Happy Birthday 

3 x congratulations

1958 start of production
1968 trademark registration

Due to the official 40th anniversary VICTOR presents the

BRAVE SWORD

Thank you for your trust!

1958 the initial production was launched and people were involved to test and develop shuttles first. Since then, the founder „Den Li Chen“ followed his priority - target of high end, innovative and reliable premium products.

1968 was the year of formal inauguration and registration of the VICTOR brand. Therefore the official birthday of VICTOR. This was the main milestone allowing the development of one of the biggest factories for shuttles and rackets worldwide.

1978 Victor was introduced in the Europaen and Western (Southern as well) markets. The image and position developed equally to be marketleader quickly. Players proudly presented their GoldChampion tube during games.

Today, 50 years later, we sponsor more than 100 topplayer and are marketleader in many markets and are predominantly proud on our sustainable products and reputation. The permanently repeated certification iso 9001 inside the factory, with more than 1,200 employees, allows highend innovative- premium products leading to a continuously fast growing demand.

We thank our fans and players and assure everybody to continue our duty with even more responsibility. Congratulations to everybody and thank you!

Have fun with the brand-new Brave Sword.
Contents

2 VICTOR International

4 The innovative indoor company
6 How VICTOR-products are produced and how they end up in your home

6 Health
5 BADMINTON: Play, fun and health
7 Wholemeal bread instead of cakes

9 Badminton
9 The evolution of badminton
10 How badminton rackets are produced
11 The badminton racket

12 VICTOR Technology
12 Important terms and the most used materials
13 New technologies conquer the market
14 The High-Tech Highlights from decades of production knowledgement

15 VICTOR shuttlecocks
15 How feather shuttlecocks are produced
16 The characteristics: feather vs. nylon
17 The products

18 VICTOR strings
18 Basics about strings
18 In Cooperation with ASHAWAY
19 The characteristics
19 String categories

20 Badminton instruction for schools
20 Badminton rules for schools
24 Badminton jargon

27 Additionals
27 Laws of Badminton
28 Gold Champion

Badminton law poster
VICTOR International has business relationships in over 50 countries worldwide. The Asian countries are served directly from Nanjing or Taipeh. As market leaders in indoor sports, VICTOR has several advantages over other brands such as the biggest factory, “VICTOR RACKETS LTD” which produces shuttles and rackets, and makes things significantly easier for our business partners.

Our products are continuously checked (the production is ISO 9001 certified) and throughout history our innovative quality is appreciated.

Our main priority is a clear marketing and customer orientated service. Throughout Europe, and worldwide we sponsor numerous clubs (including league teams), federations and at present more than 100 top players throughout Europe. We believe that this aids in our quest to further establish and promote the VICTOR brand. Our continued efforts towards continuous growth in our chosen markets are also to the advantage, of our customers.

VICTOR Products:

- Rackets (Badminton, tennis and squash rackets)
- Badminton-shuttles (feather- and nylon)
- ASHAWAY-Strings (for tennis, squash and badminton)
- Textiles (in five lines)
- Sportswear
- Bags (high-class)
- Indoor shoes, socks
- Badminton-courts (Net/post)
- Stringing machines (manual and electronic)
- Accessories (i.e. grips, towels and keychains)
The value of badminton play for your health.

Badminton puts high spiritual and physical demand on the players. Speed, strength, endurance and cardiovascular systems are used during a game, while concentration as well as responsiveness are trained and developed during a competition. In addition, badminton aids flexibility, endurance and burns large amounts of fat. This versatility makes badminton a hard and demanding competition sport. Martin Knupp, author of several badminton educational books, says:

"The badminton player needs the endurance of a marathon runner, the speed of a sprinter, the jump strength of a high-level jumper, the arm strength of a fencer, the concentration ability of a chess player, the human knowledge of a salesman, the mental strength of an Arctic explorer, the nervous strength of an explosive master, the recklessness of a colonial ruler, the obsession of a mountain climber as well as the intuition and imagination of an artist. Hence, a competitive athlete in badminton who fulfills this requirement is as fit as possible."

However, badminton is also an excellent leisure sport. Approx. 80% of the world’s population play in leisure centres, on the street, on vacation, on the beach. A court is not always necessary, as it plays no role where in where shuttle arises. Central issue, it is great fun even and everybody moves. The game especially as a duplicate with a partner is great fun. Even with little experience everyone can play badminton. For a beginner it requires less effort as tennis does. Everyone can play badminton with every intensity and in every age group, even with little experience. Thanks to medical evidence it can be said that playing badminton has favourable effects on the cardiovascular system as well as the metabolism, sports injuries are not as common as in some of the other sports. Badminton is the ideal game for a large proportion of the population and especially with the young, dynamic and healthy image of our partners.

Badminton for school sport (curriculum)

Badminton plays an active role in many school curriculums, because of this the BWBV, in Germany for example, in cooperation with the government train up to 80 teachers in this sport every year.

Badminton players who are not club members

The number of badminton players who are not club members and only play in leisure centres far outnumbers those who play in clubs. The estimated figure is between three to five million in Germany. Many centres realise this potential and convert tennis courts into badminton courts.
VICTOR Products
How VICTOR products are produced and how they end up in your home.

Needs, demands and analysis

All the needs and demands of our badminton players and our consumers are transferred through the retailer, giving our engineers direct objectives to work on. These objectives are analysed through a "product development or improvement programme". At this moment our passion for our products are directly converted into our mission to keep VICTOR as a world leading premium brand.

Budget and strategy plans

Firstly, our operating budget is directly depending on the market opportunities, market obstacles and our competitor’s actions within the market. After analysing all these elements, a clear marketing strategy can be drawn up. Only then do we start developing and producing our equipment.

Production - ISO 9001

VICTOR RACKETS LTD is one of the oldest most experienced and largest shuttle and racket factories worldwide with over 1,200 well trained employees. Our factory is registered ISO 9001 under European standard. Quality evaluation takes place during every step of the production phase with improvements being made continuously and any corrections dealt with immediately.

End control and scanning

Each and every racket is checked and comprehensively tested. Each racket is individualised by a single number which is inscribed by laser underneath the paint. Each and every product is analysed before it begins its journey through the retailer to the end consumer. Improving procedures and continuously reducing numbers of complaints, make every racket an perfect industrial creation of a premium brand. Fulfilling the high expectations of our players of premium brand, fulfilling the high expectations of our players and enhancing consumer satisfaction and loyalty with brand VICTOR.

