

# USER'S MANUAL



The result of perfection



ICEPEAK 3

## WELCOME

We wish to welcome you to our team and thank you for the confidence, which you have placed in a NIVIUK Glider.

The ICEPEAK 3, as its name suggests is the 3rd generation competition glider from Niviuk. A glider designed for experienced pilots, to bring you not only gliding pleasure but also to bring you success and take you to the winners' podium. During its design it was put through many tests and in live competitions it perhaps not surprisingly it found itself on the winners podium. The ICEPEAK 3, not a legend but reality.

We are sure that you will enjoy flying this wing and that you will soon find out the meaning of our slogan:

“Give importance to the small details to make big things happen”

This is the user manual, which we recommend you take time to read in detail.

The NIVIUK Gliders Team.

## USER'S MANUAL

NIVIUK Gliders ICEPEAK 3.

This manual offers all the necessary information that will familiarize you with the main characteristics of your new paraglider. Although this manual informs you about your glider, it does not offer the instruction requirements necessary for you to be able to pilot this type of wing. To thoroughly learn about this glider and its in flight characteristics please, be patient and allow yourself time to discover the true and full potential of this new generation competition glider.

Nevertheless we remind you that it is important that you carefully read all the contents of the manual for your new ICEPEAK 3 glider.

Severe injuries to the pilot can be the consequence of the misuse of this equipment.

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## 1. CHARACTERISTICS

### 1.1 WHO IS IT DESIGNED FOR?

The ICEPEAK 3 has been designed for both experienced and competition pilots who have good flying knowledge and a high level of paragliding skills. Designed for competition the ICEPEAK 3 is a perfect combination of technology and performance. These qualities have been ultra fine tuned throughout a year of many tests on many prototypes and the results are a glider of high speed, excellent thermalling efficiency and safety which is one of the best in this category.

### 1.2 CERTIFICATION

The ICEPEAK 3 completed the (EN 926-1) load test with success at the Swiss Air-Turquoise laboratories in Switzerland. Our test pilots have flown the ICEPEAK 3 in many varying meteorological conditions throughout the world and we are confident that even in the strongest conditions you will safely be able to optimise the performance. It is very well known that a wing, which suffers excessive deflation and deformation during turbulence, loses performance and time.

### 1.3 IN FLIGHT BEHAVIOUR

It has taken over a year of dedicated work to create a glider of such high performance whilst achieving a maximum level of safety. Many flights in many varying and testing conditions have allowed us to bring to you a competition glider with not only the ultimate safety in its class but also a glider which is pleasurable and easy to handle.

The profile of the glider ensures that all the information and feedback, which you receive from the ICEPEAK 3 remains both clear and efficient. With an aspect ratio of 7.5 and with just 3 rows of lines it may require several hours of flight to become fully conversant with the flight characteristics of the ICEPEAK 3. In thermals and during transitions, as the airflow through the open ports increases and decreases, our unique "MSV system" (Mesh speed Valve) will

automatically adjust (open/close) according to your speed. You will quickly discover the true potential of this glider, the Icepeak XP was excellent in thermals but the ICEPEAK 3 is simply incredible. During transitions with its high speed and ultra efficient glide you will feel the high level of security whilst enjoying maximum feedback of information. The unique use of Flexirods in our "IRS" (Internal Reinforcement System) ensures less glider movement and more internal stability during turbulence.

The speed bar is smooth and progressive. On the initial application of the speed bar you will note a significant increase in speed but without any loss of glide, this remains the same as without speed bar. Further pressure on the bar to its maximum, brings to you the full the speed of the glider without loss of confidence or feedback.

### 1.4 ASSEMBLY, MATERIALS

The ICEPEAK 3 is the result of all the technological innovations, which have been perfected throughout several years and also used on other Niviuk gliders. Attention to small details has been applied, such as the use of Harken pulleys, Flexirods and small-scale pulleys being fitted on the risers. These improvements allow maximum and efficient use of the accelerator without excess fatigue to the legs.

The new generation profile has been carefully designed to evenly spread the total weight and stress load across the three rows of lines. The chosen materials and line dimensions have minimum air resistance while maintaining the high standards of security and load tests.

**The ICEPEAK 3 has competition lines, which do not have the protection of outer sheathing. Whilst these lines offer less air resistance they are more susceptible to the day-to-day stresses and abrasion of our sport. We advise you to check the lines every 100 hours or every 6 months.**

The ICEPEAK 3 does not only introduce new design methods but also new manufacture technologies. Not a single millimetre of error is possible in the manufacturing process from Olivier's computer to the cutting of the fabric. The cutting is done section by section in an extremely meticulous manner.

The numbering and marking of the guideline marks is also done in the same meticulous way so avoiding errors during this critical process

The lines are semi-automatically manufactured and all the sewing is carried out under the supervision of our highly trained specialists. Our zero tolerance, automated process, ensures that each individual part of every canopy are cut and assembled under the strictest of conditions possible.

All NIVIUK Gliders go through an extremely thorough and efficient final inspection. Once the final assembly has finished every individual line on each glider is again carefully measured.

On the completion, each assembled part of every wing is once again thoroughly inspected to ensure your glider has been made to the highest standards. It is then carefully packed as recommended in the manual under maintenance and conservation. NIVIUK Gliders are made using only the highest quality materials as demanded by the performance, durability, and the requirements for testing and certification.

Information about construction materials is given on the last pages of this manual.

