

**Third Coast Training
Performance Center**

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Pasadena 1/12/2022

Performance diagnostics for :

On 10/26/2021, a multi-stage test was performed on bicycle ergometer. Default load step duration was 3 minutes. The maximum load step was held for the entire 3 minutes.

Performance Watt	Rel. Performance Watt/kg	Heart rate bpm	Lactate mmol/L	RPE 6 - 20	Cadence rpm	Energy expenditure kcal/h
(Rest)	(Rest)	60	1.10	(Rest)		91
130	1.43	104	1.60	9	85	423
160	1.75	114	1.40	10	85	521
190	2.08	124	1.90	12	85	619
220	2.41	136	2.90	13	85	717
250	2.74	148	4.70	14	85	814
280	3.07	160	7.60	17	85	912
310	3.40	170	10.20	20	70	1010

The following results are obtained for training and performance diagnostics

Performance at the so-called individual anaerobic threshold (p(IAT)):	217 Watt (2.38 W/kg body weight)
Heart rate at p(IAT):	135 bpm
Functional threshold power (FTP, according to Allen et al.):	226 Watt (2.48 W/kg body weight)
Maximum Performance at 20min (CP-20):	283 Watt (3.11 W/kg body weight)
Performance at the Dmax (mod.):	236 Watts (2.59 Watt/kg body weight)
Maximal oxygen uptake (VO ₂ max, calculated):	4.18 L/min
Rel. maximal oxygen uptake (VO ₂ max, calculated) :	45.8 ml/min/kg body weight
Max. glycolytic Power (VLaMax) :	0.48 mmol/l/s

The p(IAT) (per kg) corresponds to the 45th Percentile (i.e. 45 percent are behind) compared to cyclists of your age group (Master 3) and the 96th Percentile within the entire male age group.

Recommended training intensities:

Individual calculations for training intensities*

Type of training	Performance	Rel. Performance	Heart rate
Reg. Training	CZ below 133 Watt	below 1.46 Watt/kg	below 104 bpm
Extensive basic training	BT1 133 Watt - 195 Watt	1.46 Watt - 2.14 Watt/kg	105 - 126 bpm
Intensive basic training	BT2 195 Watt - 210 Watt	2.14 Watt - 2.31 Watt/kg	127 - 132 bpm
Threshold training	DT 210 Watt - 230 Watt	2.31 Watt - 2.52 Watt/kg	133 - 139 bpm

*) Recommendations for training heart rates potentially vary with external conditions

Supplemental data for body assessment

Body height (ft.) / Body mass (lb.): **6'2.0" / 201.1 lb.**
Body-Mass-Index (BMI): **25.8**

