KODE 2 P

User manual &
Technical data

AIVIUK BEYOND THE GLIDE

Tread lightly, fly free *and enjoy the ride*

CATEGORIES

HIKE & FLY

LEISURE

WELCOME

We welcome you to our team and thank you for the trust you have placed in us by choosing a Niviuk paraglider. We would like you to share the enthusiasm with which we have created this paraglider and the importance and care with which we have developed the design and manufacture of this new model. All this, in order to be able to offer you the maximum pleasure in every flight under a Niviuk paraglider.

The KODE 2 P is an ultralight and accessible mountain wing, designed for hike & fly. It retains the free and playful spirit of its predecessor, with greater pitch and roll stability and improved low-speed behaviour.

Refined in every detail, it is even more intuitive and easy to control. Highly versatile and available in a wide range of sizes to suit every type of pilot and adventure. It is the result of Niviuk's extensive knowledge in the design of lightweight wings, offering unrivalled performance without compromising on comfort during flight.

We are confident you will enjoy flying this paraglider and will soon discover the meaning of our motto:

"The importance of small details to make great things happen".

This is the user manual and we recommend you read it carefully.

USER MANUAL

This manual provides you with the necessary information on the main characteristics of your new paraglider.

Whilst it provides information on the wing, it cannot be viewed as an instructional handbook and does not offer the training required to fly this type of paraglider.

Training can only be undertaken at a certified paragliding school and each country has its own system of licensing.

Only the aeronautical authorities of respective countries can determine pilot competence. The information in this manual is provided in order to warn you against adverse flying situations and potential dangers.

Equally, we would like to remind you that it is important to carefully read all the contents of your new KODE 2 P manual.

Misuse of this equipment could lead to severe injuries or death. The manufacturers and dealers cannot be held responsible for misuse of the paraglider. It is the responsibility of the pilot to ensure the equipment is used correctly.

CONTENTS

1. CARACTERISTICS

1.1 WHO IS IT DESIGNED FOR?

Ultralight and compact, the KODE 2 P is ready to launch and land from any terrain. It is the perfect wing to instil confidence on all your hike & fly adventures. The small sizes 12–14, as well as the intermediate sizes 16–18 when flown near their maximum wing loading, are intended for experienced pilots with active flying skills. The wing's behaviour varies according to weight, becoming much more reactive and dynamic.

The great versatility of the KODE 2 P enables to all kinds of adventures, always offering comfortable, accessible and controlled handling.

From 1,49 kg.

1.2 CERTIFICATION

The KODE 2 P has been submitted for the European EN and LTF certification.

All certification tests were performed at the Swiss testing house Air Turquoise.

All sizes have passed the load, traction and flight tests.

The load test withstood 8G.

The tensile test withstood 800 daN of shock.

In the flight test, the certification result places the KODE 2 P in different classes, depending on size and wing loading:

We recommend that only pilots who are familiar with gliders of this certification or above fly this paraglider.

Only the aeronautical authorities of respective countries can determine pilot competence.

We recommend pilots read the flight test report carefully, especially the comments of the test pilot. The report contains all the necessary information on how the paraglider reacts during each of the tested manoeuvres.

It is important to note that different size wings will react differently during manoeuvres. Even within the same size, at maximum or minimum load, the behaviour and reactions of the wing may vary.

For further information on the flight test and the corresponding certification, please see the final pages of this manual or see or visit the Downloads section.

		12	14	16	18	20	22	24	26
Glider weight	kg	1,49	1,60	1,79	1,97	2,15	2,31	2,47	2,63
Weight range EN/LTF A	kg	–	–	–	50-75	60-85	65-90	70-100	90-119
Weight range EN/LTF B	kg	–	–	–	–	85-105	–	–	–
Weight range EN/LTF C	kg	–	–	50-85	75-95	–	–	–	–
Weight range EN/LTF D	kg	–	50-85	–	–	–	–	–	–

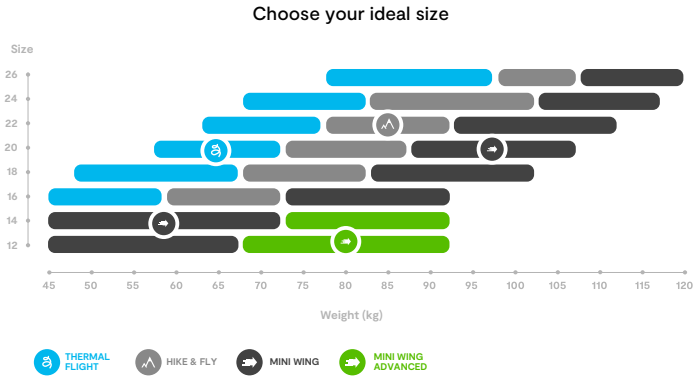
1.3 IN-FLIGHT BEHAVIOUR

Niviuk developed this wing by adopting very specific goals: to offer the best possible features and to make flying easier for the pilot.

Our other aims were to achieve optimal performance while maintaining the highest level of safety. To ensure that the wing transmits the maximum feedback in an understandable and comfortable way so that the pilot can focus on piloting and enjoying the flight. And, with active piloting, take advantage of all favourable conditions.

Each size, an experience: the KODE 2 P is a highly versatile wing, whose handling changes depending on size and wing loading. Sizes 22, 24, and 26 are easy, pleasant, and docile; whereas sizes 16, 18, and 20 have a more dynamic and responsive character, especially when flown near the upper end of their weight range. The smallest sizes (12 and 14), which are mini-wings, are more agile and playful, with greater sensitivity to pilot inputs (weight shift).

It is a very stable wing in any size, especially well controlled in roll, thanks to the optimised arc.



- **The brake** has been optimised to provide clearer, more progressive feedback, especially at lower speeds. It is easier to feel when the wing is approaching the stall point, allowing the pilot to anticipate and maintain control without causing an unintentional stall. Handling remains accessible and intuitive, even in turbulent conditions. Transitions are smooth, turns are pleasant and climbing in thermals is efficient.

1.4 TECHNOLOGIES, CONSTRUCTION, MATERIALS

The KODE 2 P benefits from all the construction and assembly techniques used in our factory. It has all the current technology and accessories available to improve pilot comfort whilst increasing safety and performance.

In the design of all Niviuk products the team aims to ensure development and continuous improvement. The technologies developed in recent years have allowed us to develop greater, better wings. It is in this context that we would like to introduce the technologies included in this new model:

RAM Air Intake – the system is characterised by the arrangement of the air inlets, to ensure optimal maintenance of internal pressure across the whole range of angles of attack.

The result? Having greater internal pressure means better tolerance of turbulence, greater consistency of the profile shape across the speed range; excellent handling at low speed is achieved by allowing the pilot to extend the braking limit, there is a lower risk of collapse and consequently, greater control and safety.

The application of RAM technology ensures that the internal pressure of the wing is optimal and that the profile maintains its ideal shape in all flight conditions.

TNT Titanium Technology – a revolutionary technique using titanium. Using Nitinol in the internal construction provides a more uniform profile and reduces the weight to gain efficiency in flight. Nitinol provides the highest level of protection against deformation, heat or breaks. Nitinol now features in all our wings.

Redistribution of the TNT: the distribution of the Nitinol rods along the leading edge and top surface has been simplified. This ensures the lightness of the wing, while maintaining its durability and compactness when folded.

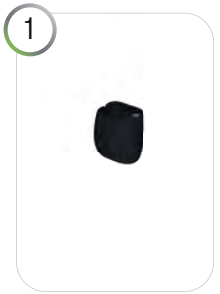
SLE Structured Leading Edge – SLE is the application of Nitinol rods in the leading edge. This technology provides increased strength and stability by maintaining the shape of the aerofoil throughout all phases of flight. This increases performance, efficiency and stability, absorbs turbulence better and makes the wing much more durable over time.

3DP Pattern Cut Optimization – this involves placing the fabric of each panel in one direction only, taking as a reference its location on the leading edge. It has been proved that, if the cloth pattern is correctly aligned to the direction of the load axes, the material deforms much less flight after flight, so the leading edge keeps its shape better and is much more durable over time. Over the years, the design of our paragliding and paramotoring wings has evolved a lot, with a positive and specific advancement of the leading edge.

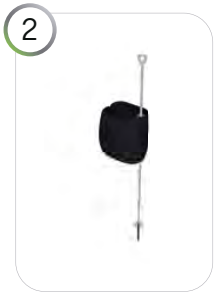
3DL 3D Leading Edge – this means adjusting the material of the leading edge to avoid ballooning and the creases that form in this curved area of the wing. Specifically, the leading edge is divided into “sub-panels” sewn into each of the cells at the front of the glider. As a result, the tension of the leading edge cloth is perfectly uniform, increasing the performance and durability of the glider.

IKS Interlock System – the IKS is a connection system that allows the risers to be connected to different parts of the wing, such as the lines or the harness. The IKS technology is a step towards greater lightness in wings and equipment, without sacrificing effectiveness and providing the same degree of safety and strength.

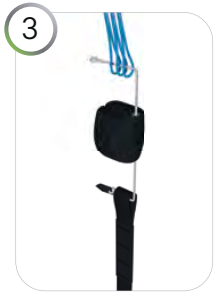
The KODE 2 P comes with IKS 1000 as standard and is designed to connect risers and lines. It has a breaking load of 1055 kg, which greatly exceeds that of the classic 3 mm (550 kg) maillon, but with a much less weight. This system allows a reduction in the total weight of the equipment, while maintaining safety and durability.



Locate the elastic sleeve's inner small diameter tube.

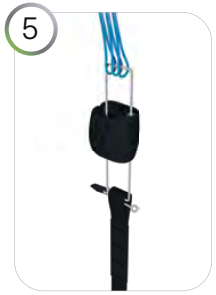


Push the IKS line through it.

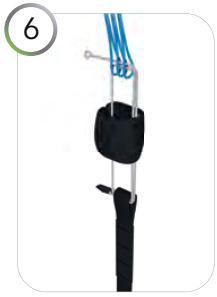


Push now the IKS line through the lines and the riser. The reinforced end with the black tab should be located on the riser side.

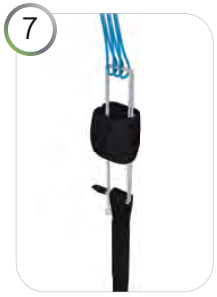
Push the upper looped end downward through the elastic sleeve (not small diameter tube) and then through the reinforced loop end where the black tab is located.



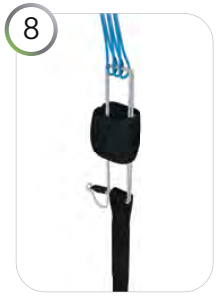
Continue with the procedure in a counterclockwise motion by pushing the looped end through the riser.



Push the looped end first upward through the elastic sleeve (not small diameter tube) and through the lines again following the same pattern.



Push the looped end downward through the elastic sleeve (not small diameter tube) first, and then through the loop with the reinforced end (black tab) once more.



Push the reinforced end loop (black tab) through the looped end to secure them together.

Pull tight to secure the knot and connection.

Check the entire assembly.

The use of these technologies is a big technological leap forward in building wings and a big improvement in flight comfort.

For the construction process of the KODE 2 P we use the same criteria, quality controls and manufacturing processes as in the rest of our range. From Olivier Nef's computer to fabric cutting, the operation does not allow for even a millimetre of error. The cutting of each wing component is performed by a rigorous, extremely meticulous, automated computer laser-cutting robotic arm. This program also paints the guideline markers and numbers on each individual fabric piece, thus avoiding errors during this delicate process.

The jigsaw puzzle assembly is made easier using this method and optimises the operation while making the quality control more efficient. All Niviuk gliders go through an extremely thorough and detailed final inspection. The canopy is cut and assembled under strict quality control conditions facilitated by the automation of this process.

Every wing is individually checked with a final inspection.

To make the KODE 2 P even lighter, a new ultra-lightweight and durable fabric has been used for the undersurface, made from N10 22 g. This has reduced the total weight of the wing by 5% (in size 20) compared to the previous model. It also makes the glider 11% more compact.

All the materials used guarantee lightness, strength and durability, without any fading.