Tests and evaluations

Our main challenge and mission is definitely the continuous testing, checking and evaluation of our test products and then obtaining an objective report on them. VICTOR sponsors more than 100 top players worldwi- de, including (status: 07.2007) No. 2 worldwide "Chen Hong". All players are obliged in their contract to permanently test our progressive and innovative supply of new products. In the end, only a very limited selection will survive this procedure. And only a very limited product line will be shown in the catalogue.
Wholemeal bread instead of cake

Food guidelines in play sports like badminton

Wholemeal bread instead of cakes, fruit instead of crisps and turkey breast instead of fried sausage: Whoever wants to have optimum performance as an athlete, should adhere to a healthy eating plan.

The choice of the right food in relation to the performance and will positively influence the regeneration process. Of course sometimes small „treats“ and „sins“ are permitted, but they should not dominate.

It is not possible to develop a general diet which is valid for every athlete: food eaten by active badminton players who want to acquire and conserve a sports specific performance will not really lead to success for athletes in weight-lifting, shotput, or cross-country skiing. Athletes from different sports and sport groups consume not only different quantities, but also the food composition is different.

The energy delivering nutrients of carbohydrates, fats and protein plays a major role. Depending on the high pressure situation, the body adapts to meet the needs and provide the optimum performance required. The athlete should be selective with food to make sure all necessary nutrients are supplied.

Recommended nutrient intake for the different sports groups and information on energy % (kcal of %) of the day’s power demand (after DONATH/SCHULER 1985; average data).

**Recommended nutrient relation**

- **strength**: 22 / 36 / 42 (protein, fat, carbohydrate)
- **speed strength**: 18 / 30 / 52
- **strength endurance**: 17 / 27 / 56
- **endurance**: 15 / 25 / 60

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**10 reasons Why you should play badminton: Play, fun and health**

1. Behind running, badminton is the most effective training form for the heart. Playing twice a week for half an hour to an hour is enough to increase the fitness level.

2. One can play badminton almost everywhere. Most cities have at least one club and perhaps one badminton centre. Look up your telephone directory or see the internet.

3. Badminton is not expensive. If you play at a leisure centre, an hour only costs approx. 3,50 GBP for each player. In the clubs it is even cheaper. Everyone has sports shoes and a racket also does not cost the world. The investment will be worth it!

4. Badminton as a combustion engine. The body burns many calories without anyone noticing. You are permanently on the go - different compared to other team sports where you are not always actively involved in the game. Lose weight and have fun - where else is this possible?

5. With badminton you are in charge of the tempo and should have no fear of too much effort. You can play in pairs or in a group of four, with each other or against each other.

6. Badminton is a very social sport. Tournaments, league games, show matches, events - the clubs offer you many things. Meet nice people - both men and women - badminton is one of the few sports, where teams can be mixed.

7. Badminton is challenging and simple at the same time. It is great fun at every level from beginners to advanced.

8. You can play Badminton at every age - from 7 to 70 and even with each other! That is not possible in any other sport.

9. Badminton is in. Tennis and squash are decreasing in many areas -, however badminton booms. To become fit through badminton is a trend - because badminton trains both body and mind!

10. Even watching it is fun - it is full of athleticism! There are badminton fans all over the world and you will be in a nice community. This Olympic sport fascinates more and more people, and whoever has viewed a top tournament, will be unable to pull themselves away from the sport.

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We don’t recommend any products, but at least good shoes, rackets and shuttlecocks should be used to enjoy the sport with all its facets and possibilities. VICTOR is the worldwide marketleader in this class of goods and offers professional quality.
The nutrients

Carbohydrates
Carbohydrates and fat provide the body with the necessary tools in order to produce sufficient power and acceleration. Carbohydrates are vitally important for people participating in maximum intensity sports. The two most important substances within the carbohydrate metabolism are glucose and glycogen which is formed from a large number of dextrose molecules in branched chains. Glycogen is stored as one third liver glycogen and two thirds as muscle glycogen. However glycogen storage can be increased by specific training and foods.

Fats
Fats having a larger significance during longer duration activities which are low to mid intensity and oxygen is available. Fats waste more oxygen during combustion than carbohydrates (unlike with carbohydrates combustion can only take place if oxygen is available). Their role within our metabolism is to provide our body with enough reserves. While stored carbohydrates are available for peak performance, the body needs to be specifically trained in order to burn fats.

Carbohydrates: Fast absorption. After exercise carbohydrates should be consumed as soon as possible.

Fats: The fat content within the food must remain low. Consuming too many fats can lead to disease and lowers the efficiency of the body to operated at high intensities.

Protein: Unable to store in large quantities. To be taken one to two hours before exercise. The power demand of high-performance athletes in badminton lies about 70 kcal per kg of body weight. However, mass- and health athletes need only half of the energy.

The following composition of the daily supplied whole energy amount would be favourable for an badminton athlete:

- apt. 55% carbohydrates
- 12-17% proteins
- 27-33% fats

Food high in carbohydrates
- Grains (wheat, rye, oat etc.)
- Wholemeal products (bread, noodles etc.)
- Wheat germs
- Oat flakes, cereals, cornflakes
- Brown rice
- Pasta
- Potatoes
- Pulses (peas, beans, lentils etc.)

Food high in protein
- Lean meat (veal, beef etc.)
- Poultry (chicken, turkey)
- Fish (cod fish, plaice, trout etc.)
- Cottage cheese
- Pulses (peas, lentils etc.)
- Low-fat milk products (yoghurt, etc.)
Badminton is a racket sport played by either two opposing players (singles) or two opposing pairs (doubles), who take positions on opposite ends of a rectangular court that is divided by a net. Players score points by hitting a shuttlecock with their racket so that it passes over the net and lands in their opponent's half of the court. A rally ends once the shuttlecock has hit the ground, and the shuttlecock may only be struck once by each side before it passes over the net.

In ancient times, an early form of the sport was played in Greece and Egypt. In Japan, a similar game Hanetsuki was played as early as the 16th century. In the west, badminton came from a game called battledore and shuttlecock, in which two or more players keep a feathered shuttlecock in the air with small rackets. The game was called “Poona” in India during the 18th century, and British Army officers stationed there took a competitive Indian version back to England in the 1860s, where it was played at country houses as an upper class past time. Isaac Spratt, a London toy dealer, published a booklet, "Badminton Battledore - a new game" in 1860, but unfortunately no copies have survived.

The sport was definitively launched in 1873 at Badminton House, Gloucestershire, owned by the Duke of Beaufort. During that time, the game was referred to as "The Game of Badminton," and, the game's official name became Badminton.

Until 1887 the sport was played in England under the rules that prevailed in India. The Bath Badminton Club standardised the rules and made the game applicable to English ideas. The basic regulations were drawn up in 1887. In 1893, the Badminton Association of England published the first set of rules according to these regulations, similar to today’s rules, and officially launched badminton in a house called "Dunbar" at 6 Waverley Grove, Portsmouth, England on September 13 of that year. They also started the All England Open Badminton Championships, the first badminton competition in the world, in 1899.
How badminton rackets are produced

The development-team creates an overview of a new racket.

