

Kitesurfing A - Z

A

Airfoil (aerofoil): a wing, kite, or sail used to generate lift or propulsion.

Airtime: the amount of time spent in the air while jumping.

AOA, Angle of Attack: also known as the angle of incidence (AOI) is the angle with which the kite flies in relation to the wind. Increasing AOA generally gives more lift.

AOI, Angle of Incidence: angle which the kite takes compared to the wind direction

Apparent wind, AW: The wind felt by the kite or rider as they pass through the air. For instance, if the true wind is blowing North at 10 knots and the kite is moving West at 10 knots, the apparent wind on the kite is NW at about 14 knots. The apparent wind direction shifts towards the direction of travel as speed increases.

Aspect Ratio, AR: the ratio of a kites width to height (span to chord). Kites can range between a high aspect ratio of about 5.0 or a low aspect ratio of about 3.0.

AR5: The legendary first 4 line inflatable kite manufactured by Naish.

ARC: a foil kite manufactured by Peter Lynn

B

Back Loop: a kitesurfing trick where the kiter rotates backward (begins by turning their back toward the kite) while throwing his/her feet above the level of his/her head.

Back Roll: same as a back loop but without getting their feet up high.

Batten: a length of carbon or plastic which adds stiffness or shape to the kite or sail.

Bear Away / Bear Off: change your direction of travel to a more downwind direction.

Beaufort: scale of wind strengths from 0 to 12. Named after the English Admiral, Francis Beaufort, who invented it. 0 = no wind whereas 12 = hurricane.

Bladder: an inflatable inner tube in a kite used to give the kite shape and floatation. Bladders must be inflated or pumped up by hand.

Blade: a model of foil kite made by Flexifoil.

Blindside: is to ride backwards from normal orientation so you will be looking away from your direction of travel and riding on your toeside edge.

Board Leash: a leash or line connecting the kiter to the board and used to keep the board nearby when the kiter is in the water. Modern kites don't use board leash anymore

Body Dragging: being pulled through the water without standing on your board.. usually on your stomach. One can body drag upwind by extending one arm in the water.

Bone: a trick where you bone out your leg means you straighten it all the way out. A "boned out grab" is one where your leg or legs are straightened out while grabbing your board.

Bow Kite: A new type of inflatable kite that is flatter and does not have a pronounced C shape or U shape as the classic inflatables. Bow kite is a part of the Flat LEI Kites; however, Bow kite has to have a concave trailing edge to make it shaped like a bow while some other Flat LEI kites may have straight or convex trailing edge and do not have a bow shape.

Brake lines: flying lines attached to a foil kite to slow the kite or reduce its pull in strong winds. Brake lines lead to back attachment points on the trailing edge of a foil kite. Inflatable kites do not have brake lines.

Bridle: lines that form the junction between a foil kite and the flying lines. A foil kite may have a complex bridle. An inflatable kite usually has no bridle and the flying lines are connected directly to the kite. Bridle lines are sometimes called shroud lines.

Buggyng: using a power kite to pull a small land-based 3 wheeled vehicle.

Bularoo: A SLE kite manufactured by Best

C

Cable Park: a place to practice wakeboarding by being pulled with a cable instead of behind a boat. A cable park is a place where mechanical cables pull the rider around the water.

Cabrinha: a manufacturer of inflatable kites including the Black Tip and the CO2 models.

Camber: the curvature of an object such as a sail or kite usually used when referring its aerodynamic properties.

Cell: a parafoil is divided up into ribbed compartments called cells.

Chicken Loop, Trim Loop: In 4 line kites: the small loop connected through the middle of the control bar that attaches to the two front kite lines. Hooking into this loop and pulling on it reduces the AOA and depowers the kite.

Chikara: A kite material used on some foil kites. It is a nylon cloth.

Chord: the kite measurement between the leading and trailing edges.

Closed cell: these kites normally have a limited number of air intakes and a valve system to prevent the air to escape after a fall. These types of kite are called closed cell foil kites.

Coefficient of lift, CL: a measure of how hard a kite pulls relative to its projected size.

Control bar: a long bar used by the kitesurfer to control the kite. With 4 line inflatable kites, the rear kite lines are connected to the ends of the bar and the front lines are connected to a chicken loop which goes through the middle of bar. Bar length is typically 40 to 90cm.

Creep: the amount a line permanently lengthens when pulled. Loosely braided line has a lot of creep, tightly braided has less, linear core line has the least. If all the lines creep evenly, it's pretty much unnoticeable. On inflatable kites the front lines usually creep more than the backs.