Now, all sizes of the KODE 2 P have the same simplified risers – lighter and just as easy to use – further reducing weight without compromising functionality.

Unsheathed Aramid is used in the lines. Thanks to a new internal distribution, the lines have been reduced by up to 56. The line layout is clearer, with fewer branches and easier to check before take off.

The line diameter has been calculated depending on the workload and aims to achieve the required best performance with the least drag.

The lines are semi-automatically cut to length and all the sewing is completed under the supervision of our specialists.

Every line is checked and measured once the final assembly is concluded. The canopy has been redesigned, making the arc more pronounced and flatter in the centre, especially in sizes 20 and above. This contributes to greater stability in roll and greater control in turns.

Each wing is packed following specific maintenance instructions as recommended by the fabric manufacturer.

Niviuk gliders are made of premium materials that meet the requirements of performance, durability and certification that the current market demands.

Information about the various materials used to manufacture the wing can be viewed in the final pages of this manual.

1.5 ELEMENTS, COMPONENTS

The KODE 2 P is delivered with a series of accessories that will greatly assist you in the maintenance of your equipment:

- A Compress Bag, Niviuk's inner bag that allows you to compress the wing, ensuring compact and quick packing. It is the ideal bag for the lightest wings in the P Series range.
- A riser bag, to protect and pack them neatly.
- An adjustable compression strap, which allows you to compress the Inner Bag as much as possible to reduce packing.
- A repair kit with self-adhesive ripstop fabric.
- The Expe 30 rucksack: this is not included in the scope of delivery, but its purchase is recommended. With it you can carry all the equipment comfortably and without space problems.

2. UNPACKING AND ASSEMBLY

2.1 CHOOSING THE RIGHT LOCATION

We recommend unpacking and assembling the wing on a training hill or a flat clear area without too much wind and free of obstacles. It will help you to carry out all the recommended steps required to check and inflate the KODE 2 P.

We recommend the whole assembly procedure is supervised by a qualified professional instructor or official dealer.

2.2 PROCEDURE

Take the paraglider out of the rucksack, open and unfold it on the ground with the lines positioned on the undersurface, oriented in the direction of inflation. Check the condition of the fabric and the lines for defects. Check the IKS1000 are closed and connect the lines to the risers. Identify, and if necessary, untangle, the A, B and C-lines, the brake lines and corresponding risers. Make sure that there are no knots.

2.3 CONNECTING THE HARNESS

The KODE 2 P risers are colour-coded.

- Right: green
- Left: red

This colour-coding makes it easier to connect the wing to the correct side and helps prevent pre-flight errors.

Correctly connect the risers to attachment points of the harness so that the risers and lines are correctly ordered and free of twists.

Check that the carabiners are properly fastened and securely locked.

(!) The KODE 2 P has risers of different lengths depending on the size. The riser lengths for sizes 12 and 14 are different from the others. For all other sizes (16, 18, 20, 22, 24 and 26), the risers are the same and interchangeable, which is NOT the case for sizes 12 and 14.

2.4 HARNESS TYPE

The KODE 2 P can be flown with all current harness types. However, a harness with a pod is recommended as the wing is designed for flying with this type of harness. If the harness features an adjustable chest strap, we recommend setting this to the distance specified in the certification report - this will vary depending on size. See the certification certificate.

Within the Niviuk harness range, we recommend combining the KODE 2 P with the ultralight Roamer 2 P model or with the lightweight, reversible and modular Kooper P harness. Both options guarantee a perfect balance between comfort, lightness and performance.

Care should be taken with the chest strap setting, as the distance of the chest strap setting will affect the handling of the glider. If the chest strap is too wide, it allows greater feedback but this carries the risk of affecting the stability of the wing. If the chest strap is set too tightly, the wing feels more solid, but there is a loss of feedback and a risk of twisting in the case of a violent asymmetric collapse.

2.5 SPEED-BAR INSTALLATION

The speed-bar is a means of temporary acceleration by changing the flow over the profile. The speed system comes pre-installed on the risers and is not modifiable as it conforms to the measurements and limits stipulated in its certification.

The KODE 2 P includes an speed system with a maximum travel depending on your size (see accelerator at maximum). The speed system is engaged when the pilot pushes the speed-bar (not included as standard with this glider model) with their feet (see 2.5.1 Speed system assembly).

The speed system uses an action/reaction system. Released, the speed-bar is set to neutral. When the bar is pushed using the feet, the wing accelerates. The speed can be regulated by varying the pressure on the bar. Once the pressure on the bar is released, the speed system returns to the neutral setting.

The speed system is efficient, sensitive and precise. The pilot can use the system whenever they want during the flight. In the neutral position the glider will fly at the standard speed and glide. Using full speed-bar, the wing will fly at maximum speed, but the glide will be adversely affected.

· Released speed-bar: the A, B and C-risers are aligned.

· Full speed-bar: the difference between the A – C risers becomes:

Size 12 – 11 cm
Size 14 – 11 cm
Size 16 – 14 cm
Size 18 – 14 cm
Size 20 – 14 cm
Size 22 – 14 cm
Size 24 – 14 cm
Size 26 – 14 cm

(!) The use of the speed system results in changes to the speed and reactions of the wing. For more information, please see the certification report.

2.5.1 SPEED SYSTEM ASSEMBLY

The speed-bar consists of the bar that the pilot pushes with their feet, as well as the two cords that connect it to the speed system components on the risers. Once you have chosen the type of speed-bar you prefer, you must install it. Some considerations:

- You should use the type of speed-bar you consider appropriate, depending on the type of harness, personal preferences, etc.
- The speed-bar is detachable to facilitate its connection and/or disconnection to the risers as well as subsequent adjustment.
- To connect it to the harness, please follow the instructions of the harness manufacturer. The majority of harnesses have a speed system pre-installed.
- The standard connection of the speed-bar to the speed system is via Brummel hooks, where two slots in the hooks are interlocked, making their connection / disconnection easy. However, any connection system that is safe can be used.

The P Series range has been designed with the aim of reducing the weight of the equipment as much as possible. For this reason, Niviuk delivers the wings in this series without the classic Brummel hook, replacing it with a kite-type loop system, which guarantees the same efficiency and safety, but with a significantly lower weight.

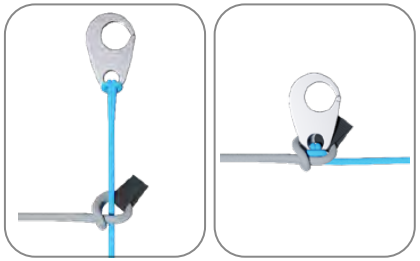
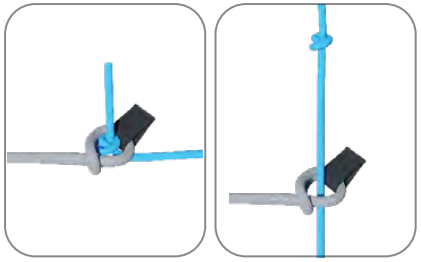


Diagram 1. Speed-bar connection by **means of the Brummel hook**. The blue line is from the harness, and the gray from the riser.

Diagram 2. Speed-bar connection **by means of kite loop** (without Brummel hook). The blue line is from the harness, and the gray from the riser.



1. A knot is tied in the speed-bar cord and passed through the connector of the webbing cord.

2. Tension is applied to both sides of the system until the knot tightens against the riser connector.

It should be noted that the connection procedure is exactly the same for the Brummel hook as for the kite loop, and would in turn be applicable to other systems or connecting elements.

2.5.2 CHANGING THE RISER CORDS

Despite having low-friction rings to reduce friction to a minimum, the frequency with which the speed-bar is used causes the cords to wear and you may need to replace them.

In all Niviuk gliders the speed system cords on the risers are completely removable and easily replaceable. You can use the Brummel hooks, not use them, remove them, use another type of connector, etc. It is even possible to fix the speed-bar cords directly to the speed system on the risers. This last option makes the connection / disconnection more laborious, but means the cord has maximum travel without obstructions or restrictions which is very useful for some models of harnesses.

2.6 INSPECTION AND WING INFLATION ON THE GROUND

After your gear has been thoroughly checked and the weather conditions deemed favourable for flying, inflate your KODE 2 P as many times as necessary to familiarise yourself with its behaviour. Inflating the KODE 2 P is easy and should not require a great deal of physical effort. Inflate the wing with a little pressure from the body using the harness. This may be assisted by using the A-risers. Do not pull on them; just accompany the natural rising movement of the wing. Once the wing is inflated to the overhead position, appropriate control with the brakes will be sufficient to hold it there.

2.7 ADJUSTING THE BRAKES

The length of the main brake lines is adjusted at the factory and conform to the length stipulated during certification. However, they can be changed to suit your flying style. It is advisable to fly with the original setting for a period of time to get used to the actual behaviour of the KODE 2 P. In case it is necessary to modify the brake length, loosen the knot, slide the line through the brake handle to the desired point and re-tighten the knot firmly. Only qualified personnel should carry out this adjustment. You must ensure that the modification does not affect the trailing edge and slow the glider down without pilot input. Both brake lines should be symmetrical and the same length. We recommend using a clove hitch or bowline knot.

When changing the brake length, it is necessary to check that they do not engage when the speed-bar is used. When we accelerate, the glider rotates over the C-riser and the trailing edge elevates. It is important to check that the brake is adjusted to take into consideration this extra distance during acceleration. With this profile deformation there is a risk of generating turbulence and causing a frontal or asymmetric collapse.

3. THE FIRST FLIGHT

3.1 CHOOSING THE RIGHT LOCATION

For the first flight we recommend going to your usual flying area and that a qualified instructor is present and supervising the entire procedure.

3.2 PREPARATION

Repeat the procedures detailed in section 2 UNPACKING AND ASSEMBLY to prepare your equipment.

3.3 FLIGHT PLAN

Planning a flight before taking off to avoid possible problems later is always a good idea.

3.4 PRE-FLIGHT CHECK

Once ready, but before taking off, conduct another equipment inspection. Conduct a thorough visual check of your gear with the wing fully open, the lines untangled and properly laid out on the ground to ensure that all is in working order. Be certain the weather conditions are suited to your flying skill level.

3.5 WING INFLATION, CONTROL AND TAKEOFF

For launch, a smooth and progressive inflation is recommended. The KODE 2 P is easy to inflate and does not require a great deal of physical effort. It has no tendency to overshoot, which allows a smooth inflation phase, giving way to a control phase with enough time to make the decision to accelerate and take off when the pilot wishes to do so. Inflation is smooth and progressive, even in the absence of wind. Compared to the previous model, the wing rises even more easily, allowing for a quick take off.

If the wind permits, we recommend a reverse launch, as this allows a better visual inspection of the wing during inflation. In “strong” winds, the KODE 2 P is especially easy to control using this launch technique. Winds of 25 to 30 km/h are considered strong for paragliding.

Correctly setting up the wing on the ground before launch is especially important. Choose an appropriate location facing the wind. Position the paraglider in a crescent configuration to facilitate inflation. A clean wing layout will ensure a trouble-free take off.

3.5.1 TAKE OFF TABS

The wing can be secured to the ground with small metal tabs attached to the canopy. This is especially useful on steep launches, snowy terrain or slippery surfaces. The metal tabs come as standard with the KODE 2 P.

You can view a tutorial on how they work here.

3.6 LANDING

The KODE 2 P has excellent landing characteristics, transforming speed into lift as the pilot requires, allowing for a huge margin for error. There is no need to take a wrap of the brakes to achieve more effective braking.

During landing, the approach is simple and controlled, thanks to the precision of the brake. It lands in tight or technical spaces without difficulty.

3.7 PACKING

The KODE 2 P has a complex leading edge, manufactured using a variety of different materials and it must be packed carefully. A correct folding method is very important to extend the useful life of your paraglider.

It should be concertina-packed, with the leading edge reinforcements flat and the flexible rods stacked one on top of the other. This method will keep the profile in its original shape and protect the integrity of the wing over time. Make sure the reinforcements are not bent or folded. It should not be folded too tightly to avoid damage to the cloth and/or lines.