## **1.5 ELEMENTS, COMPONENTS**

The ICEPEAK 3 is delivered to you together with a series of components that, although not fundamental, do take an important part in the use, transport and storage of the paraglider. The glider is delivered together with a rucksack, large enough for all of the equipment to fit inside, once appropriately packed. The rucksack is designed to make transport on foot as pleasant as possible. An internal bag, intended to protect the ICEPEAK 3 from possible damage, during storage is also supplied.

The glider strap allows you to fold the wing as small as possible. Furthermore you will find the accelerator bar, which completes the acceleration gear of the wing, a small fabric repair kit made of self-adhesive ripstop and a user's manual with the answers all our questions about our new ICEPEAK 3.

## **2. UNPACKING AND ASSEMBLY**

### **2.1 CHOOSE THE RIGHT PLACE**

We recommend that you unpack and assemble your wing on a schooling slope or a flat clear area without too much wind and free of all obstacles. These conditions will allow you to carry out all the steps required for you to check and inflate the ICEPEAK 3.

We recommend that an instructor or a retailer supervise the entire procedure, as only they are qualified to resolve any questions or concerns in a safe and professional way.

### **2.2 PROCEDURE**

Take the paraglider out of the rucksack, open it and spread it open with the lines on top of the underside and position the wing as if you were about to inflate it. Check the condition of the fabric and the lines, making sure there are no abnormalities. Check the maillons that attach the lines to the risers are properly closed and locked. Identify in order the A, B and C and brake lines and ensure they fit to the corresponding risers. Make sure that there are no ties or knots.

### **2.3 ASSEMBLY OF HARNESS**

Correctly place the risers on the harness karabiners. The risers and lines should not have any twists and they should be in the right order. Check that the harness buckles are correctly locked.

### **2.4 TYPE OF HARNESS**

The ICEPEAK 3 can be flown with many types of harness, with cocoon or not. During development and testing we have calculated that a distance of 42 to 50cm between the harnesses karabiners (it depends of the design and size of your harness), should offer the best compromise for safety, handling and feedback.

NB. Incorrect adjustment can seriously affect the piloting of the glider. A distance, which is too wide between the karabiners, may provide more feedback but could affect the overall stability of the glider. A distance, which is too narrow between the karabiners, would provide less feedback but also increase any risk of developing a twist in during a large collapse.

## 2.5 ASSEMBLY OF THE ACCELERATOR

The acceleration mechanism of the ICEPEAK 3 works when you push with your feet on the accelerator bar, this is supplied with the equipment. On delivery the accelerator bar has not yet been installed and it is recommended that it be correctly fit before your first flight. Most harnesses are equipped with a pre-installed acceleration system. When fitting any accelerator system ensure that all preinstalled items within the harness, such as roller pulleys are used correctly. After fitting, take into account that you will have to adjust the length of the accelerator lines for correct use. This will vary according to the length of the pilot's legs! We recommend that you carry out the fitting of the acceleration system, whilst suspended and sat in the harness, most paragliding schools have this sort of specialised equipment.

## 2.6 INSPECTIONS AND WING INFLATION ON THE GROUND

Once you have checked all the equipment and made sure that the wind conditions are suitable, inflate your ICEPEAK 3 as many times as necessary in order to become acquainted with the wing's behaviour. The ICEPEAK 3 inflates easily and smoothly. An excess of energy is not necessary and the wing will inflate with minimum pressure on the harness. This may be assisted by using the A lines. Do not pull on them, just accompany the natural rising movement of the wing. Once the wing is in the 12 o'clock position, simply apply correct pressure on the brake lines and the ICEPEAK 3 will sit over your head.

## 2.7 ADJUSTING THE BRAKES

The length of the main brake lines is adjusted at the factory to the length established during certification. However, the length can be changed to

adapt to the pilot's flying style. Nevertheless, we recommend that you fly for a while with these, set at the original length. If you then decide to change the length of the brake lines, untie the knot, slide the line through the brake link to the desired length, and strongly re-tie the knot. Qualified personnel should carry out this adjustment. You must ensure that this adjustment does not slow down the glider without any pilot input. Both brake lines should be symmetrical and measure the same length. The most recommended knots are the clove hitch knot or bowline knot.

**If you do change the length of the brake line, take care to then adjust the accelerator accordingly. It is important that the brakes are released when you push on the speed bar. If you have tension on the brake lines whilst you are accelerating the possibility of a frontal collapse is increased. This is because, by applying accelerator pressure and brake pressure at the same time the profile will have changed dramatically and have been pushed beyond its preferred operating limits. It should be noted that whilst accelerating the C riser will naturally move upwards and apply tension to the brake lines.**

## 2.8 HOW USE THE TRIM

The ICEPEAK 3 has trimmers to optimise your performance in varying conditions. However, whilst becoming acquainted with the glider we would advise you don't change the position of the trimmers and fly at first with them set in the neutral position. Throughout the flight, on launch, in the air and prior to landing it is imperative that whatever positions the trimmers are set, they always remain symmetrical.

## 3. THE FIRST FLIGHT

### 3.1 CHOOSE THE RIGHT PLACE

We recommend that the first flight with your ICEPEAK 3 be made on a smooth slope (a school slope) or in your usual flying area.

### 3.2 PREPARATION

Repeat the procedures detailed in chapter 2 (UNPACKING AND ASSEMBLY) in order to prepare your ICEPEAK 3.

