

UCI/WCC Power Profile Test



IMPROVING PERFORMANCE TOGETHER

wattbike

CENTRE MONDIAL DU CYCLISME



WORLD CYCLING CENTRE

UCI/WCC Power Profile Test

The Power Profile Test (PPT) is a standard test which is used around the world (at the UCI/WCC Satellite Test Centres) to identify talent for all cycling disciplines. It consists of 2 x 6" peak power tests, a 30" Sprint test and a 4' aerobic test. The test is continuous and set up as an interval workout. There is 234" active recovery between the two 6" test and before the 30" test. There is 330" recovery between the 30" test and the 4' test.

Before the PPT is conducted a 17' warm up is undertaken. The warm up is set up as an interval workout of: 7' at 90 rpm, 1.5' at 95 rpm, 1.5' at 100 rpm, 1' at 105 rpm, 1' at 110 rpm, 30" at 115 rpm, 30" at 120, 4' at 90 rpm. The PPT is available from the Wattbike website as firmware version 1:23.83 WCC – to access the test from the Main menu > Workout/Tests>Tests>UCI/WCC Test Protocol>Warm up and Power profile protocol.

How to do the PPT:

1. On a prior day (not the day of the test) establish resistance level for the warm up by undertaking a **submaximal ramp test** or a **3' aerobic test**.
From estimated maximum minute power (MMP) consult the table cl.ly/220B1a0Q1w00 to establish a warm up resistance level.
2. MMP will also be used to set the resistance level for the 4' element of the PPT.
Example – MMP of 300 W – warm up resistance level 1 on Wattbike Pro, warm up resistance level 4/5 on Wattbike Trainer.
3. Enter your weight and gender into the PPT input screen. The monitor will recommend a resistance setting for the 2 x 6" and 30" elements of the PPT. **All riders should use these settings** with the exception of aspiring elite sprinters.
Example - Male 88 kg = resistance level 5 on Wattbike Pro, resistance level 10 + magnet 5 on Wattbike Trainer.
Female 68 kg = resistance level 2 on Wattbike Pro, resistance level 6 on Wattbike Trainer.
Elite male sprinters should use resistance level 9 on the Wattbike Pro and elite female sprinters should use resistance level 5 on the Wattbike Pro.
4. In the active recovery elements of the test the resistance should be reduced to the warm up resistance level.
5. Resistance for the 4' element should be set at the level that achieves 90% of MMP at 100 rpm. Consult the table [here](#).
Example – MMP of 300 W X 0.9 = 270 W.
Wattbike Pro – resistance level 3, Wattbike Trainer – resistance level 8
(Adjust the resistance level as needed).
Elite male sprinters should use resistance level 5 on the Wattbike Pro and elite female sprinters should use resistance level 3 on the Wattbike Pro for the 4' element of the test.
6. For each element of the test best effort should be used. Pacing will be important for the 4' element of the test.
7. The test should only be undertaken if you have been training, regularly for at least 6 months and have no medical issues. Consult a Doctor if in doubt. Frequent testing are not recommended. Undertake a minimum of 3-6 months training before a retest.

What does the result mean?

The test result is individual, and can be used to structure exercise and training using the guidance and plans on our website wattbike.com. The average watts over the 4' test result (multiply by 1.1 to get estimated MMP) and maximum HR achieved can be used to establish heart rate and power training zones.

For comparative purposes see the Normal and UCI/WCC Standards Table below. A number of points to remember:

1. The test result is a measure of performance, not fitness (a rider can have a 'low' result and be very fit or, equally a 'high' result and be unfit).
2. The sprint (6" and 30") and aerobic test results (4') can be separate so a low result on sprint and high result on aerobic and vice versa.
3. Use any test result as a relative measure to monitor performance change. Undertake a period of training to affect a positive improvement in the performance of the rider.
4. We have carried out detailed work on the correct gearing and cadence so the Standards relate to the use of the recommended resistance levels in points 3 and 5 above.
5. NOTE that peak rpm is not the same as rpm at peak power (usually lower) both figures are shown in the test results screen.
6. In the normal monitor settings for the 6" and 30" elements of the test, the peak rpm and rpm at peak may be higher than the Elite figures shown. This is due to the specific resistance levels for Elite riders. The Elite rpm figures are actual, from our test data.

Male - Sprint (power per kg)

TEST	Normal (W/kg)	High (W/kg)	Development (W/kg)	Junior (W/kg)	Elite (W/kg)	Elite rpm
6" Peak	7.0 - 11.0	11.0 - 21.5	21.5 - 22.5	22.5 - 23.5	23.5 - 25.5 peak	165 - 170 peak
30" Mean	6.0 - 8.5	8.5 - 10.5	10.5 - 11.5	11.5 - 12.5	12.5 - 13.5 mean	145 - 160 mean

Male - Endurance (power per kg)

TEST	Normal (W/kg)	Development (W/kg)	Junior (W/kg)	Elite (W/kg)
4' Mean	2.5 - 6.0	5.0 - 6.0	6.0 - 7.0	6.5 - 7.5
Mean rpm	90 - 105	100 - 105	105 - 110	110 - 115

Female - Sprint (power per kg)

TEST	Normal (W/kg)	High (W/kg)	Development (W/kg)	Junior (W/kg)	Elite (W/kg)	Elite rpm
6" Peak	6.0 - 9.0	9.0 - 16.5	16.5 - 17.5	17.5 - 18.5	18.5 - 19.5 peak	160 - 165 peak
30" Mean	5.0 - 7.0	7.0 - 8.0	8.0 - 9.0	9.0 - 10.0	10.0 - 11.0 mean	140 - 145 mean

Female - Endurance (power per kg)

TEST	Normal (W/kg)	Development (W/kg)	Junior (W/kg)	Elite (W/kg)
4' Mean	1.5 - 4.0	3.5 - 4.0	4.0 - 5.0	4.5 - 5.5
Mean rpm	90 - 100	95 - 100	100 - 105	105 - 110