Niviuk have designed the ZipNkare P bag. This will assist you in quickly folding the paraglider, keeping the profile and integrity of the internal structures in perfect condition.
The ZipNKare P Bag will guide you through the folding process by allowing you to place the rods one on top of the other on the longitudinal axis to “concertina” pack the glider. Then you can easily make the sectional folds that each model requires. This folding system guarantees that both the cloth and the reinforcements of the internal structure of your KODE 2 P remain in perfect condition.

In addition, it converts into a briefcase with a zip closure. Its extremely light weight and ergonomic handle make it easy to carry and transport.

Watch this video tutorial on how to pack a wing correctly.

4. IN FLIGHT

We recommend that you pay close attention to the flight test report issued by the testing house responsible for the certification. In it you will find all the necessary information to know how the KODE 2 P reacts to each of the tested manoeuvres.

It is important to note that depending on the size of the wing, the manoeuvre may vary, or even within the same size, the behaviour and reactions of the wing may be different, at maximum or minimum load.

Having the knowledge provided by the testing house through the flight test is essential to know how to deal with these possible situations.

To become familiar with the manoeuvres described below, we recommend practising within the auspices of a licensed training outfit.

4.1 FLYING IN TURBULENCE

The KODE 2 P has an excellent profile to deal with incidents; it is very stable in all conditions and has a high degree of passive safety, even in turbulent conditions.

All paragliders must be piloted for the prevailing conditions and the pilot is the ultimate safety factor.

We recommend active flying in turbulent conditions, always taking measures to maintain control of the wing, preventing it from collapsing and restoring the speed required by the wing after each correction.

Do not correct the glider (braking) for too long in case this provokes a stall. If you have to take corrective action, make the input then re-establish the correct flying speed.

4.2 POSSIBLE CONFIGURATIONS

To become familiar with the manoeuvres described below, we recommend practising within the environment of a licensed training outfit. You must adapt your use of the brakes depending on the wing-loading and avoid over-steering.

It is important to note that the type of reaction to a manoeuvre can vary from one size of wing to another, and even within the same size the behaviour and reactions may be different depending on the wing-loading.

In the test report, you will find all the necessary information on how to handle your new wing during each of the tested manoeuvres. Having this information is crucial to know how to react during these manoeuvres in real flight, so you can deal with these situations as safely as possible.

Asymmetric collapse

In spite of the KODE 2 P's profile stability, strong turbulent air may cause the wing to collapse asymmetrically in very strong turbulence, especially if you do not fly actively and prevent the collapse. In this case the glider conveys a loss of pressure through the brake lines and the harness. To prevent the collapse from happening, pull the brake handle on the affected side of the wing. It will increase the incidence of the wing (angle of attack). If the collapse does happen, the KODE 2 P will not react violently, the turning tendency is gradual and easily controlled. Weight-shift toward the open, flying side (the opposite side of the collapse) to keep the wing flying straight, while applying light brake pressure to that side if necessary. Normally, the collapsed side of the wing should then recover and reopen by itself. If it does not, try to weight-shift towards the collapsed side. If this does not resolve the issue, pull the brake handle on the collapsed side decisively and quickly all the way (100%) down and release it back up immediately. You may have to repeat this action to provoke the re-opening of the collapsed glider side. Do not over-brake or slow down the flying side of the wing (control the turn). Once the collapsed side is open make sure you return to normal flying speed.

Frontal collapse

Due to the KODE 2 P's design, in normal flying conditions frontal collapses are unlikely to take place. The wing's profile has great buffering abilities when dealing with extreme incidence changes. A frontal collapse may occur in strong turbulent conditions, entering or exiting powerful thermals. Frontal collapses usually re-inflate without the glider turning, but a symmetrically applied quick braking action with a quick deep pump of both brakes will accelerate the re-inflation if necessary. Release the brake lines immediately to return to default glider air speed.

Negative spin

A negative spin does not conform to the KODE 2 P's normal flight behaviour. Certain circumstances however, may provoke a negative spin (such as trying to turn when flying at very low air speed whilst applying a lot of brake). It is not easy to give any specific recommendation about this situation other than quickly restoring the wing's default air speed.

Parachutal stall

The possibility of entering or remaining in a parachutal stall have been eliminated from the KODE 2 P. A parachutal stall is virtually impossible with this wing. If it did enter into a parachutal stall, the wing loses forward motion, becomes unstable and there is a lack of pressure on the brake lines, although the canopy appears to be fully inflated. To regain normal air speed, release brake line tension symmetrically and manually push on the A-lines or weight- shift your body to any side WITHOUT PULLING ON THE BRAKE LINES.

Deep Stall

The possibility of the KODE 2 P stalling during normal flight is very unlikely. It could only happen if you are flying at a very low air speed, whilst over-steering or performing dangerous manoeuvres in turbulent air.

To provoke a deep stall, the wing has to be slowed down to its minimum air speed by symmetrically pulling the brake lines all the way (100%) 10 down until the stall point is reached and held there. The glider will first pitch rearward and then reposition itself overhead, rocking slightly, depending on how the manoeuvre is done.

When entering a stall, remain clear-headed and ease off the brake lines until reaching the half-way point of the total brake travel. The wing will then surge violently forward and could reach a point below you. It is most important to maintain brake pressure until the glider has returned to its default overhead flying position.

To resume normal flight conditions, progressively and symmetrically release the brake line tension to regain air speed. When the wing reaches the overhead position, the brakes must be fully released. The wing will then surge forward to regain full air speed. Do not brake excessively at this moment as the wing needs to accelerate to pull away from the stall configuration. If you have to control a possible frontal collapse, briefly pull both brake handles down to bring the wing back up and release them immediately while the glider is still in transition to reposition itself overhead.

The KODE 2 P's brake system has been adjusted to offer greater precision and safety. This allows you to clearly and progressively perceive the stall point, making it easier to interpret the behaviour of the wing and apply the right amount of brake in each situation. Thanks to this design, it is possible to explore the entire braking range with confidence, avoiding unintentional stalls even when applying the brakes fully. The brake response is direct, predictable and easy to understand, providing a more intuitive and controlled flying experience.

Cravat

A cravat may happen after an asymmetric collapse, when the end of the wing is trapped between the lines. Depending on the nature of the tangle, this situation could rapidly cause the wing to spin. The corrective manoeuvres to use are the same as those applied in case of an asymmetric collapse: control the turn/spin by applying tension on the opposite brake and weight shift opposite to the turn. Then locate the STB main (stabilo) line (attached to the wing tip) trapped between the other lines. This line has a different colour and is located on the outside position of the B-riser.

Pull this line until it is taut. This action will help to release the cravat. If ineffective, fly down to the nearest possible landing spot, controlling the direction with both weight-shift and the use of the brake opposite to the tangled side. Be cautious when attempting to undo a tangle while flying near terrain or other paragliders; it may not be possible to continue on the intended flight path.

Over-controlling

Most flying problems are caused by wrong pilot input, which then escalates into a cascade of unwanted and unpredicted incidents. We should note that the wrong inputs can lead to loss of control of the glider. The KODE 2 P was designed to recover by itself in most cases. Do not try to over-correct it!

Generally speaking, the reactions of the wing, which are caused by too much input, are due to the length of time the pilot continues to over–control the wing. You have to allow the glider to re-establish normal flying speed and attitude after any type of incident.

4.3 ACCELERATED FLIGHT

The KODE 2 P's profile was designed for stable flight throughout its entire speed range. The speed-bar can be used in strong winds or significant sink.

When accelerating the wing, the profile becomes more sensitive to turbulence and closer to a possible frontal collapse. If a loss in internal wing pressure is felt, tension on the speed-bar should be reduced to a minimum and a slight pull on the brake lines is recommended to increase the wing's incidence angle. Remember to re-establish the air speed after correcting the angle of attack.

It is NOT recommended to accelerate near obstacles or in very turbulent conditions. If necessary, constantly adjust the movements and pressure on the speed-bar whilst doing the same to the brake lines. This balance is considered to be 'active piloting'.

4.4 FLYING WITHOUT BRAKE LINES

If, for any reason at all, the KODE 2 P's brake lines become disabled in flight, it will become necessary to pilot the wing gently using the C-risers and weight shifting until landing. These risers steer easily because are not under significant tension. You will have to be careful and not handle them too heavily in case this causes a stall or negative spin.

The wing must be flown at full speed (not accelerated) during the landing approach, and the C-risers should be pulled symmetrically shortly before contact with the ground. This braking method is not as effective as using the brake lines, and hence the wing will land with a higher ground speed.

4.5 LINE KNOT(S) IN FLIGHT

The best way to avoid knots and tangles is to thoroughly inspect the lines as part of a systematic pre-flight check. If a knot is spotted during the take off phase, immediately abort the launch sequence and stop.

If inadvertently taking off with a knotted line, the glider drift will need to be compensated by weight-shifting to the opposite side and applying a slight brake pull to that side. Gently pull the brake line to see if the knot can be undone or try to locate the problem line. Try pulling it to see if the knot can be undone. Beware of trying to clear a knotted line or untangle a line in flight when close to the terrain. If the knot is too tight and cannot be undone, carefully and safely fly to the nearest landing zone. Be careful: do not pull too hard on the brake handles because there will be an increased risk of stalling the wing or entering a negative spin. Before attempting to clear a knot, make sure there are no other pilots flying in the vicinity. 11 Knowledge of different descent techniques could become vital in certain situations. The most suitable descent method will depend on the particular situation. To become familiar with the manoeuvres described below, we recommend practising within the environment of a licensed training outfit.

5. LOSING ALTITUDE

Knowledge of different descent techniques could become vital in certain situations. The most suitable descent method will depend on the particular situation.

To become familiar with the manoeuvres described below, we recommend practising within the environment of a licensed training outfit.

5.1 BIG EARS

“Big Ears” is a moderate descent technique, able to increase the sink rate to –3 or –4 m/s and reduces the ground speed by 3 to 5 km/h. The angle of attack and effective wing-loading will also increase due to the smaller surface area of the wing.

To perform the Big Ears manoeuvre, when flying sizes 12 and 14, take the 3A3 line, in sizes 16, 18, 20, 22, 24 and 26 take the A’ line on each A-riser, as high as you can and simultaneously, smoothly pull them outward and downward. The wingtips will fold in. To re-establish forward speed and the correct angle of attack, accelerate once the ears are pulled. Keep the ears pulled in until you have lost the desired altitude.

Let go of the lines to re-inflate the tips automatically. If they do not, try progressively pulling one brake then the other. Asymmetric reopening is recommended in order to avoid compromising the angle of attack, particularly when flying near the ground or in turbulent conditions.

5.2 SPIRAL DIVE

This is a more effective way to rapidly lose altitude. Beware that the wing will experience and be subjected to a tremendous amount of descending and rotating speed (g-force), which can cause a loss of orientation and consciousness (blackout). This manoeuvre must therefore be done gradually to increase one’s capacity to resist the g-force exerted on the body. With practise, you will fully appreciate and understand it. Only practise this manoeuvre at high altitude and with enough ground clearance.

To start the manoeuvre, first weight shift and pull the brake handle located on the inner side of the turn. The intensity of the turn can be controlled by braking slightly using the outer brake handle.

A paraglider flying at its maximum rotating speed can reach –20 m/s, or the equivalent of a 70 km/h vertical descent, and will stabilise in a spiral dive from 15m/s onwards. Good enough reasons to familiarise yourself with the manoeuvre and understand how to exit it.

To exit this manoeuvre, the inner brake handle (down side of the turn) must progressively be relaxed while momentarily applying tension to the outer brake handle opposite to the turn.

The pilot must also weight shift and lean towards the opposite side of the turn at the same time. The exit should be performed gradually and smoothly so that the changes in pressure and speed can be noted.

When exiting the spiral, the glider will briefly experience an asymmetrical acceleration and dive, depending on how the manoeuvre was carried out.

Practise these manoeuvres at sufficient altitude and carefully.

5.3 SLOW DESCENT TECHNIQUE

This technique allows descent without straining the wing or taxing the pilot. Glide normally while searching for descending air and begin to turn as if climbing in a thermal, but with the intention to sink.

Common sense has to be used to avoid dangerous areas of rotor when looking for descending air. Safety first!