Cross Venting: holes cut into the individual cells of a foil kite or parafoil to allow air to pass through between the cells.

D

Dacron: the material used for the leading edge of most inflatable kites.

Directional: a kite board that looks like a small windsurfer board or surfboard with footstraps. A directional usually has 3 footstraps. It rides best in one direction and has definite nose and tail ends. A directional board is typically 150 to 220 cm in length.

Deadman: a kitesurfing trick where the kiter hangs upside down during a jump, lets go of the control bar, and hangs their arms downward.

De-powering: letting the kite lines out to release pressure and reduce speed. With 4 line kites this is done by pulling on the chicken loop or pushing the kite control bar away.

Downloop: a kitemanoeuvre where the kite is first turned downward and then is continued in turning until it goes back against the original direction of travel. The kite direction of travel is rotated 180 degrees.

Downwind: the direction that the wind is going toward, opposite of upwind.

Drag: the resistance to movement.

Drift: the sideways movement due to the action of the wind on the kite.

Dual Line, 2 Line: Kite which is flown using 2 lines of equal length which enables the rider to steer the kite right or left.

Dyneema®: Also known as Spectra. It is the standard line for flying lines. It is slippery and will allow multiple line twists without losing kite control.

E

Edge: to tilt the board on its edge and ride it that way. Used to control the direction of travel. To go upwind, a rider must edge hard. Skiers and snowboarders also use this type of edging to slow down or to turn.

Eye of the wind: the direction that the wind is blowing from.

F

Fifth Element: a 5 line kite control system used on North kites.

Fifth Line: a 5th line on a kite can be used for relaunching, depowering and helping maintaining the shape of the kite.

Fin: a small piece of rigid material on the bottom of a kiteboard that tends to guide the board in a forward direction. Kiteboards usually have 4 or more fins.

Flat LEI: A new type of inflatable kite that is flatter and does not have a pronounced C shape or U shape as the classic inflatables. Flat LEI is often confused as Bow Kite which has to have a concave trailing edge to make it shaped like a bow while some other Flat LEI kites may have straight or convex trailing edge and do not have a bow shape.

Flex: is the degree of stiffness in a kiteboard.

Flexifoil: a manufacturer of foil kites including the Blade and Nexus models.

Flying lines: the main lines between the kite and the rider, usually made of Spectra. A kite usually has either 2 or 4 flying lines.

Foil kite: a soft type of kite which is made up of cells which fill with air. Foils achieve their shape by inflating with the wind, and have no other rigid structure or bladders.

Footstraps: straps used to keep your feet from bouncing off your kite board.

Front Loop: a kitesurfing trick where the kiter rotates forward (begins by turning away from the direction of travel) while throwing their feet above the level of their head.

Front Roll: same as a front loop but without getting their feet up high.

G

Grab: a trick: while in the air, the rider reaches down to the board and clasps their hand on it. There are many different types of grabs.

Grab Handle: On a kite board it is a handle between the footpads. On a kite bar, it is a handle usually connected to one rear kite line that can be used to hold and depower the kite after the bar is released.

Gybe (or jibe): To change direction by turning down wind and then continuing to turn until you are going in the other direction.

H

Handle Pass: a trick where the kite control bar is passed from one hand to the other behind the kiter's back.

Handles: used instead of a control bar to fly the kite. In 4 line kites, a pair of bent handles with one power line connected to the top and one brake line connected to the bottom of each. A "link line" or harness line runs between the two handles to allow a harness to take the load of the kite. Generally considered unsuitable for inflatable kites.

Hangtime, Airtime: the amount of time spent in the air while jumping.

Hard rails, soft rails: The rounder the edge of the board the softer the rails are said to be. Hard rails means a sharper edge.

Harness: worn by the kitesurfer around the waist. It has a metal spreader bar with a hook in the front. The kite control bar has a line loop which can fit in this hook thereby allowing the harness to take all the kites pulling power (and save your arms from fatigue). Similar in operation to a windsurfer's harness.

Heelside: the side of a board on the edge where your heels are (opposite of toeside). To ride heelside is normal and is where your heels are tilted down below the level of your toes.

Hooked in: the rider's chicken loop or fixed loop is connected to the spreader bar hook on the harness.

I

Indie: a kitesurfing trick where the kiter grabs the toeside edge of the board with his/her back hand near his/her back foot during a jump.