1. What features should the racket have?
2. How and with which materials can this be achieved?
3. How could this be realised with the given technologies?

The production of a racket

The racket is originally developed on a computer. The mould and the technical details are made by values and chemicals, physical knowledge and then finally drawn by hand. Based on this construction plan prototypes are produced and tested. If the required success criteria is met the assembly of the racket moulds can commence. These moulds are very expensive due to the individual and massive shape.

With the help of a construction plan the needed materials (graphitemats) are sorted and cut into millimetre wide strips. One metalworker shapes a plastic tunnel and another wraps a thin fibre-mat precisely around it.

Where and how many layers of high-tech-fibres become fixed is important for the durability, torsion, stiffness and quality of the racket.

Now the pre-stage model is ready, although it is very soft and doesn’t yet look like a racket.

This pre-stage model is now put into a precision made racket mould and baked at high temperatures. Air pressure which runs through the plastic tunnel guarantees a tight fitting in the mould. The first part of the racket is nearly finished. A computer controlled machine drills small holes for the stringing while the racket is fixed in a production seat. If the racket consists of more than one part, (head, shaft, grip), these parts are now glued together.

After an in-process inspection the finishing process begins. The racket is painted, the wooden grip is fixed and “eyelets”, (little grommets), are put on. Now the racket is finished it needs to be tested!

Balance point, torsion, and racket weight are measured, and the stringing tension is controlled.

Victor Rackets Ltd is Iso 9001 certified (every year), to guarantee that every step in the manufacturing process is controlled.
The badminton racket

The shape of the badminton racket is a slightly smaller, lighter and thinner than a tennis racket. A racket with steel shaft weighs around 120g, while top class rackets weigh as little as 80g. The harder the frame the more precise the game.

Beginner rackets are mainly strung with cheap polyester strings. Advanced learners and professionals use more expensive natural gut strings or multifilament polyester strings, which allows for better control and longlasting durability. Depending on the type of player, badminton rackets can be strung with a variable strength (tension between 7-12 kg). Because of the oval shape of the racket head the vertical strings are mostly strung 0.5 – 1 kg tighter than the lateral strings.

The attitude of players in the long run has influenced the development of the rackets enormously.

Beginner rackets
These rackets are inexpensive and have long lasting durability. Generally non damageable materials like steel and aluminium are used. These rackets have a conflict between weight/comfort and sensitivity/durability therefore often top class strings are used to increase the playability. Generally these rackets are used in schools and leisure centres.

Intermediate rackets
With this type of rackets an ideal combination of power and control is important. Rackets with a flexible shaft and stiff head offer the optimal compromise between acceleration and precision. To increase this effect even more you should choose a racket with a high frame profile. High quality materials like graphite and titanium allow a light frame weight and good handling. All round players choose a racket with a balanced distribution which means it is neither head nor grip heavy. These rackets are favoured in schools, leisure centres and some clubs.

Competitive players / professionals
High level players need a light racket with maximum control. Rackets with a flexible shaft increases the acceleration of the shuttle. A very stiff racket head means a high quality of precision will be generated. High class rackets like this are used by experienced players.

For a fast hitting action a racket with high precision is needed. Rackets in this category offer maximum power and minimum weight through a very flexible shaft. This is assured using premium carbon in the shaft connected with material like titanium and Kevlar®. Attacking minded players prefer head-heavy rackets for additional acceleration, while defensive players prefer grip-heavy rackets.

These types of rackets are regularly constructed in “one-piece” or “real one piece” structures. In these premium materials like carbon fibres, i.e. ceramic, boron or Kevlar®, are often added to the base material graphite to optimise the playability of the racket. The proportion of this admixture is about 5% to 10%. These type of racket is used by club and tournament standard players.

<table>
<thead>
<tr>
<th>Material</th>
<th>Advantage of the material</th>
<th>Disadvantage of the material</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steel</td>
<td>cheap</td>
<td>heavy</td>
</tr>
<tr>
<td></td>
<td>long lasting</td>
<td>little flexibility</td>
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<tr>
<td>Steel/Aluminium</td>
<td>cheaper</td>
<td>heavier</td>
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<td>little flexibility</td>
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<tr>
<td>Carbon/Aluminium</td>
<td>lighter</td>
<td>more expensive</td>
</tr>
<tr>
<td></td>
<td>good durability</td>
<td>little flexibility</td>
</tr>
<tr>
<td>Graphite</td>
<td>very light</td>
<td>more expensive</td>
</tr>
<tr>
<td></td>
<td>very flexible</td>
<td>less durability</td>
</tr>
</tbody>
</table>

This materials are mainly used for the production of the heads of the rackets to improve a higher density.
Important terms at the racket technology

**Balance**
There is a difference between head and grip heavy rackets. Basically head-heavy rackets offer better acceleration during a smash, whereas grip-heavy models are more flexible and therefore offer more advantages for a defensive game. Well balanced rackets are a good compromise between both versions.

**Torsion**
The term torsion refers to the twisting flexibility of the head and the shaft around its centre line. The less you can rotate the racket head to left or right the better the torsion of the shaft, which leads to a better precision. Torsion shows max. effect if the shuttle is hit on the side and not the sweet spot of the head. The torsion therefore has a major effect on the precision of a racket.

The inflexibility of the shaft
The density of the shaft can be influenced during the production process. In general seven so called graphite layers are rolled on top of each other. If this is totally congruent, the shaft becomes very hard. If the layers are however positioned differently the shaft will be softer depending on the degrees of rotation.

The most used materials

**Boron:**
Boron filaments are synthetic and are produced by steaming out boron on to a very thin tungsten filament at a heat of 1200 degrees Celsius. They have the weight of light aluminium but have a higher inflexibility and 10 times more ripping power than aluminium.

**Carbon:**
Carbon is a synthetic filament, which is produced by heating up bitumen until it becomes coal. Carbon and graphite are “Supersynthetics” on the basis of carbon, which is today a synonym for more light-weight with an extreme stability and flexibility.

**Eplon:**
Eplon is a material composition made out of Carbon and Kevlar.

**Fibreglass:**
Fibreglass is made from small glass filaments, which are very flexible and light. Fibreglass was one of the first synthetics for tennis rackets and is still today the basis of combinations of different synthetics. Fibreglass composites offer good flexibility, stability and very good playing characteristics. The proportion of Fibreglass shouldn’t be too high, to prevent that the racket will be too soft.

**Graphite:**
Graphite is a synthetic filament which has a very low weight but still a very high stability. Graphit is produces through the oxidation of Polyacrylonitrillaminfilaments, and is 5 times more inflexible and has 2 times more ripping power that glassfiber. Graphite is 40 % lighter than glassfibre. The ripping power against wood is 9 times higher and graphite is 10 times more inflexible than wood.