6. SPECIAL METHODS

6.1 TOWING

The KODE 2 P does not experience any problem whilst being towed. Only qualified winch personnel should handle the certified equipment to carry out this operation. The wing must be inflated similarly as during a normal take off.

It is important to use the brakes to correct the flight path alignment, especially in the first phase of the tow. Since the wing is subject to a slow airspeed and with a high positive angle of attack, we must make any corrections with a high degree of feel and delicacy, in order to avoid a stall.

6.2 ACROBATIC FLIGHT

Although the KODE 2 P was tested by expert acrobatic pilots in extreme situations, it was not designed for it. We do not recommend using this glider for acrobatic flying!!!

We consider acrobatic flights to be any form of piloting different than standard flights. Learning acrobatic manoeuvres should be conducted under the supervision of qualified instructors within a school environment and over water with all safety/rescue elements in place. Centrifugal forces as high as 4 to 5 g can be exerted on the body and wing during extreme manoeuvres.

7. CARE AND MAINTENANCE

7.1 MAINTENANCE

Careful maintenance of your equipment will ensure continued top performance. Apart from the general checks, we recommend actively maintaining your equipment.

A pre-flight check is obligatory before each flight. If there is any damage to the equipment or you suspect any areas of the wing are susceptible to wear, you should inspect these and act accordingly.

Niviuk we are firmly committed to make technology accessible to all pilots. Therefore, our wings are equipped with the latest technological advances gained from the experience of our R&D team. Thanks to these new technologies, paragliders are gaining more safety and performance, which requires greater care of the materials.

(!) IMPORTANT: it is critical to avoid any kind of impact or dragging the leading edge on the ground. This part is reinforced with very durable and strong Nitinol rods that can be easily replaced. Dragging and/or hitting the leading edge can cause serious damage to the fabric, which is much more complicated and costly to repair.

The KODE 2 P is part of our P Series (featherlight) range. In all the lightweight and ultra-light materials we use, there is a good compromise between performance and durability. The weight of the materials is minimised by reducing the amount and type of yarn and by modifying the surface induction, i.e. their strength. Therefore, care must be taken in the use of the product, and care must be taken to avoid increasing the natural wear and tear of the material itself.

The fabric and the lines do not need to be washed. If they become dirty, clean them with a soft damp cloth, using only water. Do not use detergents or other chemicals.
If your wing is wet from contact with water, place it in a dry area, air it and keep it away from direct sunlight.

Direct sunlight may damage the wing's materials and cause premature aging. After landing, do not leave the wing exposed to the sun. Pack it properly and stow it away in its backpack.

If you fly in sandy areas, avoid getting sand in the cells or down into the trailing edge. At the end of the flight, empty any sand that is in your wing. The openings at the end of the wingtips make this much easier.

If your wing is wet from contact with salt water, immerse it in fresh water and dry it away from direct sunlight.

7.2 STORAGE

It is important for the wing to be correctly folded when stored. Keep it in the in a cool, dry place away from solvents, fuels, oils.

Do not leave your gear inside a car boot, as cars left in the sun can become very hot. A rucksack can reach temperatures up to 60ºC.

Weight should not be laid on top of the equipment. It is very important to pack the wing correctly before storage.

In case of long-term storage, it is advisable, if possible, that the wing is not compressed and it should be stored loosely without direct contact with the ground. Humidity and heating can have an adverse effect on the equipment.

7.3 CHECKS AND INSPECTIONS

Following certification guidelines, you should check your KODE 2 P periodically, every 24 months or every 100 hours of flight time, whichever comes first.

We strongly recommend that any repairs should be done in a specialist repair shop by qualified personnel.

This will guarantee the airworthiness and continued certification of your KODE 2 P.

A thorough pre-flight check must be performed before every flight.

The KODE 2 P is fitted with unsheathed lines. Their durability conforms to unsheathed line standards. Their strength is guaranteed and their resistance to UV is one of the highest in this type of lines.

To maintain the wing's standard performance, it is necessary to keep the trim constantly adjusted. Generally speaking, line lengths change as the glider is used. For this reason, we recommend a trim check after approximately the first 30 hours of flight. The hours or actions to be taken to repair the lines may vary for each glider, depending on the conditions of each flying area, climatic conditions, temperature, humidity, type of terrain, wing loading, etc.

Thanks to the experience acquired and the thorough inspections that our R&D team carry out on our gliders, we have the necessary information to be able to know the real behaviour of the lines. With this knowledge we can keep our gliders in the optimum condition for more flights without any loss of performance due to use.

7.4 REPAIRS

In the case of small tears, you can temporarily repair these by using the Ripstop tape included in the repair kit, as long as no stitching is required to mend the fabric.

Any other tears or repairs should be done in a specialist repair shop by qualified personnel.

Damaged lines must be repaired or exchanged immediately.

Please refer to the line plan at the end of this manual. We recommend any inspection or repair is performed by a Niviuk professional in our official workshop.

Any modification of the glider made in an external workshop will invalidate the guarantee of the product. Niviuk cannot be held responsible for any issues or damage resulting from modifications or repairs carried out by unqualified professionals or who are not approved by the manufacturer.

8. SAFETY AND RESPONSIBILITY

It is well known that free-flying with a paraglider is considered a high-risk sport, where safety depends on the person who is practicing it.

Incorrect use of this equipment may cause severe, life-changing injuries to the pilot, or even death. Manufacturers and dealers cannot be held responsible for your decisions, actions or accidents that may result from participating in this sport.

You must not use this equipment if you have not been properly trained to use it. Do not take advice or accept any informal training from anyone who is not properly qualified as a flight instructor.

9. GUARANTEE

The equipment and components are covered by a 2-year warranty against any manufacturing defect.

The warranty does not cover misuse of the equipment.

Any modification of the paraglider or its components invalidates the guarantee and its certification.

If you notice any defects in your harness, please contact Niviuk immediately for a more thorough inspection.

ANNEXES

10. ANNEXES

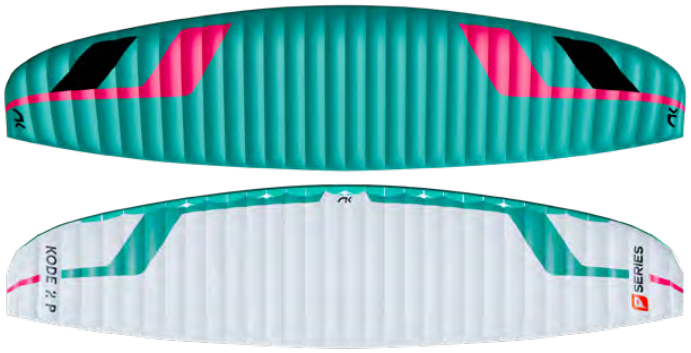
10.1 Technical specifications

			12	14	16	18	20	22	24	26
Cells	Number		34	34	34	34	34	34	34	34
Aspect ratio	Flat		4,6	4,6	4,6	4,6	4,6	4,6	4,6	4,6
	Projected		3,8	3,8	3,8	3,8	3,7	3,7	3,7	3,7
Area	Flat	m2	12,5	14	16	18	20	22	24	26
	Projected	m2	11,17	12,54	14,36	16,02	17,68	19,45	21,22	23,00
Span	Flat	m	7,58	8,03	8,58	9,01	9,59	10,06	10,50	10,94
Chord	Maximum	m	2,01	2,13	2,28	2,42	2,55	2,67	2,79	2,90
Lines	Total	m	191	202	216	230	242	254	266	277
	Main		2+1/4/3	2+1/4/3	2+1/4/3	2+1/4/3	2+1/4/3	2+1/4/3	2+1/4/3	2+1/4/3
Risers	Number		A-A'/B/C	A-A'/B/C	A-A'/B/C	A-A'/B/C	A-A'/B/C	A-A'/B/C	A-A'/B/C	A-A'/B/C
	Speed-bar	mm	110	110	110	140	140	140	140	140
Glider weight		kg	1,49	1,60	1,79	1,97	2,15	2,31	2,47	2,63
Glider volume		L	8,5	9	10	10,5	11	11,5	12	12,5
Certification			EN 926-1 Max. 90 kg	-	-	-	-	-	-	-
Weight range EN/LTF A		kg	-	-	-	50-75	60-85	65-90	70-100	90-119
Weight range EN/LTF B		kg	-	-	-	-	85-105	-	-	-
Weight range EN/LTF C		kg	-	-	50-85	75-95	-	-	-	-
Weight range EN/LTF D		kg	-	50-85	-	-	-	-	-	-

The total weight of the wing may differ ±2% due to variations in the weight of the fabric supplied by the manufacturers.