Inflatable: a kite with bladders that must be pumped up by hand prior to flying. Inflatable kites use bladders in the leading edge and in the ribs (struts). When the bladders are inflated by using a hand pump, then the kite forms the desired flying shape.

J

Jibe (or gybe): To change direction by turning down wind and then continuing to turn until you are going in the other direction.

K

Kevlar: A very strong fiber sometimes used for kite lines. Has some characteristics (more stretch) which make it somewhat less desirable than Spectra.

Kite Leash: a leash or line connecting the kiter to the kite and used to keep the kite from flying away when the control bar is released. A kite leash must depower the kite when used.

Kite loop: when the kite is rotated 360 degrees in the sky. A kite loop can be either clockwise or counterclockwise.

Kitesurfing, Kiteboarding: also called kite sailing or flysurfing. Using a kite to pull you across the water with a board under your feet.

Knot: speed of one nautical mile per hour. It is 1.852 Km per hour or 1.15 mph.

L

Larks head: knot used for attaching flying lines.

Lay line: an imaginary course on which you can sail directly to your target without tacking.

Leader Lines: Short thicker lines from the control bar to the flying lines. Used to keep the kiter's fingers away from the flying lines.

Leading edge, LE: the windward side of the kite, (the forward edge that the wind hits first).

LEI, leading edge inflatable: an inflatable kite where the leading edge (the forward side that the wind hits first) of the kite has an inflated bladder.

Leech Line: a line that runs inside the trailing edge of the kite to prevent vibration and noise.

Leeward. the direction away from the wind. Opposite of windward.

Lift: when flying, a kite generates lift or upward force like an airplane wing. Lift is proportional to the square of the apparent wind velocity.

Lift-to-drag ratio, L/D, LDR: a measure of the efficiency of a kite. High L/D means the kite has a high top speed and flies at a greater angle to the wind, which results most noticeably in sailing more upwind (to windward) and faster possible board speeds. Kites are not as efficient as sails, their L/D rarely exceeds 4.0 while a good yacht sail manages 10 and sailplanes (gliders) get over 50.

Line Set (lines): the flying lines or strings which are used to control the kite.

Locked in: sailing along with the kite is remaining stationary in the sky relative to the rider - not moving the kite around but just letting it fly steadily.

Luff: A kite luffs when the air flow stalls. It may then stall and fall out of the sky. Luffing will occur if the kite gets too far upwind of the kiter.

M

N

Naish: a manufacturer of inflatable kites, based in Hawaii. Robby Naish is a legendary windsurfer and an early kite surfer.

Nautical Mile : Distance at sea is measured in nautical miles, which is 1852 meters, 6067 feet, or 1.15 miles. Measurement of speed at sea is always done in knots (nautical miles per hour).

North: A manufacturer of inflatable kites including the Rhino and Toro.

Nosebone: a trick in which the rider, while in flight, tucks one knee to the chest and extends the other leg straight out in front.

Nose line: a short line from the nose of the kite (usually the pump leash attachment point) to the 5th line in 5 line kite control systems.

O

Off-shore wind: when the wind is blowing from the shore towards the water.

Ollie: a trick where the rider pops the board into the air by pushing down on their back foot and jumping up with their front foot forward.

On-shore wind: when the wind is blowing from the water towards the shore.

P

Parafoil: invented by parachute designer Domina Jalbert in 1963, this is a kite which is based on the aerofoil wing shape and does not require any rigid frame for flight. Can also be called ram-air, wing, ram-jet, and paraglide.

Peter Lynn: a New Zealand manufacturer of kites including the ARC, Waterfoil and C-Quad models.

PFD: personal flotation device, lifejacket.

Pig Tails: the 4 short lengths of line attached to the kite where the 4 flying lines are tied.

Planing: is when the board is going fast enough to skim across the surface of the water, as compared to pushing its way through the water.

Point of sail: The direction of a kiteboard or sailboat relative to the wind. When you are sailing as much upwind as possible, your point of sail is called close hauled. Other points of sail are called: close reach, beam reach, and broad reach.

Pointing: going in a direction as upwind as possible. A kite that points well is one that goes upwind at a better angle than others (more directly into the wind).

Polyester: is the material used for the canopy of most inflatable kites ..ripstop polyester of about 50 gram weight.

Port: The left side of a boat, from the perspective of a person looking forward. The opposite of starboard.

Port tack: Sailing on a tack with the wind coming from the port side (left side). You are normally kiting on port tack if your left hand is forward.