### 3.3 FLIGHT PLAN

Draw out a flight plan before take-off in order to avoid possible flight errors and minimise risk.

### 3.4 PRE-FLIGHT CHECK LIST

Once you are ready, but before you take-off, carry out another equipment inspection. Ensure correct installation of all equipment and that all lines are free of hindrances or knots. Check and ensure that the weather conditions are suitable for your own flying ability.

### 3.5 WING INFLATION, CONTROL, AND TAKE-OFF

Smoothly and progressively inflate the wing (chapter 2.6 INSPECTION AND WING INFLATION ON THE GROUND). The ICEPEAK 3 inflates easily and does not require excessive energy. It does not tend to over-fly you, so the wing inflation phase can be carried out without worry. These take off characteristics provide a perfect control phase and enough time for the pilot to decide whether to accelerate and take off.

Whenever the wind speed allows it, we recommend a reverse launch technique, this type of launch allows you to carry out a better visual check of the wing. The ICEPEAK 3 is especially easy to control in this position, especially in strong winds. However, wind speeds up to 25 to 30 km/h are considered strong and extra consideration should be given to any thought of flight.

Preparation and positioning of the wing on the launch site is especially important. Choose a location, which is appropriate for the direction of the wind, and position the paraglider in a semi-circle, emulating the shape of the canopy in flight. All this will assist in a trouble free take-off.

### 3.6 LANDING

The ICEPEAK 3 lands excellently, it transforms the wing speed into lift on the pilot's demand, allowing an enormous margin of error. You will not have to wrap the brake lines around your hand to get greater braking efficiency.

### 3.7 PACKING

The ICEPEAK 3 has been designed using Flexirods not only on the leading edge but also with Flexirods on the profile, inside the glider. Because of this care must be taken when packing and folding the glider. The most efficient way to ensure the Flexirods remain damage free is to carefully "concertina" the Flexirods together and fold in no more than 3 sections. Then loosely secure with the compression strap and place everything within glider bag supplied. If you do not intend to fly for more than a week we would advise you to unfold your glider and store it straight, to keep the Flexirods in shape.

## 4. IN FLIGHT

### 4.1 FLYING IN TURBULENCE

The ICEPEAK 3 has an excellent profile, which will deal with the very different meteorological conditions likely to be met during sensible flying. This profile allows the best possible handling, stability and safety in turbulent conditions. Nonetheless, the pilot always has to pilot according to the prevailing weather conditions, the pilot is always the ultimate safety factor. We recommend active piloting, making the necessary fine adjustments to keep the wing in control and above your head. He/she should stop braking to allow it to fly at the required wing speed after a correction is made. Do not maintain any correction for longer than necessary (braked) this would cause the wing to enter into critical flying situation. Whenever necessary, control a situation, react to it and then re-establish the required speed.

## 4.2 POSSIBLE CONFIGURATIONS

We recommend that training to master these manoeuvres be carried out under the supervision of a competent school.

### Asymmetric collapse

In spite of the high stability of the profile of the ICEPEAK 3, heavy turbulent conditions may cause part of the wing to collapse asymmetrically. This usually happens when the pilot has not foreseen this possible reaction of the wing. When the wing is about to experience an asymmetric collapse the brake lines and the harness will transmit a loss of pressure to the pilot. To prevent the collapse from happening, pull the brake line corresponding to the compromised side of the wing, this will increase the angle of incidence. If the collapse does happen the ICEPEAK 3 will not react violently, the turn tendency is very gradual and it is easily controlled. Lean your body towards the side that is still flying in order to counteract the turn and maintain a straight course, if necessary slightly slow down the same side but do not brake it excessively as this may induce a stall. The collapse will normally open by itself but if that does not happen, pull completely on the brake line on the side which has collapsed. Do this with a smooth and firm movement. You may have to repeat this operation to encourage the re-opening. When the collapse has been solved, remember to allow the wing recover its flying speed.

### Symmetric collapse

In normal flying conditions the design of the ICEPEAK 3 ensures that a symmetric collapse is quite improbable. The profile of the wing has been designed to widely tolerate extreme changes in the angle of incidence. A symmetric collapse may occur in heavy turbulent conditions, on entry or exit of strong thermals or lack of adapting the use of the accelerator to the prevailing air conditions. Symmetrical collapses usually re-inflate without the glider turning but you can symmetrically apply the brake lines with a quick deep pump to quicken the re-inflation. Release the brake lines immediately to recover optimum flight speed.

**ICEPEAK 3 is a competition glider, and as such the brake travel is not excessive, any reaction to a control input is immediate. Any corrective action such as pumping the brakes must be carried out quickly so not to induce a full stall.**

### Negative spin

This configuration is out of the normal flight behaviour of the ICEPEAK 3. Certain circumstances however, may provoke this configuration such as trying to turn when the wing is flying at very low speed (while heavily braking). It is not easy to give any recommendations about this situation since it varies depending on the circumstances. Remember that you should restore the relative air speed over the wing. To achieve this, progressively reduce the pressure on the brake lines and let the wing gain speed. The normal reaction would be a lateral surge with a turn tendency no greater than 360° before restoring to normal flight conditions.