10.2 Colours

	UPPER	SLATE BLUE	**LOWER**	WHITE
INK	**TOP 1**	LIME	**BOTTOM 1**	SLATE BLUE
	TOP 2	WHITE	**BOTTOM 2**	LIME

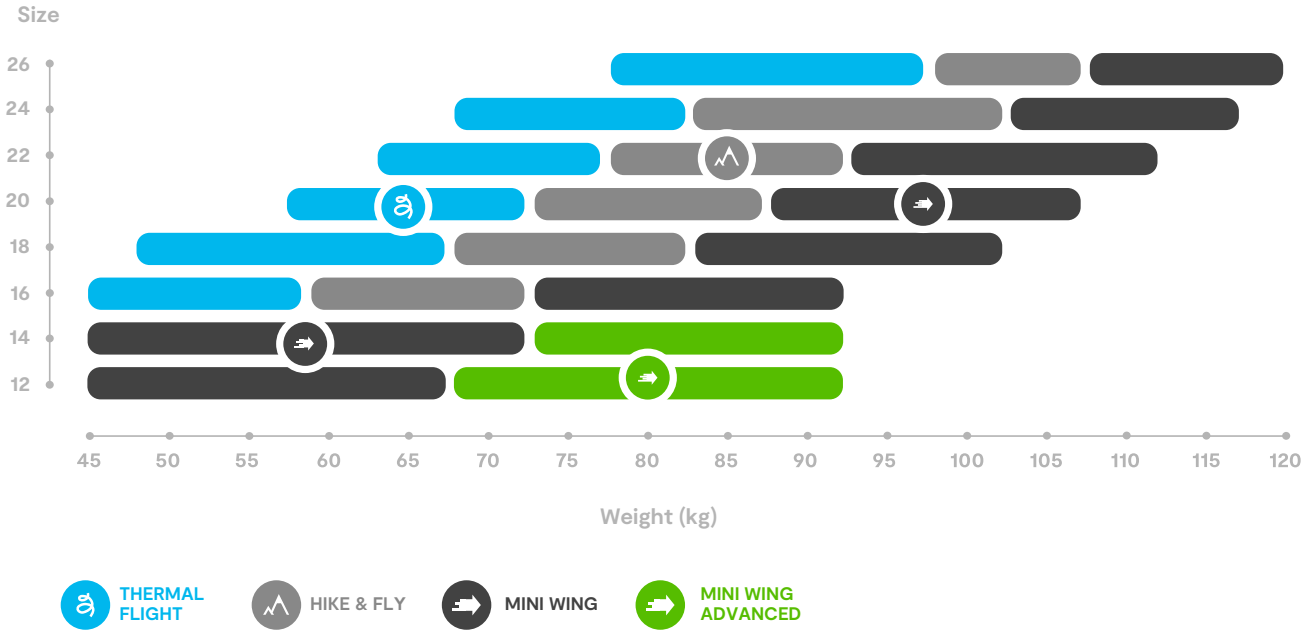


	UPPER	SPECTRA GREEN	**LOWER**	WHITE
TEAL	**TOP 1**	PINK	**BOTTOM 1**	SPECTRA GREEN
	TOP 2	BLACK	**BOTTOM 2**	PINK

	UPPER	DARK BRICK	**LOWER**	WHITE
HALO	**TOP 1**	BLACK	**BOTTOM 1**	DARK BRICK
	TOP 2	WHITE	**BOTTOM 2**	BLACK

	UPPER	PINK	**LOWER**	WHITE
ANTIAS	**TOP 1**	SLATE BLUE	**BOTTOM 1**	PINK
	TOP 2	WHITE	**BOTTOM 2**	SLATE BLUE

10.3 Choose your ideal size



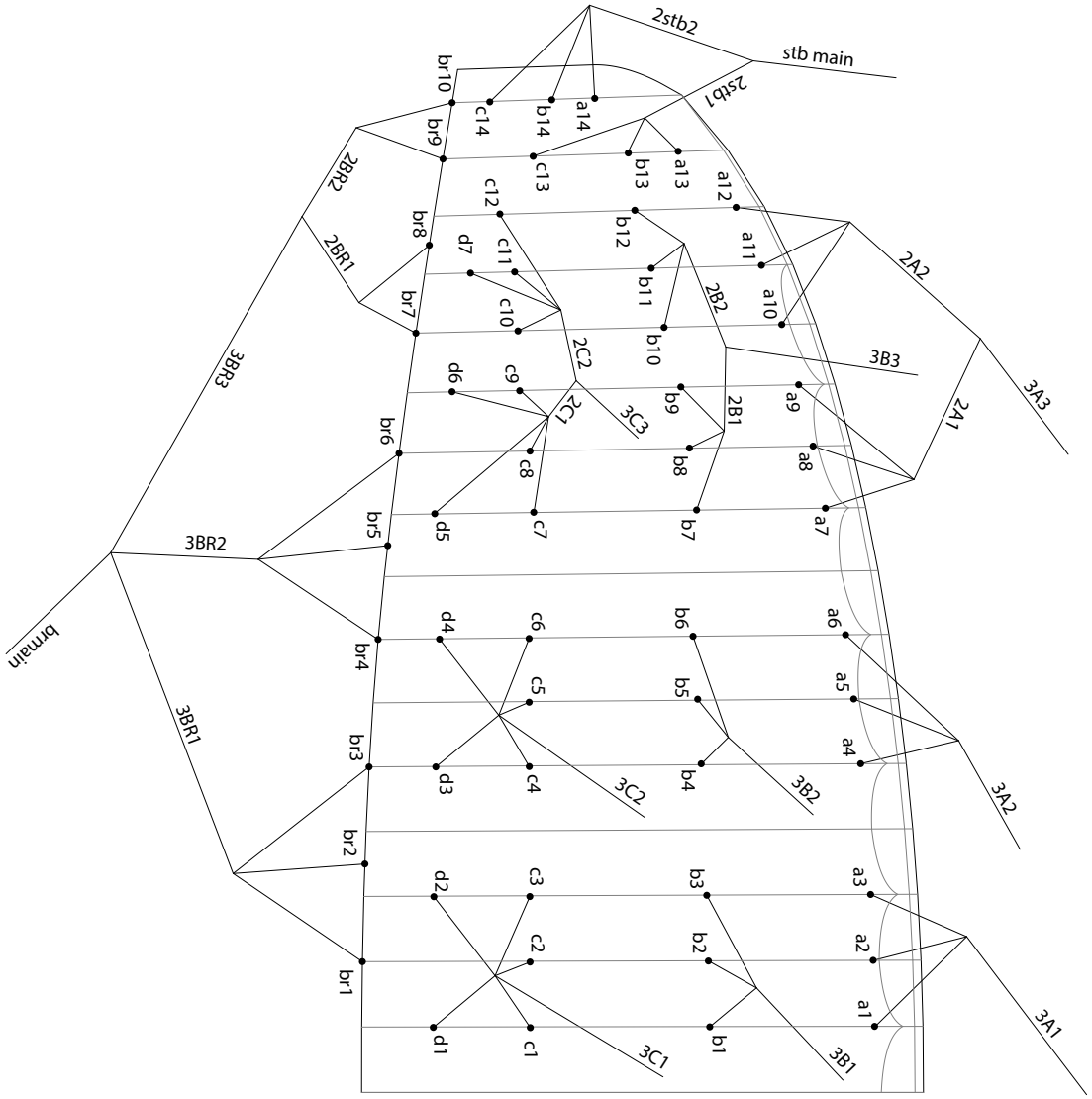
10.4 Materials

CANOPY	FABRIC CODE	SUPPLIER
UPPER SURFACE	D10	DOMINICO TEX CO (KOREA)
BOTTOM SURFACE	D10-22	DOMINICO TEX CO (KOREA)
PROFILES	70000 E91	PORCHER IND (FRANCE)
	70000 E91	PORCHER IND (FRANCE)
DIAGONALS	70000 E91	PORCHER IND (FRANCE)
TENSION BANDS	2044 32 FM	DOMINICO TEX CO (KOREA)
LOOPS	LKI - 12	KOLON IND. (KOREA)
REIFORCEMENT LOOPS	30D ST	DOMINICO TEX CO (KOREA)
TRAILING EDGE REIFORCEMENT	MYLAR	D-P (GERMANY)
RIBS REIFORCEMNET	LTN-0.5/0.8 STICK	SPORTWARE CO.CHINA
THREAD	SERAFIL 60	AMAN (GERMANY)

SUSPENSION LINES	FABRIC CODE	SUPPLIER
UPPER CASCADES	A-8001/U 40	EDELRID (GERMANY)
UPPER CASCADES	A-8001/U 50	EDELRID (GERMANY)
UPPER CASCADES	A-8001/U 70	EDELRID (GERMANY)
UPPER CASCADES	A-8001/U 90	EDELRID (GERMANY)
MIDDLE CASCADES	A-8001/U 50	EDELRID (GERMANY)
MIDDLE CASCADES	A-8001/U 70	EDELRID (GERMANY)
MIDDLE CASCADES	A-8001/U 90	EDELRID (GERMANY)
MIDDLE CASCADES	A-8001/U 130	EDELRID (GERMANY)
MAIN	A-8001/U 70	EDELRID (GERMANY)
MAIN	A-8001/U 130	EDELRID (GERMANY)
MAIN	A-8001/U 190	EDELRID (GERMANY)
MAIN	A-8001/U 230	EDELRID (GERMANY)
MAIN BREAK	TARAX-200	EDELRID (GERMANY)

RISERS	FABRIC CODE	SUPPLIER
MATERIAL	CSAR7	COUSIN (FRANCE)
COLOR INDICATOR	210D	TECNI SANGLES (FRANCE)
THREAD	V138	COATS (ENGLAND)
PULLEYS	RF25109	RONSTAN (AUSTRALIA)

10.5 Line plan



LINE REPLACEMENT

The use of new high performance materials in modern wings is now common. The advantages of using these materials in terms of performance are widely acknowledged as part of our sport's evolution. However, along with those technological advances come additional responsibilities which cannot be avoided. As a result, line inspection and replacement must be carried out more frequently. That increased frequency appears to be encouraging some pilots to try to perform line replacement themselves.

WE STRONGLY RECOMMEND ANY LINE REPLACEMENT IS PERFORMED BY AN AUTHORISED SPECIALIST ONLY.

Ultimately, if the pilot decides to perform any line replacement without professional oversight they therefore assume all responsibility. In this case, these guidelines will have to be followed.

BEFORE REMOVING ANY LINES, CHECK:

- That the line plan is correct according to the glider model and size.
- That the line kit is complete and correct. Never assume but always check each individual line for the correct specification.

AFTER CONFIRMING THAT ALL LINES ARE CORRECT:

- Fit the new line(s) WITHOUT removing the label.
- Once replaced, measure each line length to confirm the correct measurement.
- Inflate the wing to check for any irregularities.
- The line labels may then be removed but NOT BEFORE completion of the line replacement.

Niviuk strongly recommends for any line replacement to be carried out by an authorised professional only, and will not accept responsibility for any damage or injury caused as a result of incorrect re-assembly.

10.6 Riser plan

10.7 Line measurements by size

KODE 2 P – 12

ref.	mat.	kg	color	mm
	A			
a1	A/8001U	90	ORANGE	934
a2	A/8001U	70	ORANGE	895
a3	A/8001U	90	ORANGE	910
a4	A/8001U	90	ORANGE	900
a5	A/8001U	70	ORANGE	879
a6	A/8001U	70	ORANGE	909
a7	A/8001U	50	ORANGE	894
a8	A/8001U	50	ORANGE	842
a9	A/8001U	50	ORANGE	829
a10	A/8001U	40	ORANGE	879
a11	A/8001U	40	ORANGE	843
a12	A/8001U	40	ORANGE	848
a13	A/8001U	40	ORANGE	843
a14	A/8001U	40	ORANGE	803
2A1	A/8001U	130	ORANGE	1103
2A2	A/8001U	90	ORANGE	1031
3A1	A/8001U	230	ORANGE	3302
3A2	A/8001U	190	ORANGE	3307
3A3	A/8001U	190	ORANGE	2249

ref.	mat.	kg	color	mm
	B			
b1	A/8001U	90	BLUE	927
b2	A/8001U	70	BLUE	884
b3	A/8001U	70	BLUE	896
b4	A/8001U	70	BLUE	884
b5	A/8001U	50	BLUE	863
b6	A/8001U	50	BLUE	892
b7	A/8001U	50	BLUE	861
b8	A/8001U	40	BLUE	815
b9	A/8001U	40	BLUE	809
b10	A/8001U	40	BLUE	822
b11	A/8001U	40	BLUE	807
b12	A/8001U	40	BLUE	818
b13	A/8001U	40	ORANGE	835
b14	A/8001U	40	ORANGE	819
2B1	A/8001U	90	BLUE	1041
2B2	A/8001U	70	BLUE	1012
2ST1	A/8001U	50	ORANGE	822
2ST2	A/8001U	50	ORANGE	798
3B1	A/8001U	190	BLUE	3221
3B2	A/8001U	130	BLUE	3227
3B3	A/8001U	130	BLUE	2270
STB MAIN	A/8001U	70	ORANGE	2371

ref.	mat.	kg	color	mm
	C			
c1	A/8001U	50	BLUE	982
c2	A/8001U	40	BLUE	944
c3	A/8001U	40	BLUE	957
c4	A/8001U	40	BLUE	934
c5	A/8001U	40	BLUE	918
c6	A/8001U	40	BLUE	948
c7	A/8001U	40	BLUE	817
c8	A/8001U	40	BLUE	760
c9	A/8001U	40	BLUE	748
c10	A/8001U	40	BLUE	674
c11	A/8001U	40	BLUE	674
c12	A/8001U	40	BLUE	709
c13	A/8001U	40	ORANGE	962
c14	A/8001U	40	ORANGE	918
2C1	A/8001U	70	BLUE	541
2C2	A/8001U	70	BLUE	610
3c1	A/8001U	130	BLUE	3227
3c2	A/8001U	130	BLUE	3247
3c3	A/8001U	130	BLUE	2892

ref.	mat.	kg	color	mm
	D			
d1	A/8001U	50	BLUE	1072
d2	A/8001U	40	BLUE	1048
d3	A/8001U	40	BLUE	1023
d4	A/8001U	40	BLUE	1029
d5	A/8001U	40	BLUE	889
d6	A/8001U	40	BLUE	809
d7	A/8001U	40	BLUE	719

ref.	mat.	kg	color	mm
	BRAKE			
br1	A/8001U	40	ORANGE	1017
br2	A/8001U	40	ORANGE	840
br3	A/8001U	40	ORANGE	795
br4	A/8001U	40	ORANGE	913
br5	A/8001U	40	ORANGE	844
br6	A/8001U	40	ORANGE	881
br7	A/8001U	40	ORANGE	486
br8	A/8001U	40	ORANGE	397
br9	A/8001U	40	ORANGE	396
br10	A/8001U	40	ORANGE	381
2BR1	A/8001U	50	BLUE	408
2BR2	A/8001U	50	BLUE	368
3BR1	A/8001U	70	BLUE	1625
3BR2	A/8001U	70	BLUE	1433
3BR3	A/8001U	70	BLUE	1495
BRMAIN	TARAX	200	RED	2354
		KNOT POINT:		2154