**HMG:**
High modulus graphite: As result of the CAD/CAM technology VICTOR is using combinations of the most progressive technological materials in the world. Ceramic FP was developed from „Dupont“ for the aerospace industry. At all composite product series high modulus graphite, Kevlar® and fibreglass are combined to optimize balance, stiffness and vibration effects.

**Kevlar®:**
Kevlar® is a thermosetting synthetic fibre which has the highest disrupting resistance compared with fibres like graphite and glass fibre. With the same weight Kevlar (Aramid) is 5 times firmer than steel. Kevlar does not melt and it is inured to combustion and distinguishes itself by a high impact strength and energy absorbing. Rackets with Kevlar strengthening offer a lot of power, linked with a respectable drive feeling.

**Magan® Beryllium:**
Beryllium is an earth alkali element, so it is half metallic. Because of its low density (1.85 gs / cm3) very light. It is won by the reduction of the beryllium chloride (base substance = beryl = crystal similar to jade).VICTOR has conducted under the name Magan ® beryllium (the positive qualities: high resistance, lightness, elasticity) a brands-juridical protective registration. Magan® is used because of its ability to amalgamate with constructions of the highest demand and since 2001 with VICTOR rackets.
Headforms
Traditional headform
The most well known and most popular head form. It has an oval head with the advantage that a good shuttlecock speed can be achieved.

Isometric headform
This form, compared to the traditional form is more rectangular in the upper part. This leads to a larger sweet-spot.

Longstring headform
With this construction the length of the string is extended, whereby a trampoline effect is achieved.

Oversized headform
Here the drive-part is enlarged. The racket is especially suitable for beginners.

New Technologies conquering the market

Due to the increasing number of badminton players and the increased interest due to big sport events like the Olympic Games there is a very fast development of new technologies.

This led to the development of a huge number of racket headforms. Now there are also Y-joint and tear drop forms, oversize isometric form, widebody, slimline and long throats.

Even within the shafts there are new variations, like the slim and flat shaft, which are now established in the market. For a long time the one-piece shaft was the only form available. Even with a one-piece shaft there are differences: in the one-piece construction a wooden grip is bonded with a carbon shaft, whereas the real one-piece is made of one carbon piece from top to bottom.

Sven-Eric Kastens
German National Player
VICTOR Technology

The High-Tech High-Lights from decades of production knowledge, from our engineers at VICTOR Rackets Ltd. Taiwan in combination with the demand of the best players in the world.

V-Total Inside Wave

The new and improved IW technology - with double the number of waves - surrounding the complete frame. Due to the TIW we have unbeatable stringing tension possibilities and overall durability. Enormous whip-power as well as a brilliant “tender” touch give complete control and precision during a game.

V-Inside Wave

If you were to lay a sheet of paper across two posts, it would not be able to hold much weight, however if you were to fold the paper several times, it would be able to hold much more weight. This simple theory is being used by VICTOR engineers to produce a brilliant, new innovation: The V-Inside Wave Technology.

Dual Pipe System

Standard rackets consist of one hollow mineral tube covered with carbon fibre. Actions such as smashing the shuttle and the racket hitting the floor, destroy this mineral structure and eventually the whole racket. The Dual Pipe® System (DPS) prevents this from happening by enhancing the construction with its "double bridge" (two tube) system.

Anti-Torsion-Bridge

The „Anti Torsion Bridge“ technology (ATB) completely prevents torsion due to basic “mechanical-laws”. Consequently we induce maximum accuracy and dynamic control. The strings which pass through the bridge enhance precision and power. Therefore a deeper and clearer sound is produced when hitting the shuttle.

Ambos

Why Ambos? - because of his beam-like-shape! The VICTOR engineers constructed a beam shape, with the main focus right on the channel of the string and the hitting center. This gives an enormous acceleration and accuracy, which is most important to Pro.

Ripple Power

Narrow “Ripples” - curve-construction strengthens the grommet-tunnel and enhances elasticity. As a result, more dynamic power is produced with each and every shot, so that a maximum precision and control can be enjoyed. The pine-wood - handle is surrounded by a carbon layer enhancing stability, solidity and durability. That is new as well!

Chassis Frame

Our engineers have wrapped a „Mesh“ coating around the carbon to withstand even more pressure and enhance stability. Maximum stringing tension, durability and overall power are enhanced by the coating.

New Endcap

Vibration absorbing endcap of the grip in combination with an absorbing “cushiongrip”

Navigator Farrel

No slipping any longer when encompassing, clear guidance and control while driving. Now new with pattern surface and new guidance.

Hi-Fibre Mesh

Through the layering of different mineral filament plates in the racket frame a high stability and and handling with maximum control is produced.
How feather shuttlecocks are produced

Only a few people can guess how much effort and time it takes to produce a feather shuttlecock. The main producing factor is human manpower, and machines can also be used in some parts of the production.

In 1968 the company VICTOR Rackets Corp. was founded by Den-Li Chen. The principal office is in the capital of Taiwan, Taipei, where the factory is located. VICTOR is the oldest Badminton company in the world and with its foundation of its second factory in Nanjing, China, VICTOR became the biggest manufacturer for high quality feather shuttlecocks.

“Currently the VICTOR factory in Nanjing produces 2.7 million feather shuttlecocks per month!”

The feathers used in tournament shuttlecocks production are brought by trucks from nearby provinces of China. First of all the feathers are sorted, cleaned with soap, bleached with whiter and finally dried (during winter time by drying machines in summer time in sun). The second step is the fine sorting of the feathers according to a left or right diffraction, because every animal has a nature give right and left wing. 53 machines are necessary to cut the feathers. The sorting requires special attention. The strength of the blades, the diffraction and density of the feathers and the trimming of single feathers.

The work is done, by female employees, who work 5-days a week, 8 hours a day with a 10 min break every second hour. About 14.000 feathers are sorted by each employee!

Before the feathers are stuck to the cork, they will be controlled with a special measurement. The cork, which has been imported with a PU-coat directly from Portugal, now gets prepared for the feather fixation. A machine stamps 16 holes and the special sorted feathers are inserted.

During the next step the inserted feathers are being adjusted, so that the skirt gets its round shape, and everything is glued together.

The thread is applied with a kind of crochet hook at an amazing speed. After that a machine glues the skirt, which gives durability.

After drying, the speeds are tested. Every single shuttle is tested with a machine and manually by hand in a badminton hall. The shuttles fall into cartons in different speedzones. These zones are changed due to different temperatures and dampness.

After the speed-testing the flight behaviour is tested by hitting the shuttles with a ball machine or by good players to classify the shuttles into three categories: 1 (perfect), 2 (good), 3 (okay).

