

The POISON 2 was already a shining presence at the first individual test (issue 5/2008), and not just visually: it also set new benchmarks in performance, handling and weight. The resulting success solidly validated the concept. Now, over three years later, the POISON3 should once again raise the bar in its class.

The introduction of the new LTF certification criteria has created more room to play in the D class. This is measured somewhat more generously and gives the manufacturer more possibility. However, the POISON3 should be a direct descendant of its grandfather and therefore flock together with the moderate, comparably controllable series high performers, formerly classified as 2-3. Its appearance alone would lead one to draw other conclusions...



Design, Workmanship

With an aspect ratio of 6,2, the POISON3 is above most of the current high performance series wings, but still considerably below those in its class (Swing Stratus 8: Aspect Ratio 7,4). Nevertheless: this sickle deserves respect. The well-known aluminium cloth in the form of aerofabrix AL 32 has gotten an additional coating over the alu, a typical-for-skywalk classy design and is now available in a futuristic shade of green. The implemented nylon rods (ca. 50 cm.) make the use of mylar unnecessary, are sensibly snap-resistant and can be replaced in no time at all. The conventional folding seems to have no negative influence on the POISON3, all of the rods remain in form. The inside of the canopy is somewhat similar to the current competition wings: four stress bands stretch over the entire width, whereby both of the middle ones meet in the outer wing. The cross ribs and Jet Flaps belong just as the skywalk-typical leading edge with line attachments at every three cells. All of the performance-suspect features combine to convey a snazzy first impression: to begin with, a line concept from the "new generation": three line levels each with three main lines (plus stabilo and brake) reduce the sum of required meters of line to 280 (size S). The few, all uncovered main lines fork shortly below the bottom sail in their second gallery. Even the stabilo remains true to the overall concept of less/lighter lines. The short covers adorning the main lines on the risers are a nice detail. They are not only sewn well and an added protection, but are also color-coded.

The risers were already the subject of heated discussion before the test model arrived. While the first series appeared with one accelerator pulley, skywalk gave in to the brouhaha on the scene and equipped the POISONS with a second pulley. The second pulley is also attached on an extension. This solution seems somewhat unusual at first glance, but fulfills its purpose: the speed system is wonderfully simple to operate, not least due to the implementation of the "Harken" pulley. The number of carabiners is irritating. While the A-level manages with one carabiner, the B-level as well as the C-level has three. This confuses more than it disturbs, although it should contribute considerably to higher stability in accelerated flight.

The workmanship is very clean, whether it be the canopy, the lines or the risers. We were particularly impressed by the stitching of the line loops inside the canopy, as well as the additional adhesive reinforcement on areas with increased load potential. Last but not least, the double-spliced lines impress: they should serve to speed up the opening of the glider after a collapse and effectively prevent a cravat.

Launch Performance

Uncovered lines always deserve a critical look, not only because they are single-colored, but because they have an increased tendency to curl. Since the POISON3 is rather frugally equipped with main lines, sorting is practically eliminated. Fundamentally, the POISON3 inflates easily from any conceivable position and rises smoothly over the pilot, although you certainly have to pay attention due to the large surface area. Despite its easygoing basic characteristics, the POISON3 forms a compact, well-maneuverable canopy early in the launch procedure. Ability to correct during launch is consistently good, however, it is only possible with the brake lines: the last, the C-level, can only be reached with difficulty, due to the configuration of the risers. Forward and reverse launches proceed faultlessly. To sum up, there is hardly a series glider out there that launches better. This, and of course the low weight of 5,8 kg, makes the POISON3 an optimal wing for pilots with plans for alpine adventures and the correspondingly challenging launch conditions.