KODE 2 P – 14

ref.	mat.	kg	color	mm
	A			
a1	A/8001U	90	ORANGE	988
a2	A/8001U	70	ORANGE	948
a3	A/8001U	90	ORANGE	965
a4	A/8001U	90	ORANGE	952
a5	A/8001U	70	ORANGE	931
a6	A/8001U	70	ORANGE	962
a7	A/8001U	50	ORANGE	946
a8	A/8001U	50	ORANGE	891
a9	A/8001U	50	ORANGE	878
a10	A/8001U	40	ORANGE	930
a11	A/8001U	40	ORANGE	892
a12	A/8001U	40	ORANGE	898
a13	A/8001U	40	ORANGE	893
a14	A/8001U	40	ORANGE	850
2A1	A/8001U	130	ORANGE	1167
2A2	A/8001U	90	ORANGE	1091
3A1	A/8001U	230	ORANGE	3525
3A2	A/8001U	190	ORANGE	3535
3A3	A/8001U	190	ORANGE	2414

ref.	mat.	kg	color	mm
	B			
b1	A/8001U	90	BLUE	979
b2	A/8001U	70	BLUE	936
b3	A/8001U	70	BLUE	950
b4	A/8001U	70	BLUE	934
b5	A/8001U	50	BLUE	913
b6	A/8001U	50	BLUE	945
b7	A/8001U	50	BLUE	911
b8	A/8001U	40	BLUE	863
b9	A/8001U	40	BLUE	856
b10	A/8001U	40	BLUE	870
b11	A/8001U	40	BLUE	854
b12	A/8001U	40	BLUE	866
b13	A/8001U	40	ORANGE	883
b14	A/8001U	40	ORANGE	866
2B1	A/8001U	90	BLUE	1101
2B2	A/8001U	70	BLUE	1071
2ST1	A/8001U	50	ORANGE	870
2ST2	A/8001U	50	ORANGE	844
3B1	A/8001U	190	BLUE	3.443
3B2	A/8001U	130	BLUE	3455
3B3	A/8001U	130	BLUE	2438
STB MAIN	A/8001U	70	ORANGE	2548

ref.	mat.	kg	color	mm
	C			
c1	A/8001U	50	BLUE	1037
c2	A/8001U	40	BLUE	999
c3	A/8001U	40	BLUE	1014
c4	A/8001U	40	BLUE	988
c5	A/8001U	40	BLUE	972
c6	A/8001U	40	BLUE	1004
c7	A/8001U	40	BLUE	865
c8	A/8001U	40	BLUE	805
c9	A/8001U	40	BLUE	792
c10	A/8001U	40	BLUE	713
c11	A/8001U	40	BLUE	713
c12	A/8001U	40	BLUE	751
c13	A/8001U	40	ORANGE	1018
c14	A/8001U	40	ORANGE	971
2C1	A/8001U	70	BLUE	572
2C2	A/8001U	70	BLUE	646
3c1	A/8001U	130	BLUE	3445
3c2	A/8001U	130	BLUE	3458
3c3	A/8001U	130	BLUE	3098

ref.	mat.	kg	color	mm
	D			
d1	A/8001U	50	BLUE	1133
d2	A/8001U	40	BLUE	1110
d3	A/8001U	40	BLUE	1082
d4	A/8001U	40	BLUE	1090
d5	A/8001U	40	BLUE	940
d6	A/8001U	40	BLUE	857
d7	A/8001U	40	BLUE	761

ref.	mat.	kg	color	mm
	BRAKE			
br1	A/8001U	40	ORANGE	1075
br2	A/8001U	40	ORANGE	890
br3	A/8001U	40	ORANGE	843
br4	A/8001U	40	ORANGE	965
br5	A/8001U	40	ORANGE	894
br6	A/8001U	40	ORANGE	934
br7	A/8001U	40	ORANGE	513
br8	A/8001U	40	ORANGE	420
br9	A/8001U	40	ORANGE	419
br10	A/8001U	40	ORANGE	404
2BR1	A/8001U	50	BLUE	431
2BR2	A/8001U	50	BLUE	389
3BR1	A/8001U	70	BLUE	1715
3BR2	A/8001U	70	BLUE	1516
3BR3	A/8001U	70	BLUE	1587
BRMAIN	TARAX	200	RED	2550
		KNOT POINT:		2350

KODE 2 P - 16

ref.	mat.	kg	color	mm
	A			
a1	A/8001U	90	ORANGE	1055
a2	A/8001U	70	ORANGE	1014
a3	A/8001U	90	ORANGE	1034
a4	A/8001U	90	ORANGE	1015
a5	A/8001U	70	ORANGE	995
a6	A/8001U	70	ORANGE	1032
a7	A/8001U	50	ORANGE	1010
a8	A/8001U	50	ORANGE	954
a9	A/8001U	50	ORANGE	945
a10	A/8001U	40	ORANGE	991
a11	A/8001U	40	ORANGE	954
a12	A/8001U	40	ORANGE	965
a13	A/8001U	40	ORANGE	956
a14	A/8001U	40	ORANGE	913
2A1	A/8001U	130	ORANGE	1243
2A2	A/8001U	90	ORANGE	1176
3A1	A/8001U	230	ORANGE	3760
3A2	A/8001U	190	ORANGE	3785
3A3	A/8001U	190	ORANGE	2614

ref.	mat.	kg	color	mm
	B			
b1	A/8001U	90	BLUE	1046
b2	A/8001U	70	BLUE	1002
b3	A/8001U	70	BLUE	1019
b4	A/8001U	70	BLUE	996
b5	A/8001U	50	BLUE	977
b6	A/8001U	50	BLUE	1014
b7	A/8001U	50	BLUE	972
b8	A/8001U	40	BLUE	924
b9	A/8001U	40	BLUE	921
b10	A/8001U	40	BLUE	926
b11	A/8001U	40	BLUE	913
b12	A/8001U	40	BLUE	931
b13	A/8001U	40	ORANGE	946
b14	A/8001U	40	ORANGE	930
2B1	A/8001U	90	BLUE	1171
2B2	A/8001U	70	BLUE	1154
2ST1	A/8001U	50	ORANGE	932
2ST2	A/8001U	50	ORANGE	907
3B1	A/8001U	190	BLUE	3675
3B2	A/8001U	130	BLUE	3703
3B3	A/8001U	130	BLUE	2643
STB MAIN	A/8001U	70	ORANGE	2768

ref.	mat.	kg	color	mm
	C			
c1	A/8001U	50	BLUE	1106
c2	A/8001U	40	BLUE	1067
c3	A/8001U	40	BLUE	1085
c4	A/8001U	40	BLUE	1055
c5	A/8001U	40	BLUE	1040
c6	A/8001U	40	BLUE	1078
c7	A/8001U	40	BLUE	921
c8	A/8001U	40	BLUE	860
c9	A/8001U	40	BLUE	851
c10	A/8001U	40	BLUE	757
c11	A/8001U	40	BLUE	762
c12	A/8001U	40	BLUE	806
c13	A/8001U	40	ORANGE	1090
c14	A/8001U	40	ORANGE	1042
2C1	A/8001U	70	BLUE	607
2C2	A/8001U	70	BLUE	699
3c1	A/8001U	130	BLUE	3674
3c2	A/8001U	130	BLUE	3709
3c3	A/8001U	130	BLUE	3344

ref.	mat.	kg	color	mm
	D			
d1	A/8001U	50	BLUE	1210
d2	A/8001U	40	BLUE	1188
d3	A/8001U	40	BLUE	1156
d4	A/8001U	40	BLUE	1169
d5	A/8001U	40	BLUE	1002
d6	A/8001U	40	BLUE	920
d7	A/8001U	40	BLUE	813

ref.	mat.	kg	color	mm
	BRAKE			
br1	A/8001U	40	ORANGE	1149
br2	A/8001U	40	ORANGE	952
br3	A/8001U	40	ORANGE	905
br4	A/8001U	40	ORANGE	1027
br5	A/8001U	40	ORANGE	956
br6	A/8001U	40	ORANGE	1004
br7	A/8001U	40	ORANGE	542
br8	A/8001U	40	ORANGE	449
br9	A/8001U	40	ORANGE	448
br10	A/8001U	40	ORANGE	436
2BR1	A/8001U	50	BLUE	458
2BR2	A/8001U	50	BLUE	419
3BR1	A/8001U	70	BLUE	1815
3BR2	A/8001U	70	BLUE	1617
3BR3	A/8001U	70	BLUE	1717
BRMAIN	TARAX	200	RED	2693
		KNOT POINT:		2493

KODE 2 P – 18

ref.	mat.	kg	color	mm
		A		
a1	A/8001U	90	ORANGE	1118
a2	A/8001U	70	ORANGE	1075
a3	A/8001U	90	ORANGE	1096
a4	A/8001U	90	ORANGE	1079
a5	A/8001U	70	ORANGE	1055
a6	A/8001U	70	ORANGE	1091
a7	A/8001U	50	ORANGE	1073
a8	A/8001U	50	ORANGE	1009
a9	A/8001U	50	ORANGE	994
a10	A/8001U	40	ORANGE	1055
a11	A/8001U	40	ORANGE	1011
a12	A/8001U	40	ORANGE	1015
a13	A/8001U	40	ORANGE	1010
a14	A/8001U	40	ORANGE	961
2A1	A/8001U	130	ORANGE	1325
2A2	A/8001U	90	ORANGE	1234
3A1	A/8001U	230	ORANGE	4033
3A2	A/8001U	190	ORANGE	4048
3A3	A/8001U	190	ORANGE	2787

ref.	mat.	kg	color	mm
		B		
b1	A/8001U	90	BLUE	1108
b2	A/8001U	70	BLUE	1062
b3	A/8001U	70	BLUE	1080
b4	A/8001U	70	BLUE	1058
b5	A/8001U	50	BLUE	1035
b6	A/8001U	50	BLUE	1071
b7	A/8001U	50	BLUE	1033
b8	A/8001U	40	BLUE	977
b9	A/8001U	40	BLUE	969
b10	A/8001U	40	BLUE	988
b11	A/8001U	40	BLUE	968
b12	A/8001U	40	BLUE	980
b13	A/8001U	40	ORANGE	1000
b14	A/8001U	40	ORANGE	980
2B1	A/8001U	90	BLUE	1249
2B2	A/8001U	70	BLUE	1211
2ST1	A/8001U	50	ORANGE	985
2ST2	A/8001U	50	ORANGE	955
3B1	A/8001U	190	BLUE	3938
3B2	A/8001U	130	BLUE	3958
3B3	A/8001U	130	BLUE	2808
STB MAIN	A/8001U	70	ORANGE	2921

ref.	mat.	kg	color	mm
		C		
c1	A/8001U	50	BLUE	1172
c2	A/8001U	40	BLUE	1131
c3	A/8001U	40	BLUE	1150
c4	A/8001U	40	BLUE	1119
c5	A/8001U	40	BLUE	1101
c6	A/8001U	40	BLUE	1138
c7	A/8001U	40	BLUE	981
c8	A/8001U	40	BLUE	912
c9	A/8001U	40	BLUE	896
c10	A/8001U	40	BLUE	811
c11	A/8001U	40	BLUE	809
c12	A/8001U	40	BLUE	849
c13	A/8001U	40	ORANGE	1153
c14	A/8001U	40	ORANGE	1099
2C1	A/8001U	70	BLUE	651
2C2	A/8001U	70	BLUE	728
3c1	A/8001U	130	BLUE	3929
3c2	A/8001U	130	BLUE	3960
3c3	A/8001U	130	BLUE	3549

ref.	mat.	kg	color	mm
		D		
d1	A/8001U	50	BLUE	1282
d2	A/8001U	40	BLUE	1259
d3	A/8001U	40	BLUE	1226
d4	A/8001U	40	BLUE	1236
d5	A/8001U	40	BLUE	1067
d6	A/8001U	40	BLUE	970
d7	A/8001U	40	BLUE	864

ref.	mat.	kg	color	mm
		BRAKE		
br1	A/8001U	40	ORANGE	1218
br2	A/8001U	40	ORANGE	1010
br3	A/8001U	40	ORANGE	959
br4	A/8001U	40	ORANGE	1094
br5	A/8001U	40	ORANGE	1013
br6	A/8001U	40	ORANGE	1059
br7	A/8001U	40	ORANGE	584
br8	A/8001U	40	ORANGE	477
br9	A/8001U	40	ORANGE	475
br10	A/8001U	40	ORANGE	456
2BR1	A/8001U	50	BLUE	490
2BR2	A/8001U	50	BLUE	440
3BR1	A/8001U	70	BLUE	1943
3BR2	A/8001U	70	BLUE	1722
3BR3	A/8001U	70	BLUE	1797
BRMAIN	TARAX	200	RED	2842
			KNOT POINT:	2642