Power Zone: the centre lower portion of the wind window where the pull is strongest... (straight downwind of the kiter).

Profile: in an airfoil, the side view of the foil.

Projected area: The apparent area of a kite while it is being flown, as opposed to when it is lying flat on the ground. The amount of area that presents itself to the wind.

Pump Leash: a short line used to hook the air pump onto the nose of the kite during pumping so the kite does not blow away.

Q

Quad line, 4 line: Kite flown on four lines. Having 4 lines has the advantage of not only being able to steer left and right like a dual line, but you can also adjust the AOA.

QR, Quick Release: a mechanism that will allow a kiter to disconnect something when needed. For example, most modern kites now have a QR to allow a kiter to disconnect the chicken loop in an emergency.

R

Rail: The edge of the board is the rail. A rounded edge is a soft rail and a sharp edge is a hard rail.

Railey: a trick where a kiteboarder jumps in the air and extends their body and swings the board behind them up over the level of their head.

Ram Air Kite: Ram air foil kites have no rigid structure. The shape of the kite is formed while flying. These kites have shapes that are very close to airplane wings and therefore are the most aerodynamic kites. These kites normally have a limited number of air intakes and a one-way valve system to prevent the air from escaping, and are also called closed cell foil kites.

Reaching: Sailing with the wind coming from the side (sailing across the wind). If the wind is coming from directly from the side, it is a beam reach. If the board is pointed more into the wind it is a close reach. If the wind is coming more from behind, it is called a broad reach.

Rebel: An SLE kite manufactured by North.

Relaunch: to start the kite flying again. It is desirable to have a kite that the kitesurfer can relaunch from the water after a fall.

Rhino, R2, R4: Rhino2 and Rhino4 are models of inflatable kite manufactured by North.

Right-of-Way: A right-of-way boat has precedence over others on conflicting courses and has the right to maintain its course. Usually a boat on starboard tack has right of way over a boat on port tack.

Rigid kite: a kite such as a speedwing or delta whose shape is mostly held by means of a rigid frame, eliminating the need for a complex bridle. Most rigid kites are not water relaunchable.

Ripstop: Ripstop refers to the squares of reinforcing fibers in the fabric which make it resistant to tearing. A rip in this fabric will stop at one of the reinforcing fibers. Many kites use ripstop polyester fabric in their canopy.

Recon: a kite control system used by Cabrinha that allows easier water relaunching

Reel bar: a combination winding reel and control bar used to wind up the kite flying lines.

Roast beef: a trick where a kiteboarder jumps and grabs the heelside (back) of the board between his/her legs.

Rocker: the curve along the bottom of the board. The amount that the nose and tail of the board are curved up. If a board has 4 cm of rocker, then the tip and tail are 4 cm higher than the middle of the board.

S

Shaper: is a board maker, who makes boards by hand or in small production runs.

Shackle: a metal clip mechanism than can be used to connect something and also to release it when activated. Some kites use a schackle on their spreader bar to connect their chicken loop.

Shift System: A 5 line kite control system used on some Naish kites.

Sheeting out/in: Sheeting out decreases the tension on the lines that lead to the edge of the kite to decrease the angle of attack (AOA) and lower the kite's power. Sheeting in has the opposite effect. Sheeting is not possible on a 2 line kite.

Shroud Lines: Bridle lines are sometimes called shroud lines.

Side-Shore: when the wind is blowing parallel to the shore line (along the beach). This is desirable for kitesurfing.

Sine wave: flying the kite up and down at the edge of the wind window (which creates a sine wave pattern) to generate more power with apparent wind.

Sining: Sining the kite means moving it in a sine wave pattern (up and down) to generate apparent wind and increase it's power.

Sleeving: short protective sleeve which covers the ends of a line and helps to prevent wear.

Slick: Flat smooth water.

Slingshot: A manufacturer of inflatable kites including the Fuel model.

Slogging: moving along slowly with the board not fully planning.

Snap shackle: a metal shackle that can be opened by pulling on a release mechanism.

Span: the kite width, the size of the kite measured at right angles to the wind. Usually the longest dimension of a kite.

Spar: the sticks used as the frame of a kite. A batten is a spar.

Spectra®: Also known as Dyneema in Europe. It is the standard for flying lines. It is slippery and will allow multiple line wraps without loosing kite control.

Spin: a kitesurfing trick where the kiter rotates one or more times during a jump. A spin is when the rider and board rotate around on a vertical axis. A spin can be either a forward or backward rotation.