TESTING A SHUTTLE FOR SPEED

Shuttles are tested using a full underhand stroke which makes contact with the shuttle over the back tramline. The shuttle shall be hit at an upward angle and in a direction parallel to the side lines. A shuttle of correct speed should not land less than 530 mm and not more than 990 mm short of the other back tramline.

VICTOR Rackets Ltd. 1.200 employees. One of the biggest factories for shuttlers, rackets (and textiles) worldwide

VICTOR GOLD Champion

Official shuttle for several important tournaments, BWF approved and official shuttle also in Austria, Switzerland, Germany and other countries.

innovativ electronic feathersorting machine
VICTOR feather shuttlecock

Characteristics:

- depending on the country, they are made from either goose (China) or duck feathers (Taiwan)
- 16 feathers are required for each shuttlecock
- the cork tip is covered with leather
- considerably better playing characteristics than nylon shuttlecocks, which is more and more important also in lower divisions
- the flying projection is fast and high rising, falling steeply

Feather shuttlecocks are used by advanced players and in higher divisions. Feather shuttlecocks should weigh from 4.9 grams up to 5.1 grams, because this is relevant for the speed of the shuttlecock. VICTOR shuttlecocks are mainly produced in speeds 77 and 78. Those numbers are the weight of the shuttlecock in grain, an English measurement. For the alp regions VICTOR also produces shuttlecocks in speed 75 and 76.

VICTOR shuttles are subject to very strict quality inspections. Every shuttlecock is hit either by hand or automatically after the speed test to check for the flying projection. Only 30 % of the shuttlecocks produced reach the European market.

Marks:
- Slow ball (77) for
- low halls
- higher altitude
- warm climate

VICTOR nylon shuttlecock

Characteristics:

- longer lasting
- cheaper
- good nylon shuttles do have a cork bottom covered with leather or artificial leather
- nylon skirtings should have 3 cross beams
- coloured nylon skirtings are possible
- flying projection is relatively spherical and the characteristics are identical within one species

Nylon shuttlecocks are used in schools, leisure centres and lower league divisions.

Marks:
- the speed is marked by coloured stripes round the cork
- red = fast
- blue = medium
- green = slow
VICTOR SHUTTLES

VICTOR feather shuttlecocks

VICTOR GOLDChampion
The official shuttle for several major tournaments, and official shuttle in Austria and Germany as well as many other countries. BWF approved.

VICTOR Service
The absolute bestseller. For decades one of the bestselling shuttles. Speed 77 and 78. In 12 pcs per tube.

VICTOR Maxima
Resilient practice and tournament shuttle, with new cork, stabilizing the feathers.

VICTOR Queen
Well known all over the world as a functional durable shuttle. For practice and competition (also as a 3 pcs tube).

VICTOR Pro Court
Inexpensive shuttle for practice. Also available as 6pcs per tube.

VICTOR Special
Tournament shuttle. Official shuttle for Austria.

VICTOR nylon shuttlecock

Shuttle 2000
Only the best Portuguese cork is used for this shuttle. Made in our own VICTOR mould which makes this nylon shuttle one of the best worldwide. 3 speeds, either in yellow or white skirting.

Shuttle 1000
Midclass shuttle with cork for schools and leisure play, with 3 speeds, either in yellow or white skirting. 3 or 6 shuttles per tube.

Shuttle 500
Nylon shuttle, speed medium with nylon skirt and cork. Very inexpensive, but with longlasting cork material. 6 pcs per tube. Medium speed with white or yellow skirt only.

Shuttle 400
Nylon shuttle with excellent cost effectiveness. Suitable for the hobby player or as a standard leisure center shuttle.

A shuttlecock (often abbreviated to shuttle and also known as a bird or birdie) is a high-drag projectile, with an open conical shape: the cone is formed from sixteen overlapping goose feathers embedded into a rounded cork base. The cork is covered with thin leather. VICTOR is one of the oldest manufacturer of shuttlecocks since 1958.

Shuttles with a plastic skirt are often used by recreational players to reduce their costs as feathered shuttles break easily.

Comprehensively registered

Badminton manual
The basics of strings

“If you want to play a fine-tuned game, the strings are the main thing!”

Why? Because you control and hit the shuttle with the string and not with your racket. Experts say, that the string is responsible for at least 70% of the shuttle flight. Generally the racket string should be renewed twice a year – ideally at the beginning of a new season. Everyone who plays more than once a week should renew the strings more often, allowing them a to play a controlled slice, drop etc.

Advantages of a renewed string

Improve your game - less expenses and costs: a high value string made to your specific requirements costs a fraction of what a new strung racket would cost. If strings lose their tension, they also lose their power and control.

Change your game: the strength and characteristics of a string can completely change your game, just like a new racket. Choose a string for your playing style: different strings can offer different advantages like power, control and durability.

For more power in your racket: a powerful string. More action and control: A string with special multifilament core. If you have tennis elbow; there are multifilament nylon strings enabling a soft game play and can absorb the shock of a service before it gets into your elbow.

Ask the experts or your personal stringing service to find the most suitable string for you.

Ashaway the No. 1 in the world, a 175 years old factory based in USA, has been “joined” with us for more than 25 years. In Badminton and Squash ASHAWAY is the No.1 worldwide!

The excellent performance of ASHAWAY is based on reliable production (because of high grade technique) of thin (touch) and very durable multifilament strings.

<table>
<thead>
<tr>
<th>ASHAWAY-STRING</th>
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<tbody>
<tr>
<td>String Colour Aperture Advantage</td>
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<tr>
<td>ASHAWAY blue/orange/white 0,70 mm The no.1 for artists. This string convinces with his dynamic + grip.</td>
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<tr>
<td>ASHAWAY white 0,70 mm The no.1 for artists. This string convinces with his dynamic + grip.</td>
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<tr>
<td>ASHAWAY withe/orange/blue 0,73 mm This string convinces with his dynamic and grip. Much more lasting than normal Micro Power.</td>
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<tr>
<td>ASHAWAY PowerGut 65 black/orange, black/green, neon green, neon orange 0,70 mm This string guarantees maximum touch and optimal power. Lossless tension hardness. The rough surface offers optimal grip.</td>
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<tr>
<td>ASHAWAY Micro Legend XL grey/red/blue 0,73 mm A string which offers much control and feeling.</td>
</tr>
<tr>
<td>ASHAWAY Rally 20 natural 0,85 mm Multilfe skilstring with more than 1000 filamentens.</td>
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<td>ASHAWAY Rally 21 natural/yellow/green/lila 0,75 mm The no.1 for artists in germany.</td>
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<td>ASHAWAY Rally 21 Ti withe-grey 0,75 mm Further developed with titan additive for much more power.</td>
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<tr>
<td>ASHAWAY Rally 22 elect.-blue 0,68 mm Harmony of touch and durability (Touch of the Micro, durability of the R21).</td>
</tr>
<tr>
<td>ASHAWAY Rally 22 Ti withe-grey 0,68 mm Excellent feeling and extremely durable.</td>
</tr>
<tr>
<td>ASHAWAY Flex 21 gold 0,75 mm Ideal durability at top playing characteristics.</td>
</tr>
<tr>
<td>ASHAWAY Flex 21 Micro gold 0,70 mm Braided Technology, with more than 2000 filaments. Durability like the Flex 21 but with much increased touch at 0,70 mm.</td>
</tr>
<tr>
<td>ASHAWAY Natural Gut nature 3,0/0,5 (0,69-0,76 mm) Unsealed, elastic natural gut string, which has a very high vibration damping a lot of touch for top athletes.</td>
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Cooperation

