

Generally spoken any 16-18 sqm wing with a wingloading around 6kg/sqm (*projected !*) should not hold too many nasty surprizes if its constructed properly (*right basic geometry, right amount of sail tension, suspension cone height, brake geometry etc.. just the basics that anybody designing such wings should / will know (at least i do hope so ;-).*)

BE AWARE that the **gain in possible flyable windspeed over a fast Paraglider will not be that big as nearly any non snow covered site gets turbulent**

somewhere around 45 to 50 kph. What you gain is maneuverability as you are "caught" (standing "parked" over the hill/ridge/mountain) in the updraft much later (*due to the possibility to use sharp turns and / or deep spirals to get rid of 100's of meters of flying height in a few seconds*).

Usually "normal" Paragliders are constructed to "absorb" some part of the sudden energy inputs via the residue "flex" (*lines and canopy Structure as there is a lot more area / line lenght to spread any loadspikes - hence the relatively comfortable ride in thermals*)

while Miniwings and bigger Speedwings

(*at least some models derived from the speedwing side of things*)

tend to be more rigid and more "harsh" mainly due to the sometimes extremely oversized suspension lines and the much smaller surface to "spread" the loadspikes upon.

If a wing works (*read: is easily flyable / controllable and hence SAFE*) in thermals or not - from my experience and understanding - is to a high degree depending on its flying speed versus the thermal, so anything that is doing around 45 kph hands-off trim and is able to fly around 35 kph with brakes will usually

(*from my experience, there may be exceptions to that !*)

behave very OK and manageable.

For me (*78 to 80 kilos naked, 90 to 100 all up depending on gear (skis, climbing gear etc.)*) that miniwing is an ibex 15 (17 sqm flat) - so essentially a scaled down beginner DHV 1-2 (EN-B) paraglider that became a DHV 2-3 (EN-D) wing due to the effects of downscaling to EN / DHV testing procedures. For somebody 10 to 15 kilos heavier than me a 17sqm flat area wing of that type would be already on the hot side

(*in thermals*)

, so he would need to grab a 19sqm flat version.

WARNING: *This is just an example for illustration, please be aware that other wings of the seemingly same shape and size might behave totally different depending on various parameters like used wing profile, suspension geometry and a lot of other factors*

With a mini wing or larger speedwing flying in stronger thermals / gusts (*up to 55 (kph) hands up in trim / 40 to 45 brakes on*)

- is doable IF the wings profile is "draggy"

(high enough "general" drag, usually induced via profile (reflexing parts) leading edge and / or trailing edge geometry and / or planned cell ballooning and/or suspension line drag)

enough to "brake / slow down" itself when entering the fast falling and then rising air of a thermal.

The general "drag" balance is critical for a wing to be safe and depends a lot on the wingload, so the optimal balance usually can only be achieved in a relatively narrow "band" (*thats why "normal" PG's have a very limited authorized weight range*)

The longer, thinner and more flexible (*= more length flex = more dampening*) the lines the better, the shorter and oversized the worse = quicker reactions on gusts / thermals, more resulting AOA change with a given repositioning of the wing versus pilot

(wing gets "stopped" or "accelerated", pilot has inertia, so AOA changes rapidly to the + or - side)

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From 60 to 65 kph flying speed onwards when entering a stronger (*but not overly big, say 30 to 60m in diameter*) thermal in straight flight

(so no "virtual" extra wingload via G-Forces)

with a speedwing / miniwing from my experience things sometimes tend to get hard to control (*essentially the same problem as with any very fast "fullsize" paraglider.. e.g. current comp wings that can do over 70 kph in straight flight*)

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That said e.g. my lightly overloaded factor 19 does ++ 60 kph on bar and if i hit a stronger thermal while on bar it also has problems to handle that (*the wing*), but its still way easier (*due to longer and more dampening lines and resulting longer reaction times*)

for me - the pilot - to control the wing compared to a speedglider where true active flying (*= precise aoa control via brakes and - non existing - speedbar*)

in stronger thermals is much harder and sometimes almost impossible to achieve with my (and your) naturally built in human reaction delays...

One last thing: speedwings with every cell suspended and / or massive internal crossbracing have less flex, so will not "swallow" as much energy as non crossbraced doublecelled wings do via ballooning (*= momentarily increased profile drag*) or fabric flex - downpoint is that those wings (*non crossbraced doublecells e.g. bobcat*) will "work" more and will flex

in itself and thereby "feel" less solid / less precise, but thats the "price" for being able to control them in thermals / very rough air despite the relatively short and oversized lines.

So depending on your conditions (*e.g. smooth coastal soaring or rough inland stuff*) **and your weight, choose the right wing for the job - there is no "one size does it all" wing out there, those toys may look similar but there are surprizingly BIG differences on how different wings react on rough / thermal air.**

Have fun out there !

Paul

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