

**Third Coast Training
Performance Center**

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Pasadena 1/12/2022

Performance diagnostics for

On 1/7/2020, a multi-stage test was performed on the treadmill (2.0% slope). Default load step duration was 3 minutes. The maximum load step was held for the entire 3 minutes.

Distance m	Running Speed mph	Performance Watt	Heart rate bpm	Lactate mmol/L	RPE 6 - 20	Energy expenditure kcal/h
(Rest)	(Rest)	(Rest)	52	1.30	(Rest)	72
402	5.0	337	122	1.30	6	342
451	5.6	377	135	1.30	8	384
499	6.2	418	144	1.70	10	425
547	6.8	458	159	2.30	12	466
595	7.4	499	168	3.20	14	507
644	8.0	539	171	4.90	16	548
692	8.6	579	179	6.60	18	589
740	9.2	620	185	9.60	20	630

The following results are obtained for training and performance diagnostics

Performance at the so-called individual anaerobic threshold (p(IAT))

7.1 mph (3.16 m/s)

P(IAT acc. to Dmax mod.)

7.4 mph (3.31 m/s)

Performance at p(IAT) on flat surface:

7.9 mph (3.51 m/s)

Pace/mile (flat) at p(IAT):

8:02 min

Heart rate at p(IAT):

158 bpm

Maximal oxygen uptake (VO₂max, calculated):

3.76 L/min

Rel. maximal oxygen uptake (VO₂max, calculated) :

52.1 ml/min/kg body weight

Max. glyc. Power (VLaMax):

0.21 mmol/l/s

MAS (m/s):

4.5 m/s (1.600m on grass: 5:58 min)

IAT (mph) corresponds to 71th Percentile within the entire male age group.

Individual calculations for training intensities*

Type of training	Running Speed (mph)	Performance (Watt)	Pace/mile (flat)	Heart rate
Reg. and Long Jog	LSD/RER below 5.5 mph	below 168 Watt	slower than 10:21 min	below 125 bpm
Medium endurance run	MER 5.5 - 7.1 mph	168 - 216 Watt	8:02 min - 10:21 min	126 - 151 bpm
Speed endurance run	SER 7.1 - 7.5 mph	216 - 230 Watt	7:33 min - 8:02 min	152 - 158 bpm
Extensive interval training	EIT 7.4 - 8.0 mph	225 - 244 Watt	7:08 min - 7:42 min	157 - 164 bpm

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

Additional information about the body composition:

Body height (ft.) / Body mass (lb.):

6'0.0" / 159.0 lb.

Body-Mass-Index (BMI):