### Parachutal stall

If it does occur, the feeling would be that the wing would not have any forward motion, you would feel a sense of instability and a lack of pressure on the brake lines, although the canopy would appear to be correctly inflated. The correct reaction would be to release the pressure on the brake lines and push the A lines forward or rather lean your body to any side **WITHOUT PULLING ON THE BRAKE LINES.**

### Deep stall

The possibility of the ICEPEAK 3 falling into this configuration during normal flight is very unlikely. This could happen if you are flying at a very low speed, whilst over steering in a number of manoeuvres and in turbulent conditions. To provoke a deep stall you have to take the wing to minimum flight speed by symmetrically pulling the brake lines, when you reach this point, continue pulling until you reach 100% and then hold. The glider will first fall behind you and then situate itself above you, rocking slightly, depending on how the manoeuvre was carried out. When you start to provoke a stall, be positive and do not doubt an instant. Do not release the brake lines when half way through the manoeuvre. This



would cause the glider to surge violently forward with great energy and may result in the wing below the pilot. It is very important that the pressure on the brake lines is maintained until the wing is well established vertical above. To regain normal flight conditions, progressively and symmetrically release the brake lines, letting the speed be re-established. When the wing reaches the maximum advanced position ensure that the brakes are fully released. The wing will now surge forward, this is necessary so that air speed is completely restored over the wing. Do not over brake at this point because the wing needs to recover speed to quit the stall configuration. If you have to control a possible symmetrical front stall, briefly and symmetrically pull on the brake lines and let go even when the wing is still ahead of you.

#### Wing tangle (Cravat)

A wing tangle may happen after an asymmetric collapse, the end of the wing is trapped between the lines (Cravat). This situation could rapidly cause the wing to turn, although it depends on the nature of the tangle. The correction manoeuvres are the same as those applied in the case of an asymmetrical collapse, control the turn tendency by applying the opposite brake and lean your body against the turn. Then locate the line that reaches the stabiliser that is trapped between the other lines. This line has a different colour and belongs to the external lines of the C riser. Pull on this line until it is tense, this should help to undo the wing tangle. If you cannot undo the tangle, fly to the nearest possible landing spot, control the flying course with your body movements and a little pressure on the opposite brake. Be careful when attempting to undo a tangle if you are flying near a mountainside or near to other paragliders, you may lose control of the flying course and a collision may occur.

#### Over Input

Most flying incidents are caused by incorrect actions of the pilot, which chained one after another creates abnormal flying configurations (a cascade of incidents). You must remember that over handling the wing will lead to critical levels of functioning. The ICEPEAK 3 is designed always to try to recover normal flight by itself, do not try to over handle it.

Generally speaking, the reactions of the wing, which follow over handling, are neither due to the input made or the intensity, but the length of time the pilot continues to over handle. You have to allow the profile to re-establish normal flight speed after any type of handling. Remember - "Minimum sufficient input"

### 4.3 USING THE ACCELERATOR

The profile of the ICEPEAK 3 has been designed to remain stable through its entire speed range. The speed bar is very usable in competition but it's advisable to have a good training to be able to anticipate possible collapses. Active piloting is always required whilst using the accelerator. Smooth application both on and off is the most efficient and safe way to operate the speed system, if it is applied quickly in an "on/off" motion the anticipation would not be part of the pilots flying and a deflation is more likely. It is useful to accelerate when flying in strong winds or in extreme descending air. When under acceleration the wing profile becomes more sensitive to possible turbulence and closer to a possible frontal collapse. If you feel any pressure loss, you should smoothly release the pressure on the accelerator and pull slightly on the brake lines to increase the angle of incidence. Remember that you must re-establish the flight speed after correcting the incidence. It is NOT recommended to accelerate near to the mountainside or in very turbulent conditions. If necessary you will have to constantly adjust the movements and pressure on the accelerator whilst constantly adjusting the pressure applied to the brake lines. This balance is considered to be "active piloting."

### 4.4 FLYING WITHOUT BRAKE LINES

If, for any reason at all, you cannot use the brake lines of your ICEPEAK 3 you will have to pilot the wing using the C-risers and your body weight to fly towards the nearest landing area. The C-lines steer easily because they are not under pressure, but you must be careful not to over handle them causing a stall or negative turn. To land you have to let the wing fly at full speed and just before reaching the ground you will have to pull symmetrically

on both the C-risers. This braking method is not as effective as using the brake lines so you will land at a higher speed.

#### 4.5 KNOTS IN FLIGHT

The best way to avoid these knots and tangles is to inspect the lines before you inflate the wing for take-off. If you notice a knot before take off, immediately stop running and do not take-off. If you have taken-off with a knot you will have to correct the drift by leaning on the opposite side of the knot and gently apply the brake line on that side too. You can gently try to pull on the brake line to see if the knot becomes unfastened or try to identify the line with the knot in it. Try to pull the identified line to see if the knot releases. Be very careful when trying to remove a knot. When there are knots in the lines or when they are tangled, do not pull too hard on the brake lines, there is an increased risk of the wing to stalling or negative turn being initiated.

Before trying to remove a knot, make sure there are no pilots flying nearby and never try these manoeuvres near the mountainside. If the knot is too tight and you cannot remove it, carefully and safely fly to the nearest landing place.

### 5. LOSING HEIGHT

The modern competition gliders offer excellent performance and safety but sometimes the meteorological conditions can become so dangerous that the need to quickly descend becomes a priority. However, the latest generation of profiles are no longer necessarily suited to the classic descent techniques. We advise therefore that you carefully read this manual and if necessary, complete an SIV course with an authorised instructor.

#### 5.1 EARS

Big ears are a moderate descent method, reaching -3 or -4 m/s, ground speed reduces slightly between 3 and 5 km/h and piloting becomes limited.