KODE 2 P - 20

ref.	mat.	kg	color	mm
	A			
a1	A/8001U	90	ORANGE	1178
a2	A/8001U	70	ORANGE	1131
a3	A/8001U	90	ORANGE	1150
a4	A/8001U	90	ORANGE	1145
a5	A/8001U	70	ORANGE	1111
a6	A/8001U	70	ORANGE	1140
a7	A/8001U	50	ORANGE	1135
a8	A/8001U	50	ORANGE	1061
a9	A/8001U	50	ORANGE	1038
a10	A/8001U	40	ORANGE	1116
a11	A/8001U	40	ORANGE	1066
a12	A/8001U	40	ORANGE	1070
a13	A/8001U	40	ORANGE	1069
a14	A/8001U	40	ORANGE	1019
2A1	A/8001U	130	ORANGE	1405
2A2	A/8001U	90	ORANGE	1291
3A1	A/8001U	230	ORANGE	4279
3A2	A/8001U	190	ORANGE	4270
3A3	A/8001U	190	ORANGE	2901

ref.	mat.	kg	color	mm
	B			
b1	A/8001U	90	BLUE	1165
b2	A/8001U	70	BLUE	1115
b3	A/8001U	70	BLUE	1131
b4	A/8001U	70	BLUE	1122
b5	A/8001U	50	BLUE	1090
b6	A/8001U	50	BLUE	1119
b7	A/8001U	50	BLUE	1095
b8	A/8001U	40	BLUE	1028
b9	A/8001U	40	BLUE	1014
b10	A/8001U	40	BLUE	1047
b11	A/8001U	40	BLUE	1022
b12	A/8001U	40	BLUE	1035
b13	A/8001U	40	ORANGE	1058
b14	A/8001U	40	ORANGE	1039
2B1	A/8001U	90	BLUE	1328
2B2	A/8001U	70	BLUE	1269
2ST1	A/8001U	50	ORANGE	1042
2ST2	A/8001U	50	ORANGE	1013
3B1	A/8001U	190	BLUE	4183
3B2	A/8001U	130	BLUE	4179
3B3	A/8001U	130	BLUE	2919
STB MAIN	A/8001U	70	ORANGE	3026

ref.	mat.	kg	color	mm
	C			
c1	A/8001U	50	BLUE	1236
c2	A/8001U	40	BLUE	1191
c3	A/8001U	40	BLUE	1208
c4	A/8001U	40	BLUE	1183
c5	A/8001U	40	BLUE	1156
c6	A/8001U	40	BLUE	1186
c7	A/8001U	40	BLUE	1042
c8	A/8001U	40	BLUE	962
c9	A/8001U	40	BLUE	938
c10	A/8001U	40	BLUE	859
c11	A/8001U	40	BLUE	855
c12	A/8001U	40	BLUE	897
c13	A/8001U	40	ORANGE	1220
c14	A/8001U	40	ORANGE	1164
2C1	A/8001U	70	BLUE	694
2C2	A/8001U	70	BLUE	758
3c1	A/8001U	130	BLUE	4165
3c2	A/8001U	130	BLUE	4179
3c3	A/8001U	130	BLUE	3694

ref.	mat.	kg	color	mm
	D			
d1	A/8001U	50	BLUE	1352
d2	A/8001U	40	BLUE	1324
d3	A/8001U	40	BLUE	1296
d4	A/8001U	40	BLUE	1289
d5	A/8001U	40	BLUE	1132
d6	A/8001U	40	BLUE	1016
d7	A/8001U	40	BLUE	913

ref.	mat.	kg	color	mm
	BRAKE			
br1	A/8001U	40	ORANGE	1294
br2	A/8001U	40	ORANGE	1072
br3	A/8001U	40	ORANGE	1014
br4	A/8001U	40	ORANGE	1165
br5	A/8001U	40	ORANGE	1068
br6	A/8001U	40	ORANGE	1106
br7	A/8001U	40	ORANGE	596
br8	A/8001U	40	ORANGE	482
br9	A/8001U	40	ORANGE	473
br10	A/8001U	40	ORANGE	467
2BR1	A/8001U	50	BLUE	495
2BR2	A/8001U	50	BLUE	451
3BR1	A/8001U	70	BLUE	2055
3BR2	A/8001U	70	BLUE	1791
3BR3	A/8001U	70	BLUE	1893
BRMAIN	TARAX	200	RED	2993
		KNOT POINT:		2793

KODE 2 P – 22

ref.	mat.	kg	color	mm
	A			
a1	A/8001U	90	ORANGE	1235
a2	A/8001U	70	ORANGE	1186
a3	A/8001U	90	ORANGE	1207
a4	A/8001U	90	ORANGE	1200
a5	A/8001U	70	ORANGE	1166
a6	A/8001U	70	ORANGE	1196
a7	A/8001U	50	ORANGE	1190
a8	A/8001U	50	ORANGE	1113
a9	A/8001U	50	ORANGE	1089
a10	A/8001U	40	ORANGE	1170
a11	A/8001U	40	ORANGE	1118
a12	A/8001U	40	ORANGE	1122
a13	A/8001U	40	ORANGE	1122
a14	A/8001U	40	ORANGE	1069
2A1	A/8001U	130	ORANGE	1473
2A2	A/8001U	90	ORANGE	1354
3A1	A/8001U	230	ORANGE	4514
3A2	A/8001U	190	ORANGE	4508
3A3	A/8001U	190	ORANGE	3074

ref.	mat.	kg	color	mm
	B			
b1	A/8001U	90	BLUE	1221
b2	A/8001U	70	BLUE	1170
b3	A/8001U	70	BLUE	1188
b4	A/8001U	70	BLUE	1176
b5	A/8001U	50	BLUE	1143
b6	A/8001U	50	BLUE	1175
b7	A/8001U	50	BLUE	1148
b8	A/8001U	40	BLUE	1079
b9	A/8001U	40	BLUE	1063
b10	A/8001U	40	BLUE	1097
b11	A/8001U	40	BLUE	1072
b12	A/8001U	40	BLUE	1086
b13	A/8001U	40	ORANGE	1110
b14	A/8001U	40	ORANGE	1090
2B1	A/8001U	90	BLUE	1393
2B2	A/8001U	70	BLUE	1332
2ST1	A/8001U	50	ORANGE	1093
2ST2	A/8001U	50	ORANGE	1062
3B1	A/8001U	190	BLUE	4409
3B2	A/8001U	130	BLUE	4410
3B3	A/8001U	130	BLUE	3093
STB MAIN	A/8001U	70	ORANGE	3206

ref.	mat.	kg	color	mm
	C			
c1	A/8001U	50	BLUE	1295
c2	A/8001U	40	BLUE	1249
c3	A/8001U	40	BLUE	1268
c4	A/8001U	40	BLUE	1241
c5	A/8001U	40	BLUE	1213
c6	A/8001U	40	BLUE	1245
c7	A/8001U	40	BLUE	1093
c8	A/8001U	40	BLUE	1008
c9	A/8001U	40	BLUE	984
c10	A/8001U	40	BLUE	901
c11	A/8001U	40	BLUE	897
c12	A/8001U	40	BLUE	940
c13	A/8001U	40	ORANGE	1279
c14	A/8001U	40	ORANGE	1221
2C1	A/8001U	70	BLUE	727
2C2	A/8001U	70	BLUE	796
3c1	A/8001U	130	BLUE	4398
3c2	A/8001U	130	BLUE	4415
3c3	A/8001U	130	BLUE	3915

ref.	mat.	kg	color	mm
	D			
d1	A/8001U	50	BLUE	1416
d2	A/8001U	40	BLUE	1389
d3	A/8001U	40	BLUE	1359
d4	A/8001U	40	BLUE	1353
d5	A/8001U	40	BLUE	1187
d6	A/8001U	40	BLUE	1066
d7	A/8001U	40	BLUE	957

ref.	mat.	kg	color	mm
	BRAKE			
br1	A/8001U	40	ORANGE	1347
br2	A/8001U	40	ORANGE	1115
br3	A/8001U	40	ORANGE	1052
br4	A/8001U	40	ORANGE	1221
br5	A/8001U	40	ORANGE	1119
br6	A/8001U	40	ORANGE	1158
br7	A/8001U	40	ORANGE	644
br8	A/8001U	40	ORANGE	525
br9	A/8001U	40	ORANGE	523
br10	A/8001U	40	ORANGE	508
2BR1	A/8001U	50	BLUE	540
2BR2	A/8001U	50	BLUE	488
3BR1	A/8001U	70	BLUE	2179
3BR2	A/8001U	70	BLUE	1900
3BR3	A/8001U	70	BLUE	1962
BRMAIN	TARAX	200	RED	3131
		KNOT POINT:		2931

10.8 Total line length

KODE 2 P – 12

LINES HEIGHT + RISERS mm

	A	B	C	D	br
1	4728	4642	4706	4796	4856
2	4688	4598	4668	4772	4679
3	4704	4610	4681	4767	4634
4	4700	4605	4678	4773	4560
5	4678	4588	4662	4813	4491
6	4708	4617	4692	4733	4528
7	4732	4662	4741	4712	4603
8	4680	4616	4684		4514
9	4667	4610	4672		4473
10	4646	4595	4667		4458
11	4610	4580	4667		
12	4615	4591	4702		
13	4531	4523	4650		
14	4467	4483	4582		

KODE 2 P – 14

LINES HEIGHT + RISERS mm

	A	B	C	D	br
1	5005	4916	4979	5075	5200
2	4964	4872	4941	5052	5015
3	4982	4886	4956	5034	4968
4	4980	4883	4943	5042	4891
5	4958	4866	4927	5101	4820
6	4989	4898	4959	5018	4860
7	5013	4940	5026	4996	4941
8	4958	4892	4966		4848
9	4945	4885	4953		4805
10	4922	4870	4948		4790
11	4884	4854	4948		
12	4890	4866	4986		
13	4806	4796	4931		
14	4737	4753	4858		

KODE 2 P – 16

LINES HEIGHT + RISERS mm

	A	B	C	D	br
1	5307	5215	5277	5378	5517
2	5265	5170	5238	5356	5320
3	5286	5187	5256	5359	5273
4	5293	5193	5261	5372	5197
5	5272	5178	5246	5444	5126
6	5309	5215	5284	5362	5174
7	5353	5276	5363	5347	5270
8	5297	5228	5302		5177
9	5288	5225	5293		5137
10	5268	5214	5291		5125
11	5231	5201	5296		
12	5242	5219	5340		
13	5151	5141	5285		
14	5083	5100	5212		

KODE 2 P – 18

LINES HEIGHT + RISERS mm

	A	B	C	D	br
1	5643	5540	5598	5705	5873
2	5599	5493	5557	5682	5665
3	5621	5511	5576	5680	5614
4	5620	5510	5576	5690	5528
5	5595	5491	5558	5758	5447
6	5631	5527	5595	5661	5493
7	5671	5580	5672	5632	5583
8	5607	5524	5603		5476
9	5592	5516	5587		5424
10	5563	5498	5579		5405
11	5519	5478	5577		
12	5523	5490	5617		
13	5411	5401	5554		
14	5332	5351	5470		

KODE 2 P – 20

LINES HEIGHT + RISERS mm

	A	B	C	D	br
1	5949	5842	5898	6014	6212
2	5901	5791	5853	5986	5990
3	5921	5807	5870	5972	5932
4	5908	5795	5859	5965	5819
5	5873	5767	5832	6011	5722
6	5902	5796	5862	5895	5760
7	5927	5832	5929	5856	5842
8	5853	5765	5841		5728
9	5830	5751	5817		5675
10	5795	5726	5802		5669
11	5745	5701	5798		
12	5749	5714	5840		
13	5632	5621	5783		
14	5553	5573	5698		