TECHNICAL DATA (Manufacturers Specifications)					
Manufacturer/Sales	SKYWALK GmbH & Co. KG				
Production	Gin Gliders				
Construction	Jürgen Kraus, Arne Wehrin, Paul Guschlbauer, Manfred Kistler				
Test Pilots	Marcus Wallner and Richard Gallon				
Sizes	XS	S	M	L	XL
Number of cells	69	69	69	69	69
Launch weight range (kg)	70 - 90	80 - 100	90 - 100	100 - 120	110 - 130
Flat surface area (m)	22,95	24,88	26,80	28,24	29,4
Projected surface area	-	-	-	-	-
Flat projected wingspan (m)	12,51	13,03	13,52	13,88	14,17
Projected wingspan (m)	-	-	-	-	-
Canopy weight (kg)	5,1	5,5	6,0	6,3	6,6
Total line length (m)	270	280	294	302	308
V-minimum (km/h)	22	22	22	22	22
V-trim (km/h)	41	41	41	41	41
V-max (km/h)	58	60	60	60	60
Price incl. sales tax (euros)	3.990,-	3.990,-	3.990,-	3.990,-	3.990,-

Price without sales tax	-	-	-	-	-
Certification LTF	D	D	D	D	D
Certification EN	D	D	D	D	D
Top sail/bottom sail	Aerofabrix AL32 + Porcher 9017 / Dokdo 20DMF				
Gallery lines	Liros LTC 45+60+80+120				
Main lines	Liros LTC 120+160+80				
Contents of Delivery	Packsack, compression band, riser bag, speed system pulleys, handbook				

Flight Performance

In its own element, the POISON3 is like a fish in water: this shining high performance glider maintains its path and maneuvers practically by itself, at the same time the brake pressure is in an exceedingly low range: in the brake travel range, brake pressure remains very low, only at the end of the brake travel does the stall limit announce itself with higher pressure, as it should be. In contrast to most other high-performance wings and even some sport class wings, 50 cm is still not the limit, the seven Jet Flaps serve to prevent early stall.



The POISON3 has a phenomenal attraction to thermals: there is hardly another glider that bites into thermals like this one, although the canopy shoots forwards somewhat. For this reason, flying into strong thermals requires an adept hand, which can absolutely be classified as a positive characteristic. The POISON3 has a natural tendency to fly flat curves, still possible while climbing steeply, without a tendency to spin. To turn

more tightly, the canopy requires considerable weight shift. It is not so easy to catch the intermediate stage between flying wide flat turns and tight flat turns, but with just a bit of experience it becomes possible, but corrections must be made constantly.

The POISON3 has completely cast off the tendency of its predecessors to fly somewhat nervously on a straight path. Thus, you can confidently take a hands-off approach during glide phases or in calm air. The POISON3 will continue to maintain its path with no tendency to roll, with good steerability by weight shift.

You would never suspect that the soft canopy is equipped with proper quantum dynamics. The racy profile unleashes quite some g-forces, yet only when desired. This makes wingovers into child's play, along with SATs and asymmetric spirals, although the timing should be at least halfway right, as is the case with regard to all high-performance wings.

When it comes to turbulence, the POISON3 does not demand much outside of a little experience. Although the high wing sensitivity can lead to diverse wing deformations with incorrect pilot input, the wing will not react dramatically, and will easily equalize the shear. During the test flights in sometimes explosively cooking air, there was only one involuntary collapse over 50% which was not challenging to handle and did not lead to any great loss of altitude. Just as the manufacturer prophesied before the test flights, provoked collapses can easily be handled, even without an additional line for testing. The reactions are very good-natured in comparison with other wings of this class: during major collapses, there is a resulting surge to the opposite wing side, the POISON3 tilts only moderately and reopens first unhurriedly, then quickly. If the pilot remains passive, the wing normally flies to 90 – 180° again and only seldom does it keep tilting. Small collapses to the other side may occur during or after.

To sum up, this is one sensible, well-behaved, terrific and lively high-performance series wing, which will find a big following, without a doubt.

Landing

Big Ears:

Even without help, the ears fold in well. The strength required at the beginning of big ears yields immediately to minimal remaining strength. Gloves are absolutely necessary due to the implementation of the thin race lines, otherwise any maneuver could become a "cutting" experience. Weight shift functions faultlessly, efficiency is average to good. When releasing the lines, the collapsed area opens leisurely to unwillingly. In any case, braking briefly helps to reopen the wing.

B-Stall:

Due to the particular construction of the risers, no B-stall was flown, but it is possible, according to the manufacturer and certification center, although in practice it is not easily executed.