Supplemental data

Cycling ergometry, Step duration 3 min


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Analysis of results

	11/12/2020	10/26/2021	Difference
Body weight	205.9 lb.	201.1 lb.	-4.9 lb.
Lactate Threshold (LT):			
LT	118.1 Watt	177.5 Watt	+59.4 Watt
Lactate at LT (Lactate Threshold)	1.13 mmol/L	1.71 mmol/L	+0.58 mmol/L
HR at LT (Lactate Threshold)	109 bpm	121 bpm	+12 bpm
Percentage of p(LT) to p(IAT)	69 %	82 %	+13 %
Individual anaerobic threshold (IAT):			
IAT (Lactate constant: 1.0 mmol/L)	171.4 Watt	216.8 Watt	+45.4 Watt
Percentile (p(IAT)) (General population)	90.2 %	99.3 %	+9.1 %
Percentile (p(IAT)) (Speed or power sports)	75.3 %	97.6 %	+22.3 %
Percentile (p(IAT)) (Bicycle racing) Master 3	14.6 %	74.9 %	+60.3 %
p(IAT)/kg	1.83 Watt/kg	2.38 Watt/kg	+0.54 Watt/kg
Percentile (p(IAT)/kg) (General population)	73.2 %	95.7 %	+22.5 %
Percentile (p(IAT)/kg) (Speed or power sports)	50.4 %	87.2 %	+36.8 %
Percentile (p(IAT)/kg) (Bicycle racing) Master 3	14.6 %	44.8 %	+30.2 %
Lactate concentration at p(IAT)	2.13 mmol/L	2.71 mmol/L	+0.58 mmol/L
Heart rate at p(IAT)	125 bpm	135 bpm	+10 bpm
p(IAT) as a percentage of p(max)	64 %	70 %	+6 %
Max. glyc. Power (VLamax)	0.43 mmol/L/s	0.48 mmol/L/s	+0.05 mmol/L/s
W'	31.4 kJ	34.6 kJ	
Critical Power	232.4 Watt	254.6 Watt	+22.2 Watt
Performance at 2.0 mmol/L lactate	166.3 Watt	194.6 Watt	+28.3 Watt
Rel. power output at 2.0 mmol/L lactate per body weight	1.78 Watt/kg	2.13 Watt/kg	+0.35 Watt/kg
Heart rate at 2.0 mmol/L lactate	124 bpm	127 bpm	+3 bpm
Performance at 4.0 mmol/L lactate	234.9 Watt	240.3 Watt	+5.4 Watt
Rel. power output at 4.0 mmol/L lactate per body weight	2.51 Watt/kg	2.64 Watt/kg	+0.12 Watt/kg
Heart rate at 4.0 mmol/L lactate	147 bpm	144 bpm	-3 bpm
VO2max (estimated)	3.73 L/min	4.18 L/min	+0.45 L/min
Relative VO2(max) (calculated)	39.9 ml/min/kg	45.8 ml/min/kg	+5.9 ml/min/kg
Training age	1.37 Years	2.32 Years	+0.95 Years
Prediction for Stelvio, IT	1:45:38 h (1041 m/h VAM)	1:39:59 h (1100 m/h VAM)	-339 sec

**) Mountain Time Trial Stelvio, IT (www.strava.com/segments/15397319)

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Performance diagnostics

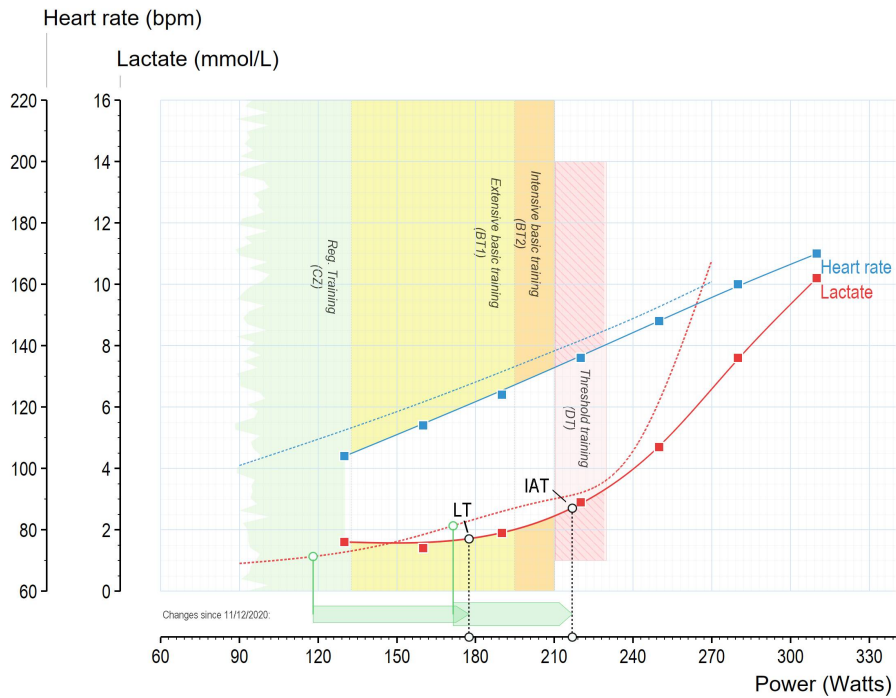
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Cycling ergometry on 10/26/2021

Analysis for
(Triathlon, Long distance (Ironman))

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Lactate-to-performance-curve:



Maximum Power Profile (CP Forecast):