between VICTOR International & ASHAWAY

One of the oldest family enterprises in the USA celebrates it’s 175-year-old anniversary with a lot of celebrities, as well as almost all worldwide representatives in Rhode Island next to Boston, in 1999.

Besides the production of sutures and fishing strings, Ashaway also manufacture racket strings and are the only manufacturer of this kind in America. They have established themselves out as the number one in quality and technology in the world in badminton and squash.

Our business partner ASHAWAY distinguishes itself with the reliable production of extremely thin and durable multifilament strings.

VICTOR International and ASHAWAY are a perfect partnership due to their high demands on quality.
Stringing machines

VICTOR M 3000
- manual
- only for Badminton rackets
- 6-12 kp. stringing tension
- including additional repair clamp

VICTOR offers teachers, players and sports traders economical electronic stringing machines as well as the essential repair accessories.

Gut string characteristics:
- Made from cow or sheep gut, (enabling a very good touch and a high shuttle acceleration)
- Reduces vibrations
- Strength between 0,70 mm and 0,85 mm
- Sensitive to external effects and so it has less durability
- More expensive than synthetic guts
- Becoming less popular on the badminton scene

STRING CATEGORIES

1. Natural gut strings
   Produced from cow or sheep bowels. The highest elasticity and play comfort, but expensive and sensitively.

2. Polyester strings
   Made from one piece of polyester. High elasticity at small aperture. Favoured by tournament players

3. Compact core with one casing
   A composition of thin filaments is wrapped around a synthetic core. Relatively light and mainly cheaper strings.

4. Multi filament strings
   Up to several thousand (!) filaments, are twisted with each other without core and are glued together. Very high elasticity.

5. Zyex string
   Are produced from the same named mineral fibre. With play qualities similar to gut strings but with less sensitivity. Lower priced.

6. 100% braided kevlar
   From Kevlar fibres or similar (Kramid, etc.) extremely durable. Normally only used as a lengthwise string combined with other strings.

7. Compact core with two casings
   As 3, except that only two filaments are wrapped around the core. Therby as a rule better play qualities, however, also higher price.

8. Nylon microfilament core with one casing
   As 3, but here the core exists also of several filaments. Results mainly in a much higher elasticity.

9. Nylon microfilament core with two casings
   As 5, but wrapped with two filament - plies. Another refinement and thereby, as a rule, also an improvement.

10. Structured strings
    Strings of the category 3 to 6, which have on grounds of additional or thicker single filaments a structured surface for more spin.

11. Polyamide gut strings
    Production procedures like 1, but made off polyamide. Also combined with other materials for different types of players

12. Metal fibres-strings
    Similar to kevlar® strings. Unused only as length wise string in combination with other strings. Particularly thin diameter.
Racket grip

At the optimum hold of the racket the hit surface is like an extension of the open palm of the hand. To set this hold, you put your hand on the lining of the racket and direct it to the grip without changing the angle to the racket. At the lower end, shortly before the bulge the hand surrounds the grip. With this grip hold you can practically perform every forehand stroke. For backhand strokes side the thumb will give you enough pressure on the racket. The outstretch of the forefinger is a typical fault, which can be noticed at some badminton players. The strength of the grip should be equal to the inflexibility of the racket. For wide and powerfull strokes the racket should be held at the base (longhold). At short and precise netplay the racket should be held further up (shorthold).

Service

Beside the drive from the play there are numerous impact variations. Basically one distinguishes forehands and backhands. With the forehand serve the racket is accelerated at the side of the body of the player and the ball is thrown in the direction of the racket. This impact is suited especially for the singles match. In the doubles match the backhand impact is used the most. Here, the racket is placed with the clutch upwards before the body, the ball is brought in position in front of the racket and then it is played with the use of the thumb and with the rotation of the wrist. A regular impact must occur in the diagonally opposing part of the field. Furthermore the hitting player must stand with both feet in the impact field without touching the lines and has to hit the ball below his waist.

The short impact is the standard play opening during a doubles match. The flight curve of the ball should reach its highest point before crossing the net and be very flat, so that it is almost impossible for the opponent to react with a direct attack. A deceptive, short impact in the direction of the external line can be used only in the double match as a successful variation if the opponent tries to attack the impact very aggressively.

Advice:

When practising it is important to have success. The exercises should always be something in the surrounding. (for example: hit the bar or the basketball net background) whereby the goal is to get from easy level to the hard level. That means during the aiming practice first try to hit larger items, (i.e. large mat), and then gradually aim for smaller items, (i.e. small box).

Suggested exercises

- Shadow service action
- Serve with shuttle
- Arm for height target
- Arm for width target
- Serve in height and breadth
Drive:
When the shuttlecock is near to net height, players can hit drives, which travel flat and rapidly over the net into the opponents’ rear midcourt and rear court. Pushes may also be hit flatter, placing the shuttlecock into the front midcourt. Drives and pushes may be played from the midcourt or forecourt, and are most often used in doubles: they are an attempt to regain the attack, rather than choosing to lift the shuttle and defend against smashes. After a successful drive or push, the opponents will often be forced to lift the shuttlecock.

Deceptive lift:
With this variation a short impact will be simulated (4). The shot must be performed in such a way that the opponent can not hit the shuttle when it crosses them, but only when he is running backwards. The flight path should not be too high to give the opponent not very much time for reaching the ball while he is running backwards.

High Serve
This shot is the standard way to start a rally in singles. The shuttle is hit high and long to the opponent’s baseline. Ideally the shot should push your opponent to the back of the court and under pressure. Your opponent is therefore forced to move out of position and take the shuttle deep in the rear court.

In order to play a backhand shot, a high degree of coordination is required. Experienced players avoid playing a backhand at the rear of the court by getting in position and moving round the shuttle in order to take it on the forehand, this is not advisable when playing at the net.