The angle of incidence and the surface wing load also increases. Push on the accelerator to restore the wing's horizontal speed and the angle of incidence. To pull big ears take the outermost A-lines of both stabilizers as high up as possible and pull on them outward and downward, the wingtips will then fold in. Let go of the lines and the big ears will re-inflate automatically. If they do not re-inflate, gently pull on one of the brake lines and then on the opposite one. In order to prevent any alteration in the angle of incidence, we recommend that you re-inflate the glider asymmetrically. This is particularly important if you are flying near the ground.

**The ICEPEAK 3 has a relatively short brake travel and care must be taken not to pull down the A3 line to make the ears. This can lead to a significant speed decrease and possible stall. The ICEPEAK 3 has a new high arch concept and applying ears induces more resistance. With this new arch, the ears don't stick to the inner surface but they do tend to "hang". Because of this, there will be more resistance, compared to ears on a standard glider and again a decrease in forward speed should be expected.**

**Big ears may still safely be applied but the pilot must be fully aware of the above-mentioned points and act accordingly, especially in turbulent conditions. To avoid a stall simply use the accelerator halfway (this is sufficient) to increase the forward speed, which will naturally decrease the angle of incidence.**

#### 5.2 B-LINE STALL

This technique is IMPOSSIBLE with the ICEPEAK 3! The profile and high aspect ratio would render the glider too unstable.

#### 5.3 SPIRAL DIVE

This is a more effective way for rapidly losing height. You have to know that, the wing can gain a lot of speed and the increase in G's will be substantial. This can cause a loss of orientation and consciousness (blackouts). These are the reasons why it is best to carry out this manoeuvre gradually so your

capacity to resist the G forces increases and you will learn to fully appreciate and understand the manoeuvre. Always practice this manoeuvre when flying at high altitude.

To start the manoeuvre, first lean your bodyweight and pull the brake line to the side to which you are leaning. You can regulate the intensity of the turn by applying a little outside brake. A paraglider flying at its maximum turn speed can reach –20 m/s, equivalent 70 km/h vertical speed and stabilize in a spiral dive from 15 m/s onwards.

These are the reasons why you should be familiar with the manoeuvre and know how to carry out the exit methods. To exit this manoeuvre you must progressively release the inside brake and also momentarily apply outside brake. Whilst doing this you must also lean your bodyweight towards the outside. This exit manoeuvre must be carried out gradually and with smooth movements so you can feel the pressure and speed changes at the same time. On exiting this manoeuvre the glider will rock briefly with a lateral surge, the intensity will depend on how the manoeuvre has been carried out. Practice these movements at sufficient altitude and in moderation. We recommend not using this technique often because this will age your glider and lines prematurely.

## 5.4 THE WEATHER TECHNIQUE

This technique is the most simple descent technique, allowing your glider to remain in normal flight without forcing the structure. Locate the metrological descend zone (sinking air) and turn in it as you would do for ascending.

## 6. SPECIAL METHODS

### 6.1 TOWING

The ICEPEAK 3 does not experience any problem whilst being towed. Only qualified personnel should handle the qualified equipment to carry out this operation. The wing has to be inflated in the same way as in normal flight.

## 6.2 ACROBATIC FLIGHT

Although the ICEPEAK 3 has been tested by expert acrobatic pilots in extreme situations, it HAS NOT been designed for acrobatic flight and we DO NOT RECOMMEND THE USE OF THIS GLIDER for that use. We consider acrobatic flight to be a form of piloting that is different to normal flight. To learn safely how to master acrobatic manoeuvres you should attend lessons, which are carried out and supervised by a qualified instructor over water. Extreme manoeuvres take you and your wing to centrifugal forces that can reach 4 to 5g. Materials will wear more quickly than in normal flight. If you do a lot of extreme manoeuvres we recommend a line check at least every 6 months.

## 7. FOLDING INSTRUCTIONS

The ICEPEAK 3 has a very complex leading edge, manufactured using a variety of different materials. For that reason and to extend the useful life of your paraglider, the use of a correct folding method is very important. The ICEPEAK 3 has been designed using Flexirods not only on the leading edge but also with Flexirods on the profile, inside the glider. Because of this care must be taken when packing and folding the glider. The most efficient way to ensure the Flexirods remain damage free is to carefully “concertina” the Flexirods together and fold in no more than 3 sections, taking care not to bend or twist the leading edge Flexirods. Then loosely secure with the compression strap and place everything within glider bag supplied. If you do not intend to fly for more than a week we would advise you to unfold your glider and store it straight, to keep the Flexirods in shape.

## 8. CARE AND MAINTENANCE

### 8.1 MAINTENANCE

Careful maintenance of your equipment will ensure continued performance. The fabric and the lines do not need to be washed, if they become dirty, clean them gently with a soft damp cloth. If your wing becomes wet with salty

water, immerse it in fresh water and dry it away from direct sunlight. The sunlight may damage the materials of your wing and cause premature aging. Once you have landed, do not leave the wing in the sun, store it properly. If you use your wing in a sandy area, try to avoid the sand from entering the cell openings of the leading edge. If sand is inside the wing, remove it before folding.

Competition lines, which were used in the past, were more vulnerable to premature wear and ageing but the new line materials used on the ICEPEAK 3 now ensure a much longer working life. However they still demand regular checks with careful attention to wear and tear. We advise a full inspection of the lines every 100 hours at a specialised paragliding repair centre. Rocks and hard ground are obviously far more abrasive than grassed an area, that's why we do not advise the ICEPEAK 3 for ground handling practice.