21.6

Supplemental data

Running (treadmill), Step duration 3 min

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Analysis of results

	10/29/2019	1/7/2020	Difference
Body weight	159.0 lb.	159.0 lb.	+0.0 lb.
Lactate Threshold (LT)	5.2 mph / 2.30 m/s	5.2 mph / 2.33 m/s	+0.1 mph / +0.02 m/s
Lactate at LT (Lactate Threshold)	1.97 mmol/L	1.22 mmol/L	-0.75 mmol/L
HR at LT (Lactate Threshold)	128 bpm	126 bpm	-2 bpm
Percentage of p(LT) to p(IAT)	78 %	74 %	-5 %
Max. glyc. Power (VLamax)	0.23 mmol/L/s	0.21 mmol/L/s	-0.02 mmol/L/s
IAT (Lactate constant: 1.5 mmol/L):	6.6 mph / 2.94 m/s	7.1 mph / 3.16 m/s	+0.5 mph / +0.22 m/s
Percentile (p(IAT))	58.1 %	70.9 %	+12.8 %
Lactate concentration at p(IAT)	3.47 mmol/L	2.73 mmol/L	-0.74 mmol/L
Heart rate at p(IAT)	157 bpm	158 bpm	+1 bpm
p(IAT) as a percentage of p(max)	76 %	77 %	+0 %
Performance at 2.0 mmol/L lactate	5.2 mph / 2.32 m/s	6.5 mph / 2.91 m/s	+1.3 mph / +0.593 m/s
Heart rate at 2.0 mmol/L lactate	129 bpm	149 bpm	+20 bpm
Running time per mile at 2.0 mmol/l lactate	11:33 min per mile (1,609m)	9:12 min per mile (1,609m)	-140.9 s
Performance at 3.0 mmol/L lactate	6.3 mph / 2.80 m/s	7.2 mph / 3.23 m/s	+1.0 mph / +0.431 m/s
Heart rate at 3.0 mmol/L lactate	151 bpm	160 bpm	+9 bpm
Running time per mile at 3.0 mmol/l lactate	9:35 min per mile (1,609m)	8:18 min per mile (1,609m)	-77.0 s
Performance at 4.0 mmol/L lactate	6.9 mph / 3.06 m/s	7.7 mph / 3.44 m/s	+0.8 mph / +0.373 m/s
Heart rate at 4.0 mmol/L lactate	162 bpm	167 bpm	+5 bpm
Running time per mile at 4.0 mmol/l lactate	8:45 min per mile (1,609m)	7:48 min per mile (1,609m)	-57.0 s
VO2max (estimated)	3.52 L/min	3.76 L/min	+0.24 L/min
Relative VO2(max) (calculated)	48.8 ml/min/kg	52.1 ml/min/kg	+3.3 ml/min/kg
Training age	0.82 Years	1.02 Years	+0.19 Years
Prediction for 1,500-meter run	5:36.0 min	5:17.2 min	-18.8 sec
Prediction for 5,000-meter run	21:33.8 min	20:14.0 min	-79.7 sec
Prediction for 10,000-meter run	46:51.5 min	43:47.8 min	-183.7 sec
Prediction for Half marathon	1:48:12 h	1:40:39 h	-452.4 sec
Prediction for Marathon	3:55:33 h	3:38:06 h	-1047.5 sec

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Performance diagnostics

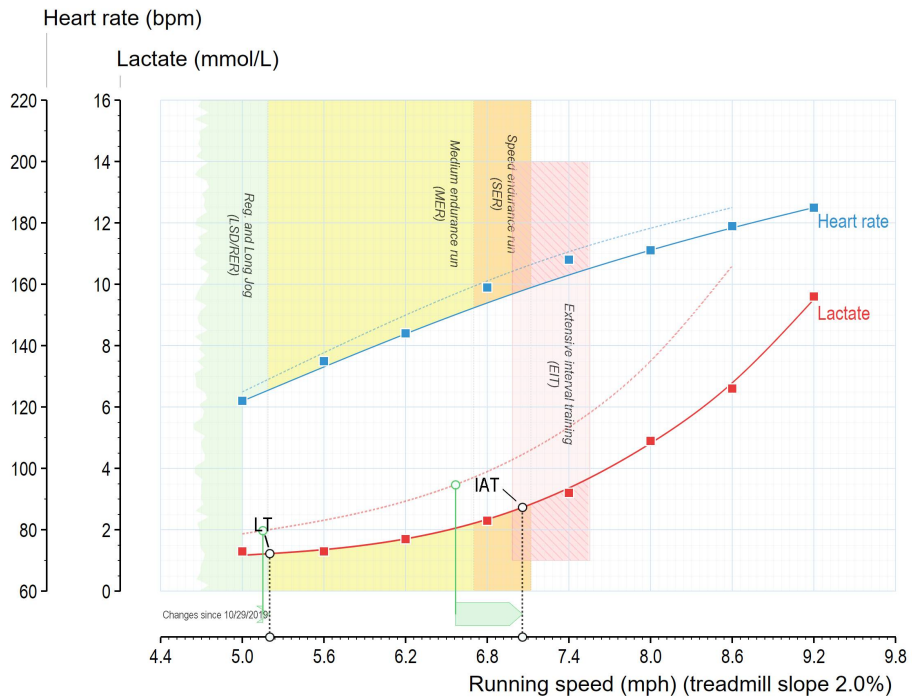
Third Coast Training

Running (treadmill) on 1/7/2020

Analysis for
(Triathlon, Olympic Distance)

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Lactate-to-performance-curve:



Maximum Power Profile (CP Forecast):