Suggested exercises
- getting of conscious of motion sequence without shuttle
- lift the shuttle from ground with your racket, tossing it up from the backhand side and hit the falling down shuttle with the backhand
- strike the shuttle against a wall
- train in groups after somebody throw the shuttle to one
When defending against a smash, players have three basic options: lift, block, or drive. In singles, a block to the net is the most common reply. In doubles, a lift is the safest option but it usually allows the opponents to continue smashing; blocks and drives are counter-attacking strokes, but may be intercepted by the smasher’s partner. Many players use a backhand hitting action for returning smashes on both the forehand and backhand sides, because backhands are more effective than forehands at covering smashes directed to the body.

Information

Very often the upswing phase of the motion sequence leads not to the opposition of the stroke arm, but remains on the stroke arm side. Then the stroke expiry does not cross the body vertical. The clue: "Strike through the uplifted contra arm" helps basically on the way of learning the right motion sequence in the phase after the ball was hit which has an essential meaning for the hardness of the stroke.

The clear is a long and high shot which should fly from one end of the court to the other. This shot can be played as both an attacking and defensive shot. When played as an attacking shot the flight pattern is a lot lower and the shot is played with more speed. For beginners the shot is generally a defensive one and is played without pace. The clear is the most popular stroke in badminton.

Information

If the ball is undercutted, it has a upside leaded flight chart. which leads to, that the opponent can make an affront strike. The notice " hit the ball as early as possible must not miss, only so a steep downside flight chart is possible.
Didactic Sets  
from the hand to the racket - co-ordination and basic education for schools

The new didactic training set. Developed by product counsellor Mr. Mais.
A systematic teaching set aid to hit balls and shuttles correctly. Starting with a "wooden hand", enlarging shaft, changing material, ending with "Youngster", Kiddy and Al 2200 racket.

Hit ball racket
A racket without a shaft which is ideal to teach the correct hitting of the ball. An adjustable velcro handle provides the necessary hold.

Featherball racket
This racket is suitable to teach the correct grip. It has a grip but no shaft.

Minifeatherball racket
The Minifeatherball-racket is similar to a classic badminton racket, but has a shorter shaft. With the introduction of strings the shuttles will play faster which, in turn, requires a faster reaction of the student.

V-Youngster racket
Badminton racket with an 8 cm shaft for children (5 - 9 years). Short range but high precision for schools and associations. Stable racket head, very flexible strings and a perfect grip gives the optimal basics for age appropriate badminton game.

V-AL 2200 Kiddy
The last step on of the way to the standard badminton racket is the kiddy racket. Its racket head is the normal size but the shaft is 5 cm shorter.

School Maxi Pack

20 Badminton rackets
VICTOR _AL 2200_ steel/aluminium strung with the best string in the world Rally 21

4 tubes, Shuttle 2000
(6 nylon shuttles per tube)
Top class training shuttles with white skirting and real cork bottom. Also available with yellow skirting.

1 VICTOR College Bag

1 Badminton magazine
Brochure with rules and special coaching information.

1 Rules- and technique poster in (A2 Format)

1 Trainings DVD
basics and techniques of badminton.

Badminton racket VICTOR AL 2200 and VICTOR AL 3300, strung with the tops string of the world, ASHAWAY Rally 21. With this string even a cheap racket can perform good shuttle control and feeling. It is definitely longer lasting and offers more smash- and stopp possibilities.

VICTOR Trainer 135
Heavy carbon racket for strength and endurance training.
weight: apt. 140 g

VICTOR AL 2200
The school sport classic with good cost and performance ratio. Strung with Ashaway Rally 21.
Badminton jargon

On the badminton scene numerous terms have been developed for a easier understanding between players and trainers to define badminton specific circumstances

**Alley**: extension of the court by 1-1/2 feet on both sides for doubles play
**Back Alley**: Area between the back boundary line and the long service line for doubles.
**Backcourt**: Back third of the court, in the area of the back boundary lines.
**Balk (Feint)**: Any deceptive movement that disconcerts an opponent before or during the service.
**Baseline**: Back boundary line at each end of the court, parallel to the net.
**Carry**: An illegal tactic, also called a sling or a throw, in which the shuttle is caught and held on the racquet and then slung during the execution of a stroke.
**Center or Base Position**: Location in the center of the court to which a singles player tries to return after each shot.
**Center Line**: Line perpendicular to the net that separates the left and right service courts.
**Clear**: A shot hit deep to the opponents back boundary line. The high clear is a defensive shot, while the flatter attack clear is used offensively.
**Court**: Area of play, as defined by the outer boundary lines.
**Drive**: A fast and low shot that makes a horizontal flight over the net.
**Drop**: A shot hit softly and with finesse to fall rapidly and close to the net on the opponent’s side.
**Fault**: A violation of the playing rules, either in serving, receiving, or during play.
**Feint (Balk)**: Any deceptive movement that disconcerts an opponent before or during the service.
**Flick**: A quick wrist and forearm rotation that surprises an opponent by changing an apparently soft shot into a faster passing one; used primarily on the serve and at the net.
**Forecourt**: Front third of the court, between the net and the short service line.
**Hairpin Net Shot- Shot**: made from below and very close to the net with the shuttle rising, just clearing the net, and then dropping sharply down the other side. The shuttle’s flight approximates the shape of a hairpin.
**Halfcourt Shot**: A shot hit low and to midcourt, used effectively in doubles against the up-and-back formation.
**Kill**: fast downward shot that cannot be returned; a “putaway”.
**Let**: A legitimate cessation of play to allow a rally to be replayed.
**Midcourt**: The middle third of the court, halfway between the net and the back boundary line.
**Net Shot- Shot**: hit from the forecourt that just clears the net and then falls rapidly.
**Push Shot**: Gentle shot played by pushing the shuttle with little wrist motion, usually from the net or midcourt to the opponent’s midcourt.
**Racquet (Racket)**: Instrument used by the player to hit the shuttlecock.
**Rally**: Exchange of shots while the shuttle is in play.
**Serve (Service)**: Stroke used to put the shuttlecock into play at the start of a rally.
**Service Court**: Area into which the serve must be delivered. Different for singles and doubles play.
**Short Service Line**: The line 6-1/2 feet from the net which a serve must reach to be legal.
**Shuttlecock (Shuttle)**: Official name for the object that the players must hit.
**Smash**: Hard-hit overhead shot that forces the shuttle sharply downward. Badminton’s primary attacking stroke.
**Wood Shot- Shot**: that results when the base of the shuttle is hit by the frame of the racket. Once illegal, this shot was ruled acceptable by the International Badminton Federation in 1963.
The court

Generally Badminton is played in a hall, because light wind circulations can influence the flight of the shuttle.

The hall must have a minimum height of 5m. The court is 13.40 m long and 6.10 m wide. The net has to be stretched to ensure, that the height of the net is 1.55 m at the post and 1.524 m in the middle. The lines are 4 cm wide and divides the field which they are bordering.