KODE 2 P – 22

LINES HEIGHT + RISERS mm

	A	B	C	D	br
1	6241	6124	6190	6308	6527
2	6191	6072	6144	6281	6295
3	6213	6090	6163	6268	6232
4	6201	6080	6153	6262	6122
5	6166	6051	6125	6320	6020
6	6196	6083	6157	6199	6059
7	6223	6124	6226	6159	6147
8	6146	6055	6141		6028
9	6122	6039	6117		5974
10	6085	6013	6103		5959
11	6033	5988	6099		
12	6037	6002	6142		
13	5916	5904	6073		
14	5832	5853	5984		

KODE 2 P – 24

LINES HEIGHT + RISERS mm

	A	B	C	D	br
1	6519	6397	6466	6589	6833
2	6468	6343	6418	6562	6591
3	6492	6363	6439	6551	6526
4	6481	6354	6431	6546	6412
5	6445	6325	6402	6606	6307
6	6477	6359	6436	6480	6348
7	6507	6403	6508	6440	6442
8	6426	6331	6420		6318
9	6402	6315	6395		6264
10	6364	6289	6381		6248
11	6310	6263	6377		
12	6315	6277	6422		
13	6187	6175	6352		
14	6099	6121	6258		

KODE 2 P – 26

LINES HEIGHT + RISERS mm

	A	B	C	D	br
1	6787	6659	6731	6860	7140
2	6735	6604	6682	6833	6889
3	6760	6626	6704	6822	6822
4	6749	6617	6697	6819	6705
5	6712	6587	6668	6883	6596
6	6747	6622	6704	6752	6640
7	6779	6671	6781	6710	6738
8	6695	6596	6689		6609
9	6670	6580	6663		6554
10	6630	6553	6648		6538
11	6574	6526	6644		
12	6579	6541	6692		
13	6446	6433	6617		
14	6356	6378	6521		

10.9 Minimum strength of suspension lines

LINE REFERENCE	SIZE					
	12	**14**	**16**	**18**	**28**	**30**
8001U-40	19	19	19	20	22	22
8001U-50	23	23	23	24	27	27
8001U-70	26	26	26	28	30	30
8001U-90	44	44	44	46	51	51
8001U-130	52	52	42	55	60	60
8001U-190	92	92	92	97	107	107
8001U-230	106	106	106	112	124	124

Minimum resistance values in daN

Based on the original experimental resistance values of each suspension line material obtained in certification tests, a correction factor is applied depending on the material and its aging, resulting in the reference values shown in the table.

10.10 Certification

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NIVIUK

Classification: **D**

In accordance with standards: EN 926-1:2015, EN 926-2:2013+A1:2021 and NfL 2024-2-785	PG_2663.2026
Date of issue (DMY):	28.01.2026
Manufacturer:	Niviuk Gliders / Air Games S.L.
Model:	Kode 2 P 14
Serial number:	KODE214XX1

Configuration during flight tests

Paraglider		**Accessories**	
Maximum weight in flight [kg]	**85**	Range of speed system [cm]	**11**
Minimum weight in flight [kg]	**50**	Speed range using brakes [km/h]	**14**
Glider's weight [kg]	**1.6**	Total speed range with accessories [km/h]	**25**
Number of risers	**3+1**	Range of trimmers [cm]	**n/a**
Projected area [m²]	**12.57**		

Harness used for testing (max weight)		**Inspections** (whichever happens first)
Harness type	**ABS**	every 100 hours of use or every 24 months
Harness brand	**Advance Thun AG**	
Harness model	**Success 4 M**	Person or company having presented the glider for testing: **None**
Harness to risers distance [cm]	**43**	
Distance between risers [cm]	**44**	

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
B	**A**	**B**	**C**	**A**	**A**	**A**	**A**	**A**	**C**	**A**	**C**	**C**	**D**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**0**

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NIVIUK

Classification: **C**

In accordance with standards: EN 926-1:2015, EN 926-2:2013+A1:2021 and NfL 2024-2-785	PG_2650.2025
Date of issue (DMY):	08.01.2026
Manufacturer:	Niviuk Gliders / Air Games S.L.
Model:	Kode 2 P 16
Serial number:	KODE216

Configuration during flight tests

Paraglider		**Accessories**	
Maximum weight in flight [kg]	**85**	Range of speed system [cm]	**13.1**
Minimum weight in flight [kg]	**50**	Speed range using brakes [km/h]	**14**
Glider's weight [kg]	**1.9**	Total speed range with accessories [km/h]	**25**
Number of risers	**3+1**	Range of trimmers [cm]	**n/a**
Projected area [m²]	**14.36**		

Harness used for testing (max weight)		**Inspections** (whichever happens first)
Harness type	**ABS**	every 100 hours of use or every 24 months
Harness brand	**Niviuk**	
Harness model	**Makan M**	Person or company having presented the glider for testing: **None**
Harness to risers distance [cm]	**41**	
Distance between risers [cm]	**44**	

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
B	**A**	**B**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**C**	**B**	**C**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**0**

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Classification: **A**

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Date of issue (DMY):	08.01.2026
Manufacturer:	Niviuk Gliders / Air Games S.L.
Model:	Kode 2 P 18
Serial number:	KODE218

Configuration during flight tests

Paraglider

Maximum weight in flight [kg]	**75**
Minimum weight in flight [kg]	**50**
Glider's weight [kg]	**2**
Number of risers	**3+1**
Projected area [m²]	**16.02**

Accessories

Range of speed system [cm]	**14.0**
Speed range using brakes [km/h]	**14**
Total speed range with accessories [km/h]	**25**
Range of trimmers [cm]	**n/a**

Harness used for testing (max weight)

Harness type	**ABS**
Harness brand	**Woody Valley srl**
Harness model	**Wani Light 2 M**
Harness to risers distance [cm]	**43**
Distance between risers [cm]	**40**

Inspections (whichever happens first)
every 100 hours of use or every 24 months

Person or company having presented the glider for testing: **None**

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
A	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**0**

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Classification: **C**

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Date of issue (DMY):	08.01.2026
Manufacturer:	Niviuk Gliders / Air Games S.L.
Model:	Kode 2 P 18
Serial number:	KODE218

Configuration during flight tests

Paraglider

Maximum weight in flight [kg]	**95**
Minimum weight in flight [kg]	**50**
Glider's weight [kg]	**2**
Number of risers	**3+1**
Projected area [m²]	**16.02**

Accessories

Range of speed system [cm]	**14.0**
Speed range using brakes [km/h]	**14**
Total speed range with accessories [km/h]	**25**
Range of trimmers [cm]	**n/a**

Harness used for testing (max weight)

Harness type	**ABS**
Harness brand	**Advance Thun AG**
Harness model	**Success 4 M**
Harness to risers distance [cm]	**43**
Distance between risers [cm]	**44**

Inspections (whichever happens first)
every 100 hours of use or every 24 months

Person or company having presented the glider for testing: **None**

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
B	**A**	**B**	**C**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**C**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**0**

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Classification: A

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Date of issue (DMY):	08.01.2026
Manufacturer:	Niviuk Gliders / Air Games S.L.
Model:	Kode 2 P 20
Serial number:	KODE2205

Configuration during flight tests

Paraglider

Maximum weight in flight [kg]	**85**
Minimum weight in flight [kg]	**60**
Glider's weight [kg]	**2.1**
Number of risers	**3+1**
Projected area [m²]	**17.68**

Accessories

Range of speed system [cm]	**14.2**
Speed range using brakes [km/h]	**14**
Total speed range with accessories [km/h]	**25**
Range of trimmers [cm]	**n/a**

Harness used for testing (max weight)

Harness type	**ABS**
Harness brand	**Niviuk**
Harness model	**Makan M**
Harness to risers distance [cm]	**41**
Distance between risers [cm]	**44**

Inspections (whichever happens first)
every 100 hours of use or every 24 months

Person or company having presented the glider for testing: **None**

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
A	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**0**

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Classification: B

In accordance with standards: EN 926-1:2015, EN 926-2:2013+A1:2021 and NfL 2024-2-785	PG_2640.2025
Date of issue (DMY):	08.01.2026
Manufacturer:	Niviuk Gliders / Air Games S.L.
Model:	Kode 2 P 20
Serial number:	KODE2205

Configuration during flight tests

Paraglider

Maximum weight in flight [kg]	**105**
Minimum weight in flight [kg]	**60**
Glider's weight [kg]	**2.1**
Number of risers	**3+1**
Projected area [m²]	**17.68**

Accessories

Range of speed system [cm]	**14.2**
Speed range using brakes [km/h]	**14**
Total speed range with accessories [km/h]	**25**
Range of trimmers [cm]	**n/a**

Harness used for testing (max weight)

Harness type	**ABS**
Harness brand	**Advance Thun AG**
Harness model	**Success 4 M**
Harness to risers distance [cm]	**43**
Distance between risers [cm]	**48**

Inspections (whichever happens first)
every 100 hours of use or every 24 months

Person or company having presented the glider for testing: **None**

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
A	**A**	**B**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**B**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**0**

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Classification: **A**

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Date of issue (DMY):	08.01.2026
Manufacturer:	Niviuk Gliders / Air Games S.L.
Model:	Kode 2 P 22
Serial number:	KODE222

Configuration during flight tests

Paraglider		**Accessories**	
Maximum weight in flight [kg]	**90**	Range of speed system [cm]	**14.0**
Minimum weight in flight [kg]	**65**	Speed range using brakes [km/h]	**14**
Glider's weight [kg]	**2.3**	Total speed range with accessories [km/h]	**25**
Number of risers	**3+1**	Range of trimmers [cm]	**n/a**
Projected area [m²]	**19.45**		

Harness used for testing (max weight)		**Inspections** (whichever happens first)
Harness type	**ABS**	every 100 hours of use or every 24 months
Harness brand	**Niviuk**	
Harness model	**Makan M**	Person or company having presented the glider for testing: **None**
Harness to risers distance [cm]	**41**	
Distance between risers [cm]	**44**	

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
A	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**0**

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Classification: **A**

In accordance with standards: EN 926-1:2015, EN 926-2:2013+A1:2021 and NfL 2024-2-785	PG_2652.2025
Date of issue (DMY):	08.01.2026
Manufacturer:	Niviuk Gliders / Air Games S.L.
Model:	Kode 2 P 24
Serial number:	KODE224XX

Configuration during flight tests

Paraglider		**Accessories**	
Maximum weight in flight [kg]	**100**	Range of speed system [cm]	**14.7**
Minimum weight in flight [kg]	**70**	Speed range using brakes [km/h]	**14**
Glider's weight [kg]	**2.5**	Total speed range with accessories [km/h]	**25**
Number of risers	**3+1**	Range of trimmers [cm]	**n/a**
Projected area [m²]	**21.22**		

Harness used for testing (max weight)		**Inspections** (whichever happens first)
Harness type	**ABS**	every 100 hours of use or every 24 months
Harness brand	**Advance Thun AG**	
Harness model	**Success 4 M**	Person or company having presented the glider for testing: **None**
Harness to risers distance [cm]	**43**	
Distance between risers [cm]	**46**	

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
A	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**0**

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Classification: **A**

In accordance with standards: EN 926-1:2015, EN 926-2:2013+A1:2021 and NfL 2024-2-785	PG_2619.2025
Date of issue (DMY):	08.01.2026
Manufacturer:	Niviuk Gliders / Air Games S.L.
Model:	Kode 2 P 26
Serial number:	KODE226XX

Configuration during flight tests

Paraglider	
Maximum weight in flight [kg]	**119**
Minimum weight in flight [kg]	**90**
Glider's weight [kg]	**2.7**
Number of risers	**3+1**
Projected area [m²]	**23**

Accessories	
Range of speed system [cm]	**14.1**
Speed range using brakes [km/h]	**14**
Total speed range with accessories [km/h]	**25**
Range of trimmers [cm]	**n/a**

Harness used for testing (max weight)	
Harness type	**ABS**
Harness brand	**Woody Valley srl**
Harness model	**NAOS XL**
Harness to risers distance [cm]	**45**
Distance between risers [cm]	**48**

Inspections (whichever happens first)
every 100 hours of use or every 24 months

Person or company having presented the glider for testing: **None**

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
A	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**A**	**0**

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