Tyr C3.8 is the all-round clincher wheel set for racing and training

There is a lot of theory and myths whether to go for clincher or tubular. In the end it's a personal choice.

Clear is that the majority of race pelotons still use tubular. The perceived safety and mobility when getting a puncture, is one argument. The perceived speed feeling of higher psi might be another reason. Also on average tubular wheel sets shave of some weight. Having a mechanic doing the glue stuff is a convenience factor.

The interesting facts though, as measured in laboratory, point out that clincher tyres offer less rolling resistance. As for technology they also offer better puncture protection. High end clincher tyres in 23 mm dimensions, comes in at mere 180-220 grams. Combined with light weight tubes such as latex or thin butyl the total weight of a clincher tyre and tube setup is today equivalent to most of the best tubular tyres on the market.

Remains then the wheel set itself as for the weight battle between clincher and tubular…. Modern technology has been able to continuously come up with new light weight materials and solutions. Clincher aero wheel sets are now available from 1180 gm (Lightweight) and upwards.

Therefore, the discussion may be endless but fact remain that a complete clincher setup is today the approx. weight of a tubular (+100-200 gm). It offers far better puncture resistance and in the majority of cases easier service. The total per mile cost as for tyre wear is far lower for the clincher rider. As for rolling resistance the clincher tyre is superior in tests and having in mind the tech aero facts of going wide with 25 mm dimensions nowadays, there are more clincher alternatives on the market.

Any disadvantages going aero carbon clincher? Yes, a non modulated braking from an Alp pass is still an issue… The heat that builds up does certainly affect the rim, and tube, as it also does with the tubular wheel and its glue.

Tyr C3.8 were developed to offer an alternative to the best tubular wheel sets out there, or simply to be among the best wheels no matter if tubular or clincher, at reasonable end user price. We started with the rims and managed to source a lightweight rim (410 gm to 420 gm) in a 38 mm profile. Addressing the strength and heat issues when on the brakes, TYR rims have a higher and well defined braking area. We also endlessly discussed the aero advantage of internal or external nipples. We acknowledged the fact that aero gurus at Zipp still stick with external nipples. External nipples provide also superior ease for service and may save the rim upon a crash, if built in a correct manner using alloy nipples.

The next step was the hubs. Proven solutions for long term reliability and again easy to service for us and the end user were important criteria's. Light weight and lowest possible rolling resistance (Hence the ceramic bearings). Finally we decided for radial lacing on all sides except drive side…This in order to bless the wheels with an aggressive feeling for those wanting a stiff wheel set. For this the flanges of the hubs were to be strong enough. Once we were happy we simply made the no brainer pick as for the spokes. Sapim CX Aero spokes offer a great specification as for strength, aero and weight. Finally the wheels were hand built and each wheel got its sticker with the deviations printed as from a theoretically 100% perfect wheel. For those curious this sticker is underneath the high pressure rim tape applied with the last inspection…

1370 gm (+-20 gm) & a stiff ride feeling.

Our best advice for those using a carbon clincher wheel set

- Make sure to use plastic tyre levers when mounting the tubes and tyres
- Make sure that the tube is well inside the tyre prior to adding tyre pressure
- 120 psi is the max tyre pressure for most carbon clincher wheels sets. This in order to avoid any malfunction in extreme situations with extreme long term braking. Theory and tests actually claim that extreme tyre pressures such as above 140 psi do not necessary result in lower rolling resistance.
- Please consider what tube you are using. Latex vs. Butyl. Modern latex such as Michelin offer better comfort and puncture protection. Though you may need to inspect tyre pressure before each ride.
- Max 90 kg weight limit for the rider. Is set to protect ourselves and you from the most extreme cases. Furthermore, the wheel set performs in an optimal manner as for sprinting etc for riders beneath this weight limit.
- Needless to say but carbon rims are different to aluminium rims and hence need the correct brake pads. The enclosed brake pads perform great. Others praised are the SwissStop yellow brake pads, all though they tend to leave some yellow traces on the brake area during their brake in period.

References

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Wheel and tire – Sheldon Brown
http://www.sheldonbrown.com/tires.html

Test and discussion on wider tyres
http://www.bikequarterly.com/images/BQ64TireTest.pdf