3. A combination racket with rubber on one side for active play, and rubber on the other side for breaking the opponent's game, making it easier to receive balls with spin, etc. In most cases, this is a combination of smooth rubber and anti-roll/long pimple rubber. The athlete spins such a racket not only during the serve, but also during the rally with the ball to distract the opponent. In order to properly use the advantages and smooth out the disadvantages arising from such a combination of rubbers (smooth on one side and anti-rotation / long spikes on the other), the player must master the technique of flipping the racket while playing the ball. Only then can he use the right side of the racket at the right time, change the pace and rhythm of the game, and confuse the opponent with an unexpected shot. Remember that the athlete using the third type of combination racket must play with both right and smooth surfaces. Sometimes left-handed beginners only play long spikes or counterspins because they find it easier. Therefore, until the basic technical elements are fully mastered, it is necessary to use smooth rubbers designed for active play with rotation on both sides of the

racket. And only after that you can move on to exercises with long spikes or anti-rotation rubbers (first play with these rubbers on the left, then turn the racket over and play on the right). After mastering the technique of playing on both sides, it is possible to start learning how to rotate the racket during ball collection: first of all in training and only at the last stage - in competition. When serving, roll the racket in the front step.

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