## 8.2 STORAGE

It is important that the wing is correctly folded when stored. Store your flying equipment in a cool, dry place away from solvents, fuels or oils. It is not advisable to store your flying equipment in the trunk of your car. Temperatures inside a car parked in the sunlight, can be very high. Inside a rucksack and in the sunlight temperatures can reach 60°C. Weight should not be laid on top of the equipment. It's important that your glider has been folded correctly and stored well. If you have to store it for a long time (over one month) we advice (if possible) to take the glider out of the bag and leave it as a tube on a dry and cool surface. (This ensures the Flexirods stay aligned).

## 8.3 CHECK-UPS AND CONTROLS

You should ensure that your ICEPEAK 3 is periodically serviced and checked at your local repair centre every 100 hours of use or every 6 months (whichever happens first). This will guarantee that your ICEPEAK 3 will continue to function properly and therefore continue fulfilling your requirements. As previously mentioned, you should systematically check your lines visually before each take-off. We strongly advise a complete line check every 6 months. We remind you, you are flying with a competition glider and competition lines, so you need to check your lines before every take off.

## 8.4 REPAIRS

If the wing is damaged, you can temporarily repair it by using the self-adhesive rip stop which you will find in the repair kit, providing no stitches are involved in the tear. Any other type of tear must be repaired in a specialised repair shop or by qualified personnel. Do not accept a home repair.

## 9. SAFETY AND RESPONSIBILITY

It is well known that paragliding is considered a high-risk sport, where safety depends on the person who is practising it.

Wrong use of this equipment may cause severe injuries to the pilot, even death. Manufacturers and dealers are not responsible for any act or accident that may be the result of practicing this sport. You must not use this equipment if you are not trained. Do not take advice or accept any informal training from anyone who is not properly qualified as a flight instructor.

## 10. GUARANTEE

The entire equipment and components are covered by a 2-year guarantee against any manufacture fault.

The guarantee does not cover misuse or abnormal use of the materials.



## 11. TECHNICAL DATA

### 11.1 TECHNICAL DATA

ICEPEAK 3			21	22	24	25	26	27	29	30
CELLS	NUMBER		79	79	79	79	79	79	79	79
	CLOSED		22	22	22	22	22	22	22	22
	BOX		27	27	27	27	27	27	27	27
FLAT	AREA	M2	21	22	23,5	25	26	27	28,5	30
	SPAN	M	12,55	12,84	13,27	13,69	13,96	14,23	14,62	15
	ASPECT RATIO		7,5	7,5	7,5	7,5	7,5	7,5	7,5	7,5
PROJECTED	AREA	M2	17,53	18,35	19,59	20,82	21,64	22,46	23,68	24,91
	SPAN	M	9,64	9,86	10,18	10,48	10,68	10,88	11,17	11,45
	ASPECT RATIO		5,28	5,28	5,28	5,28	5,28	5,28	5,28	5,28
FLATTENING		%	16,7	16,7	16,7	16,7	16,7	16,7	16,7	16,7
CORD	MAXIMUM	M	2,09	2,14	2,21	2,28	2,32	2,37	2,43	2,49
	MINIMUM	M	0,34	0,35	0,36	0,37	0,38	0,39	0,4	0,46
	AVERAGE		1,67	1,71	1,77	1,8	1,86	1,89	1,94	2
LINES	TOTAL METERS	M	263	268	277	285	290	297	305	313
	HEIGHT	M	6,9	7,06	7,3	7,53	7,68	7,83	8,08	8,25
	NUMBER		186	186	186	186	186	186	186	186
	MAIN		4/4/2	4/4/2	4/4/2	4/4/2	4/4/2	4/4/2	4/4/2	4/4/2
RISERS	NUMBER	3	A/B/C	A/B/C	A/B/C	A/B/C	A/B/C	A/B/C	A/B/C	A/B/C
	TRIMS		YES	YES	YES	YES	YES	YES	YES	YES
UPTIMUN			80 KG	86 KG	94 KG	102 KG	107 KG	112 KG	120 KG	130 KG
FLIGHT WEIGHT			(+5KG)	(+5KG)	(+5KG)	(+5KG)	(+5KG)	(+5KG)	(+5KG)	(+5KG)
GLIDER WEIGHT		KG	6,2	6,3	6,5	6,9	7,1	7,2	7,4	7,6
CERTIFICATION		PWC PROTO	EN-926-1	EN-926-1	EN-926-1	EN-926-1	EN-926-1	EN-926-1	EN-926-1	EN-926-1

## 11.2 MATERIALS DESCRIPTION

CANOPY	FABRIC CODE	SUPPLIER
UPPER SURFACE	SKYTEX 40 9017 E77A	NCV (FRANCE)
BOTTOM SURFACE	SKYTEX 40 9017 E38A	NCV (FRANCE)
PROFILES	SKYTEX 40 9017 E29A	NCV (FRANCE)
DIAGONALS	SKYTEX 40 9017 E29A	NCV (FRANCE)
LOOPS	LKI - 10	KOLON INDUSTRIAL (KOREA)
REINFORCEMENT LOOPS	W-420	D-P (GERMANY)
TRAILING EDGE REINFORCEMENT	MYLAR 25 M/M	D-P (GERMANY)
RIBS REINFORCEMENTS	W-420	D-P (GERMANY)
THREAD	SERAFIL 40	AMAN (GERMANY)