Spinout: when a board's fins lose "grip" on the water or stalls, causing the tail to slide sideways.

Splice: the place where two lines are joined together. A splice usually refers to a smooth join of two lines without using a knot. The end of one line is interlaced or runs through the core of another.

Spreader bar: the metal bar that is on the front of a kiter's harness. It usually has a hook for holding the harness line or chicken loop.

Stall: a kite stalls when the air flow past it becomes detached from the kite surface and becomes turbulent. A stalled kite loses lift and falls.

Starboard: The right side of a boat, from the perspective of a person looking forward. The opposite of port.

Starboard tack: Sailing on a tack with the wind coming from the starboard side (right side). You are normally kiting on starboard tack if your right hand is forward.

Stretch: the amount a line momentarily lengthens when pulled. Spectra has very low stretch, kevlar has slightly more, nylon has a lot. Stretch affects responsiveness and size of control movements.

Struts: term used to refer to the inflatable battens in an inflatable kite. There are several body struts and one leading edge strut that hold the shape of an inflatable kite.

T

Table top: A flashy move that can be done while jumping. Hanging more or less upside down with your board out flat above you like a table top.

Tack: The direction which is being sailed, normally either starboard tack or port tack. Also: To change direction, by turning upwind. As opposed to a jibe which is done by turning downwind.

Teabagging: the rider is frequently being lifted and then falling back into the water due to wind, like a human teabag being dipped repeatedly.

Thermal wind: cold air over the ocean and warm air over the land result in a pressure differential that causes wind. Thermal wind is often quite steady.

Toeside: to ride a board on the edge where your toes are (opposite of heelside). This is the same technique as in snowboarding.

Traction kite: any kite big enough to pull a vehicle on land, snow, ice or water. This type of kite is called traction kite.

Trailing edge, TE: the back edge of the kite running between the wing tips. Can also be called a leech. The trailing edge may have a leech line sewn in.

Trim line: in a 4 line inflatable kite is the line that goes from the loop at the center of the control bar (chicken loop) to the two flying lines connected to the front of the kite. Adjusting its length adjusts the "trim" or angle of attack (AoA) of the kite. Changing this adjustment can increase the AoA for more lift or decreasing the AoA for less lift.

Trim loop: a loop used in most 4 line kites located at the centre of the control bar and used to adjust the kite's AoA, thereby depowering the kite. Also called 'chicken loop'.

True wind: The wind as felt by something that is not moving.

Twin tip, TT: a board that rides equally well in either direction, like a wakeboard. A TT is usually smaller than a directional board in size. A twin tip is typically 110 to 160 cm in length and is symmetrical (has no front and back end).

U

Unhooked, hooked out: the control bar is not connected to the harness, the rider is bearing the full force of the kite with his arms.

Upwind: to windward, in the direction toward where the wind comes from.

V

W

Wakeboard: a wakeboard can be used as a kite board. It usually has 2 boots fixed on it like a snowboard. A wakeboard is typically 140 to 150 cm in length. Most production wakeboards do not have the ideal rocker (shape) for kitesurfing.

Water start: starting in deep water by lying on your back and letting the kite pull you up onto your board. Like a water ski start or a windsurfer water start.

Wave ride: to surf a wave like a surfer while kiting.

Wind range: used to describe the range of wind speed that a kite will fly well in. Usually given in knots.

Wind Window: the air space in which the kite can fly, shaped like a quarter of a sphere. For all practical purposes, the wind window is the area you can see with your eyes when you are facing straight down wind (90 degrees to the left, 90 degrees to the right, and straight overhead).

Windward: in the direction toward the wind. Opposite of leeward.

Wing: a term used sometimes for a kite or any other airfoil.

Wing Span: the widest measurement of a kite often taken from wingtip to wingtip

Wipika: a French manufacturer of the original inflatable (bladder) kite developed by the legendary kite boarding pioneers, Dominique and Bruno Legaignoux. Theirs was the first practical water relaunchable kite.

Working the kite: making figure eights or sine patterns with the kite to generate more power by increasing apparent wind on the kite. In light winds it helps to really work the kite.

Wrist Leash: a safety leash attached to your wrist to allow you to depower the kite when you let go of the control bar. Then you can retrieve the control bar and your kite. When the control bar falls out of your hands, the wrist leash pulls on one line causing the kite to flatten out and depower.

X

X2, X3, X4: are models of inflatable kites manufactured by Naish.

Y

Z

Zenith: the highest point in the sky directly overhead