

**POWER is Knowledge. Knowledge is Power!**

**FTP:** Determining your Functional Threshold Power (FTP) is the perfect first step towards learning your cycling specific strengths and weaknesses.

The purpose of this initial test is to capture data – particularly average wattage and average heart rate. FTP is the highest power that a rider can maintain in a quasi-steady state for approximately one hour without fatiguing. (H.Allen)

By definition: **Power = Force X Speed** (velocity). A Power meter/console records two primary sources of data: your effort from a muscular standpoint (watts) and from a cardiovascular one (heart rate).

The test itself is tried and true amongst elite endurance cyclists. The “roadmap” of the Stages™ Indoor Cycling FTP benchmark ride has been adjusted slightly to allow for ease of administration in the group setting and collection of Power (Wattage) and Functional Threshold Heart Rate (FTHR) values. Here is the FTP ride in a condensed form (see FTP Class By-Design™ sheet for details):

	Time	Description
Warm-up = ST1-3	0:00:00-0:05:00	Reiterate test details during easy warm up.
	0:00:00-0:05:00	3, 60sec X60sec fast pedaling pickups
	0:00:00-0:05:00	Active Recovery
Practice = ST 4	0:00:00-0:05:00	MAX EFFORT!
Preparation = ST 5	0:00:00-0:10:00	AR. Discuss the “test”
Ramp up = ST 6	0:00:00-0:02:00	Build to MAX EFFORT
TEST TIME = ST 7	0:00:00-0:18:00	Sustain at LT
Cool down = ST 8	0:00:00-0:10:00	Active Recovery
Stretch		

In order for the test to be considered “valid” one must remove as many variables as possible. In other words, recreating conditions for each scheduled test leads to a higher degree of data accuracy.

The following considerations for testing should be made known to participants. Additionally, environmental conditions should be notated post-test by the instructor:

- **Practice nutrition** – what you eat pre-test and in the 2 days prior to testing should be as consistent as possible. No surprises! Skip the Indian buffet the night before (unless that’s your routine).
- **Hydration** – just like any race, best hydration occurs in the days leading up to the event, not the hours before.

- **Rest** – Advise participants to avoid exercise or take an Active Recovery day the day prior to the event.
- **Temperature** – Room temperature should be kept low and notated.
- **When to test** – We recommend events once every 6-8 weeks with several time and day options available. Notate at what time the events took place and recommend to participants that they attempt to re-test at the same time.
- **FTP Class Design** – recreate the written plan each and every time.
- **Music Selection** – It’s advisable to use the same music playlist for at least 2-3 events. This helps eliminate the potential effect one can expect from a lull or boost in the musical energy. After a few attempts (by the same participants) the music selection will have a negligible effect on the results.
- **USB** – Remind them to bring their USB stick. Having spares on hand is also a good idea.
- **Shoes and apparel** – Practicing apparel is not as much of an issue in the indoor environment, but shoes will have an effect on the outcome. Interestingly, if participants switch from all-purpose cross-trainers to testing with cycling shoes and cleats, they often see a slight increase in overall power average.

### What am I looking for during the test?

There are several metrics to look for during the test, in order of greatest importance:

- Average watts observed in ST 7 (Basis for FTP and Lactate Threshold)
- Average Heart Rate observed in ST 7 (FTHR)
- Recovery Heart Rate
- Average watts observed in ST 4 (Basis for VO2Max Power)
- Average Heart Rate observed in ST 4 (Basis for VO2Max HR)



The Power Postcard allows for quick post-ride calculations and is a simple in-class referencing tool. For best analysis of the data, FTP rides (and all rides for that matter!) can be uploaded to a Personal Premium Edition Training Peaks account. All the work is done for you and analyzing the data is a simple matter of referencing charts and graphs. For the time being, let’s take a look at the Power Postcard for instant access to your information.

Testing is the first step towards realizing your areas of strength and your opportunities to grow as an athlete.

*This is the backbone for Delivering Measurable Progress™!*