Steep Spiral:

Quickly, but not immediately, the POISON3 establishes good sink value for a decent spiral. The righting moment can always be sensed and the pilot can avoid overly high sink rate with strong braking. Over 20 m/s is well realizable, although the G-load created from the high-performance profile is considerable. Give the spiral exit some time, since righting becomes especially noticeable during the last few turns. The POISON3 immediately converts the energy into altitude, so the pilot can easily climb in his own tip vortex.

Resumé

The POISON3 is not only a worthy heir to its predecessor, it also actually sets a new course in handling and performance, above all. skywalk has achieved highly sensitive handling without parallel, while some of its colleagues have been left in the dust. This wing maintains its course, exact and performance-strong: these are the qualities that make this sparkling bird unbeatable in thermals. That this degree of sensitivity is not for everyone is obvious, and this glider demands a certain level of experience from its pilot to avoid oversleeping when the occasional need for correction arises. However, in the end the POISON3 is as meek as a lamb and offers solid safety reserves, above all in stall performance, despite the imposing outline. That the performance really functions, along with handling, dynamics and safety reserves, is the icing on the cake. With regard to performance: the glide ratio was calculated with size S, it can be assumed that the size M adds one or two tenths. Respect!

PHOTO CAPTION: An additional coating on the Aluminum cloth AL32 makes the wing only marginally heavier than its predecessor while increasing product life.

SPECIFICATIONS

- The top priority was to considerably outperform the POISON2 and define the peak of the EN-D class
- Stability at high speed, handling, good flyability and high safety reserves

Implemented:

Pure 3-liner concept, uncovered lines with double spliced lines, high arc, profile loft over the entire wing according to flow analysis, complex inner structure for optimum high stability, rigid foil with superflex material for the leading edge, Aerofabrix AL 32.

TEST CONDITIONS

The POISON3 was my entry flight into the spring. I flew a FAI-triangle of over 127 km from Bischling/Sbg in rather weak thermal conditions. The strong, thermal, French air brought the test to completion, climb values of up to 8 m/s included!

SUITABILITY

instruction	beginner	hobby pilots	experienced pilots	XC pilots	comp pilots

MEASUREMENT DATA

measuring height	700
V-min/ V-trim (km/h)	40
V-max. with speed system (km/h)	56
launch weight test pilot (kg)	97
surface load (kg/m)	4,04

CONSTRUCTION

riser levels	3
line levels	3
line galleries	2
big ears aid (divided A-riser)	nein
dirt openings	ja

MATERIALS / SEAMS	
pulley material	full metal
brake handle mount	magnet
steering handle	small strap with soft bar
line attachment in shackles	plastic clips
seams	interior
line end seams	double spliced Kevlar lines
line connection point	exemplary, sewn to mylar

Short Evaluation	
Material *****	Only the finest: light yet still robust: Aerofabrix aluminium cloth, rigid foil, Liros lines high tech LTC lines
Workmanship *****	Top! Passion for detail: clean transitions, intelligent solutions, clean seams, exemplary splicing.
Forward launch **	Faultless in comparison with gliders of the same class.
Reverse launch	Very exemplary: canopy inflates very easily, climbs well, very well-correctable, only the C-level is difficult to access.
Agility	Very good, especially with regard to the enormous aspect ratio.
Steering	Very good in flat turns and also in narrow cores. In-between phase is more difficult.
Collapse behavior	Absolutely manageable. Collapses over the risers result in modest tilt and may cause small collapse to opposite wing.
Speed System	With the additional pulley, no problem: easy to operate and efficient.
Big Ears	Good efficiency despite missing help for big ears, good steerability with weight shift, hardly a tendency to open.
B-stall	Not tested due to the riser construction.
Steep Spiral	Can be executed well: good dosing, sink of 20 m/s achievable, high g-load, when exiting be cautious of the righting moment
Technical distinctions	Rigid foil, Aluminium Aerofabrix AL32 with additional coating, completely uncovered, double-spliced compe
Suitability	XC, Comp Pilots
Valuation	*poor **average ***good ****very good *****excellent

