

# Advice to pilots about choosing wings within the EN classes

The EN paraglider flight safety characteristics standard was formulated by a small working group of experts from several European countries - Working Group 6. This Working Group included Angus Pinkerton and Mark Dale from the BHPA. The WG6 goal was to create a four-level glider certification standard, with the least stable level (D) being 'safer' than the previous certification schemes' top levels, and with the most stable level (A) being 'safer' than any gliders then in production. To ensure that the Working Group kept on track (writing, testing and validating EN 926-2 took the best part of ten years!) a simple description of these four classes was set down early on. These descriptions were purposely kept simple for the benefit of WG6 members whose first language was not English. (WG6 was French-sponsored, but as a Working Group of the German-sponsored TC136 Technical Committee ... and conducted its business in English!) The BHPA FSC has recently recognised that the EN descriptors in the final standard, whilst fine for their original purpose as an aide-memoire to the working group, would benefit from further explanation.

The EN paraglider certification classifies gliders as 'A', 'B', 'C' or 'D'. These classes are further explained in terms of the glider's 'flight characteristics' and the 'pilot skills' required to fly the machine safely. The idea is that pilots can read the 'flight characteristics' and 'pilot skills required' descriptors, decide which of those four categories most closely matches their flying situation and needs, and then chose a glider that has been certified at that level. That way there is a perfect match.

So step one is deciding whether you are an 'A', 'B', 'C' or 'D' pilot. Step two is buying a wing in that class. But have you really understood the descriptors when working out whether you are an 'A', 'B', 'C' or 'D' pilot? Let's take a look at them.

Flight characteristics. This innocent-sounding heading is used to describe the glider's tendency to get out of control and fall out of the sky - and the likelihood of you ever getting it flying again. So if you read the descriptor for 'C' class gliders, what this is telling you is that with one of these gliders you could reasonably expect

'dynamic reactions to turbulence'. A dynamic reaction to turbulence would be, say, getting some choppy air on the edge of a thermal and suddenly finding you have an 80% collapse and the canopy trailing edge is below the horizon in front of you. If you are low on a windy UK hillside you may already be in a situation that cannot be recovered in the time and height available. The descriptor goes on to say 'Recovery to normal flight may require precise pilot input'. What this means is that the strong likelihood is that anything other than exactly the correct actions at precisely the right time will almost certainly make the situation worse and result in a cascade of other problems.

**Pilot skills required.** So what sort of pilot is the glider described above for? 'Designed for pilots familiar with recovery techniques, who fly "actively" and regularly, and understand the implications of flying a glider with reduced passive safety.'

What does any of this mean? 'Familiar with recovery techniques' certainly does not mean the pilot has read about them in a book. It means he or she has done them before, and gets them right. Flies 'actively' means the pilot is a skilled proponent of 'active flying' who with constant accurate and precise control movements maintains the canopy pressurised and in position overhead. Flies 'regularly' does not mean the pilot flies once a month, nor does it mean boating along some coastal site in smooth air every Sunday. It means flies the best part of 100 hours a year in 'normal' thermic conditions and deals with it without drama.

And 'understands the implications of flying a glider with reduced passive safety' means that you are entirely comfortable with the fact that you are going to experience major collapses and similar events on this wing - especially if you take any liberties with it or don't pay attention - and that recovery (if possible at all) will depend upon you keeping a cool head and making precisely the right moves at the right time.

To clarify and amplify all the EN classification descriptors we have prepared the following table:

Class	Description of flight characteristics	Description of pilot skills required (BHPA expanded version)
<b>A</b>	Paragliders with maximum passive safety and extremely forgiving flying characteristics. Gliders with good resistance to departures from normal flight.	Designed for all pilots including pilots under all levels of training.  <i>(For all pilots especially those in their first year of flying and for experienced pilots with limited currency, for example those who fly less than 25 hours a year.)</i>
<b>B</b>	Paragliders with good passive safety and forgiving flying characteristics. Gliders with some resistance to departures from normal flight.	Designed for all pilots and may be suitable for pilots under training if recommended by the manufacturer.  <i>(There are a wide range of gliders produced in this category. Some are closer to 'A' class gliders. Others are for pilots who have gained more than 30 hours mixed flying (at least ten in thermic conditions) and hold a 'Pilot' rating. B class gliders are also suitable for experienced pilots who fly less than 50 hours a year.)</i>
<b>C</b>	Paragliders with moderate passive safety and with potentially dynamic reactions to turbulence and pilot errors. Recovery to normal flight may require precise pilot input.	Designed for pilots familiar with recovery techniques, who fly "actively" and regularly, and understand the implications of flying a glider with reduced passive safety.  <i>(For pilots who are Advanced Pilot rated, have several hundred hours logged (many of these in thermic conditions), have completed SIV courses, are flying 10 or more hours a month, and enjoy dealing with large asymmetric collapses etc.)</i>
<b>D</b>	Paragliders with demanding flying characteristics and potentially violent reactions to turbulence and pilot errors. Recovery to normal flight requires precise pilot input.	Designed for pilots well practised in recovery techniques, who fly very actively, have significant experience of flying in turbulent conditions, and who accept the implications of flying such a wing.  <i>(For pilots who have been flying for many years, fly more than two hundred hours a year often in strong thermic conditions and are masters of the various SIV skills.)</i>