SUSPENSION LINES	FABRIC CODE	SUPPLIER
UPPER CASCADES	LTC - 065	LIROS (GERMANY)
UPPER CASCADES	LTC - 045	LIROS (GERMANY)
UPPER CASCADES	DC - 040	LIROS (GERMANY)
MIDDLE CASCADES	LTC - 120	LIROS (GERMANY)
MIDDLE CASCADES	LTC - 80	LIROS (GERMANY)
MIDDLE CASCADES	LTC - 065	LIROS (GERMANY)
MAIN	LTC - 200	LIROS (GERMANY)
MAIN	LTC - 160	LIROS (GERMANY)
MAIN	LTC - 120	LIROS (GERMANY)
MAIN	LTC - 080	LIROS (GERMANY)
MAIN BREAK	TNL - 220	TEIJIN LIMITED (JAPAN)
THREAD	SERAFIL 60	AMAN (GERMANY)

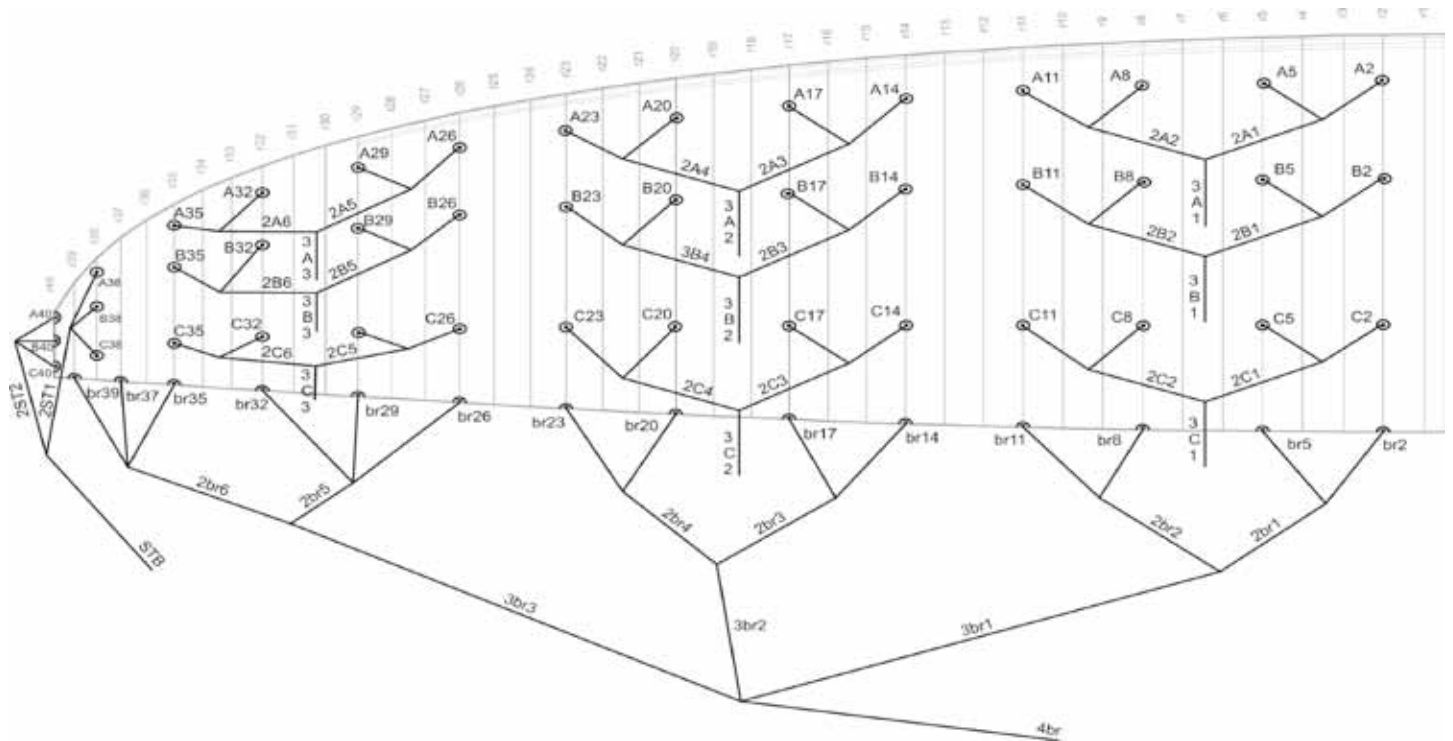
RISERS	FABRIC CODE	SUPPLIER
MATERIAL	3455	COUSIN TRESTREC (FRANCE)
COLOR INDICATOR	PAD	TECHNI SANGLES (FRANCE)
THREAD	N/F-66	YOUNG CHANG T&C LTD
MAILLONS	MRDI03.0 S10	PEGUET (FRANCE)
PULLEYS	PY-1304 - 2	ANSUNG PRECISION (KOREA)
PULLEYS	224	HARKEN (USA)

