



## Power-Performance Decoder

### Testing Manual For Athletes

This handout contains instructions to be given to your athletes prior to testing. This will ensure INSCYD testing is carried out correctly.

Before performing a test or any other kind of exercise, please consult your physician and ensure that you are in good health. Please read the reliability waiver section of the INSCYD User Agreement.

**PLEASE REVIEW THIS ENTIRE DOCUMENT PRIOR TO EXECUTING THE TESTING.**

**If you have questions, please ask your coach.**

#### **Recovered state**

Ensure you are well recovered before undergoing any tests. This testing should not be carried out immediately after a hard block of training. For better reliability, one or two rest days before the test are ideal.

However, if you want to gather fatigue information, it is recommended to carry out one test in a recovered state and one in a fatigued state for comparison.

Testing can take place over a period of up to **3 days**. Your coach will advise on how to break up the intervals.

**All intervals (all 4) must be done SEATED, in the same conditions (indoor, outdoor), same bike, position (drops, tops, extensions), same powermeter, and on the same gradient (hill vs. flat) – for all the intervals.\***

#### **Preparation- STEP ONE**

Make sure your powermeter is calibrated and your cycling computer is charged and has sufficient memory capacity remaining. Set to record data every second (no smart recording!). Make a zero offset calibration before each test if required, and ensure you record your heart rate (if you have a heart rate monitor).

#### **Warm up- STEP TWO**

Make sure you are properly warmed up. At minimum, a 15 minute warm-up is recommended, with one surge (of up to 8 seconds) reaching higher power output but without reaching exhaustion. Allow for a minimum of 8' time between the end of this effort and the first test.

You can perform all tests on the same day within the same session. However, if it is more convenient, **you can space them out over three consecutive days, but not more**. Your coach will give you specifics on how they want you to conduct the test.

### **Between testing**

Ensure that you are recovered and fueled before you start your next test, substituting fluids and carbohydrates (especially prior to the 10-12 minute test). Include at least a 15 minute warm-down/recovery after your previous test. Specific recovery times and intensity are listed below

### **THE PROTOCOL (There are 4 tests):**

- 1. 20 second SEATED sprint (allowed range: 18-24s)**
  - minimum recommended recovery: 12 minutes @ 50% of FTP prior to next interval.
- 2. 3 minute maximal effort (holding the highest wattage consistent for the entire interval) (allowed range 2:30 – 3:15)**
  - minimum recommended recovery: 15 minutes @ 50% of FTP prior to next interval.
- 3. 6 minute maximal effort (holding the highest wattage consistent for the entire interval) (allowed range 4-8min)**
  - minimum recommended recovery: 15 minutes @ 50% of FTP prior to next interval.
- 4. 12 minute maximal effort (holding the highest wattage consistent for the entire interval) (allowed range 8-20min)**

### **20 second SEATED MAXIMAL sprint (This can be done indoors or outdoors):**

If done outdoors: Find a quiet road with minimal traffic. The road should be flat and straight with no turns or corners. Best is a slight uphill or even better - headwind! Prior to the test, coast, and easy spin for 5min. In the final 100 seconds prior to the sprint test, there is NO PEDALING, to ensure proper preparation.

Note: the Test will not be accepted by the algorithm if you didn't rest / coast minimum 100s before the actual sprint!

Important: Trial the gear in a few training sessions PRIOR to the testing session, so that you know which gear allows you to accelerate quick enough in a seated (must be seated) sprint. Efforts of only 10s will be sufficient to try the gear and the stretch of road / conditions.

Come to a stop or coast for at least 100s, before accelerating as hard as you can to reach maximum power output quickly. The most important thing is to remain seated. Performing the test out of the saddle will lead to incorrect results.

Be aware that you might find it very difficult to sustain this effort after approximately 7 or 8 seconds. It is very important that you keep pushing as hard as you can for the full 20 second duration, also ensuring no gear shifts- and staying seated.

**It is recommended you repeat this test a second time, if you feel you used the wrong gear, or were unable to maintain power for the FULL 20 seconds.**

**If you repeat the test, please allow for 15 minutes of recovery prior to repeating the effort.**

IT IS CRITICAL you go 'full gas' for the entire 20 seconds. To ensure an accurate assessment, you need to record a maximal sprint output (while seated).

### **3 minute maximal power test.**

Choose a quiet road that is either flat or slightly uphill. It required you are able to maintain consistent power for the duration of the effort. If you have traffic, corners, downhills or other obstacles during the test, it may make the test invalid. Make sure you plan ahead and pick a stretch of road that is long enough.

### **6 Minute Maximal effort power test**

Choose a quiet road that is either flat or slightly uphill. It required you are able to maintain consistent power for the duration of the effort. If you have traffic, corners, downhills or other obstacles during the test, it may make the test invalid. Make sure you plan ahead and pick a stretch of road that is long enough.

### **12 Minute Maximal Effort power test**

Choose a quiet road that is either flat or slightly uphill. It required you are able to maintain consistent power for the duration of the effort. If you have traffic, corners, downhills or other obstacles during the test, it may make the test invalid. Make sure you plan ahead and pick a stretch of road that is long enough.

### **Data handling**

Download the data file from your bike computer (not smart trainer - if done indoors) and send it to your coach.

**To review, here is the Protocol for the INSCYD Power-Performance Decoder:**

- 1. 20 Second, Maximal effort, while seated. Try the gears beforehand. Start the interval after a full stop or coasting for 100 seconds. After interval, please spin at 50% of FTP for 12 minutes.**
- 2. 3 minute maximal effort. After effort, please spin at 50% of FTP for 15 minutes before 6 min. effort.**
- 3. 6 minute effort – maximal effort. After effort, please spin at 50% of FTP for 20 minutes prior to 12 min. effort.**
- 4. 12 minute maximal effort**
- 5. Share the file with your coach.**