Singles

The singles court is narrower than the doubles court, but the same length. The exception is during service when a singles serve can be longer than a doubles serve. As one person needs to cover the entire court, singles tactics are based on forcing the opponent to move as much as possible; this means that singles strokes are normally directed to the corners of the court. Players exploit the length of the court by combining lifts and clears with dropshots and netshots. Smashing is less prominent in singles than in doubles because players are rarely in the ideal position to execute a smash, and smashing often leaves the attacker vulnerable if the smash is returned.

In singles, players often start the rally with a forehand high serve. Low serves, either forehand or backhand, are also used frequently. Flick serves are less common, and drive serves are rare.

At the top level, singles demands extraordinary fitness levels. Singles is a game of patient positional maneuvering, unlike the all-out aggression of doubles.

Doubles

Both pairs will try to gain and maintain the attack, smashing downwards when possible. Whenever possible, a pair will adopt an ideal attacking formation with one player hitting down from the rear-court, and his partner in the midcourt intercepting all smash returns except the lift. If the rear-court attacker plays a dropshot, his partner will move into the forecourt to threaten the net reply. If a pair cannot hit downwards, they will use flat strokes in an attempt to gain the attack. If a pair is forced to lift or clear the shuttlecock, then they must defend: they will adopt a side-by-side position in the rear midcourt, to cover the full width of their court against the opponents’ smashes.

At the highest level, the backhand serve has become popular to the extent that forehand serves almost never appear in professional games. The straight low serve is used most frequently in an attempt to prevent the opponents gaining attack immediately. Flick serves are used to prevent the opponent from anticipating the low serve and attacking it decisively. At the highest level, doubles rallies are extremely fast. Men’s doubles is the most aggressive form of badminton, with a high proportion of powerful jump smashes.

Mixed doubles

In mixed doubles both pairs try to maintain an attacking formation with the woman at the front of the court and the man at the back. This is because the male players are stronger, and can therefore produce more powerful smashes. As a result, mixed doubles requires greater tactical awareness and subtle positional play. Clever opponents will try to reverse the this position, by forcing the woman towards the back or the man towards the front. In order to protect against this, mixed players must be careful and systematic in their shot selection. At high levels of play, the formations are generally more flexible: the top women players are capable of playing powerfully shots from the rear-court, and will happily do so if required. When the opportunity arises, however, the pair will switch back to the standard mixed attacking position, with the woman at the front.
“Best-of-three sets” to 21 points is used. Winner is the first to reach 21 points providing they are two points clear. At 21:20 the game will be extended until someone wins by two clear points up to 30 points.

For every rally won a point is scored. In addition to this, the person who win the preceding rally receives the serve.

With the new rallypoint Scoring System introduced on the 1st August, 2006 the average playing time decreases by approximately 10 minutes per game. All together the planning and organisation of tournaments becomes simpler.

Another reason for the introduction of the new Scoring System was to prevent games being long and drawn out.

Another introduction is the new coaching rule. Now a coach sitting next to the court may give advice to his player between the rallies providing the opponent is not disturbed.

**Umpire match**

In higher league matches and international competitions the matches are overseen by umpires and officials.

The referee sits on a raised chair and is responsible for the action of the game, action of the game and for anything directly affecting the court. He is supported by an impact referee who specifically observes the hitting player and announces possible infringements. In addition there are up to five linesman for every half field who the observe sidelines, centre line and base line and as well inform about shots which land outside the court.

A suitable shoe should provide a strong side-stand and have a good shock-absorbing sole. But the rule is, the less shock-absorption you have, the faster your jump, but the protection is very low.

Quick changes in direction, jumps or lunges are directly stressing your joint. Medical experts came to the conclusion, that it is important to have a good shoe with good cushioning.

**How to choose the right shoe**

A badminton shoe plays a significant part in preventing injury.
Laws of Badminton

FAULTS
When serving, it is considered a fault when the shuttlecock:
- is caught in the net and remains suspended on the top after passing over the net, lands outside of the court is hit by the receiver's partner.
- When playing, it is considered a fault when the shuttlecock:
  - lands outside of the court.
  - passes through or under the net.
  - touches any other object or person outside the court.
- If a fault occurs, the next point shall be played by the opponent.

TOUCHEs
- Touches a player's racket and does not travel towards the opponents court.
- In doubles, a shuttlecock may travel over the net and touch the net, provided that:
  - the shuttlecock is not obstructed or obstructed by a physical obstacle.

SCORES
- The game consists of the best of 3 games and is won by the first side to score 21 points.
- If the score is 29-29, the player who wins the next point wins the game.
- If the score is 30-30, then a new game shall be played.

LETS
- A let shall be called by the umpire, or by a player if there is no umpire, to halt play.
- The serve shall start again if a let is called.
- During play, the shuttlecock breaks and the base completely separates from the net of the shuttlecock.
- A new let shall be called if the umpire is unsure of the let.

INTERVALS
- When the first side reaches 11 points, there is a break of 60 seconds.
- When every side reaches 0 points, there is a break of 2 minutes in which the players may leave the court.

VICTOR International GmbH
Robert-Bosch-Str. 17 | 25536 Emstek | Tel. +49 (0)4121 - 450 130 | Fax +49 (0)4121 - 450 1310 | E-Mail: info@victor-international.net | www.victor-international.net
Official shuttle for several important tournaments, IBF approved and official shuttle also in Austria, Switzerland, Germany and other countries

GOLD Champion

Official shuttle in all divisions!

50 years reliability!

76 77 78

Do you need more information or the new catalogue?
You can also find further innovative technologies in squash and tennis products. Furthermore VICTOR also produces high class fashionable sportswear as well as shoes, socks, bags and accessories designed for their respective sports.

We look forward to helping you!
Please contact us at following address:
info@victor-international.com
Tel. +49 (0) 4121 - 450 130

Standard cork of a shuttle

The structure of a standard natural shuttle cork is normally spongy (with holes), that's why there is not enough hold for the feather. The feather (the stick) is not fixed properly and whobbles when flying. Generally the feathers fall out much faster. Certainly the whole rotation and flight-stability as well as the durability suffers. The whole game is a lot less fun!

VICTOR premium cork

Problems shown and described on the left page are completely stopped at our factory "VICTOR RACKETS LTD" by using "artificial cork" in the upper part, allowing the feather (sticks) to stay firmly in a hard comprehensively surrounding foam. Shaking and shivering feathers, whobbling shuttles are not existent any longer. Only the very lowest corkpart needs real cork (of highest A-grade) to restassure the necessary "re-bouncing effect". This innovative combination promises best flight rotation and stability and certainly maximum durability.

That's why VICTOR Rackets produces 2,7 mio per month as market-leader worldwide!