### 11.3 RISER ARRANGEMENT





# 11.4 LINE PLAN



## 11.5 LENGTHS ICEPEAK 3 21

NIVIUK ICEPEAK 3 21				
LINES HEIGHT CM.				
	A	B	C	BR
1	686,5	680	690	748,5
2	677,5	671,5	679	730,5
3	674	668	675,5	720
4	676,5	670,5	680,5	720
5	670	664,5	673	708
6	661	656	662,5	696
7	656,5	652,5	659,5	691,5
8	657,5	654	664	696,5
9	643	640,5	646,5	683
10	630,5	628,5	634	670,5
11	618,5	617	622	668,5
12	612,5	611	619,5	657
13	582,5	582	586	654,5
14	574	575,5	580	660

## 11.6 LENGTHS ICEPEAK 3 22

NIVIUK ICEPEAK 3 22				
LINES HEIGHT CM.				
	A	B	C	BR
1	703	696,5	706	766
2	694	687,5	695	748
3	690	684,5	691,5	736,5
4	692	687	697	736,5
5	685,5	680,5	689	724,5
6	676,5	671,5	678	712
7	672	668	675	707,5
8	673	669,5	679,5	712,5
9	658	655	662	698,5
10	645,5	643	649	685,5
11	632,5	631	636,5	683,5
12	626,5	625	634	672
13	596	595,5	599,5	670
14	587,5	589,5	593,5	675,5

## 11.7 LENGTHS ICEPEAK 3 24

<b>NIVIUK ICEPEAK 3 24</b>				
LINES HEIGHT CM.				
	<b>A</b>	<b>B</b>	<b>C</b>	<b>BR</b>
1	726	720	729,5	791
2	716,5	711	718	772
3	713	707	714,5	760,5
4	715,5	710	720	760,5
5	708,5	703,5	712,5	747,5
6	699	694,5	701	735
7	695	690,5	697,5	730
8	696,5	692,5	702,5	735
9	680,5	677,5	684	721
10	667,5	665	671	707,5
11	654,5	652,5	658	705,5
12	648	646,5	655	693,5
13	616	615,5	620	691,5
14	607,5	609,5	614	697

## 11.8 LENGTHS ICEPEAK 3 25

<b>NIVIUK ICEPEAK 3 25</b>				
LINES HEIGHT CM.				
	<b>A</b>	<b>B</b>	<b>C</b>	<b>BR</b>
1	749	743	753	815,5
2	739,5	733,5	741	796
3	735,5	729,5	737	784
4	738	732,5	743	784
5	731	726	735	771
6	721	716,5	723,5	758
7	716,5	712,5	719,5	753,5
8	718	714,5	724,5	758,5
9	702	699	705,5	743,5
10	688,5	686	691,5	730
11	675	673	679	727,5
12	668,5	667	676,5	715,5
13	635,5	635	639,5	713
14	627	629	633,5	719

## 11.9 LENGTHS ICEPEAK 3 26

NIVIUK ICEPEAK 3 26				
LINES HEIGHT CM.				
	A	B	C	BR
1	764,5	757,5	768	831
2	755	748	755,5	811
3	750,5	744	752	799,5
4	753,5	747	758	799,5
5	745,5	740,5	749,5	786
6	735,5	731	737,5	772,5
7	731	726,5	734	768
8	732,5	728,5	739	773,5
9	716,5	712,5	720	757,5
10	702,5	699,5	706	743,5
11	689	686,5	692,5	741,5
12	682	680,5	689,5	729
13	649	648	652,5	726,5
14	639,5	641,5	646,5	733

## 11.10 LENGTHS ICEPEAK 3 27

NIVIUK ICEPEAK 3 27				
LINES HEIGHT CM.				
	A	B	C	BR
1	779,5	772,5	783	846,5
2	769,5	762,5	770,5	826,5
3	764,5	758,5	766,5	814
4	767,5	761,5	772,5	814
5	760	754,5	764	800,5
6	750	744,5	752,5	787
7	745,5	740,5	748	781,5
8	746,5	742,5	753	787
9	729,5	726,5	733,5	771,5
10	715,5	713	719,5	757,5
11	701,5	699,5	706	755,5
12	694,5	693,5	703	742,5
13	661	660,5	665	740
14	651,5	654	658,5	746,5

### 11.11 LENGTHS ICEPEAK 3 29

<b>NIVIUK ICEPEAK 3 29</b>				
LINES HEIGHT CM.				
	<b>A</b>	<b>B</b>	<b>C</b>	<b>BR</b>
1	800,5	793	804	869
2	790,5	783	791,5	848
3	786	779	787	835,5
4	788,5	782	793,5	835,5
5	781,5	775,5	785	822
6	771	765,5	772,5	808
7	766	761	768,5	802,5
8	767	763	774	808,5
9	750	746,5	753,5	792,5
10	735,5	732,5	739	778
11	721	719	725,5	776
12	714	712,5	722,5	762,5
13	679	678	683	760
14	669,5	671,5	676,5	766,5

### 11.12 LENGTHS ICEPEAK 3 30

<b>NIVIUK ICEPEAK 3 30</b>				
LINES HEIGHT CM.				
	<b>A</b>	<b>B</b>	<b>C</b>	<b>BR</b>
1	821,5	814	825	891,5
2	811	803,5	812	870
3	806,5	799,5	808	857,5
4	809	803	814,5	857,5
5	801,5	795,5	805,5	842,5
6	790,5	785,5	793	828
7	785,5	781	789	823
8	787	783	794,5	829
9	769,5	766	774	812,5
10	754,5	752	759	797,5
11	740	738,5	744,5	795,5
12	733	731,5	741,5	782
13	697	696,5	701,5	779,5
14	687	689,5	694,5	786,5

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The importance of small details