



Third Coast Training Performance Center

Third Coast Training, Johnny Shelby
5150 Crenshaw Rd, Suite D100, 77505 Pasadena

5150 Crenshaw Rd, Suite D100
77505 Pasadena
United States

Phone: 7134877708

<https://thirdcoasttraining.com/>

johnny@thirdcoasttraining.com

[3dcoasttraining](#)

[third_coast_training](#)

[Third.Coast.Training](#)

Pasadena 18/12/2020

Performance diagnostics

a multi-stage test was performed on the treadmill (1.5% 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	Energy expenditure kcal/h
(Rest)	(Rest)	(Rest)	78		77
402	5.0	358	127		364
451	5.6	401	136		408
499	6.2	444	141		452
547	6.8	487	150		495
595	7.4	530	159		539
644	8.0	573	168		583
692	8.6	616	174		627
740	9.2	659	182		670

The following results are obtained for training and performance diagnostics

Performance at the so-called individual anaerobic threshold (p(IAT)) **7.7 mph (3.46 m/s)**

Pace/mile at p(IAT): **7:44 min**

Heart rate at p(IAT): **164 bpm**

Maximal oxygen uptake (VO₂max, calculated): **3.60 L/min**

Rel. maximal oxygen uptake (VO₂max, calculated) : **46.9 ml/min/kg body weight**

IAT (mph) corresponds to 31st Percentile (i.e. 31 percent are behind) within all male middle and long distance runners of your age group and the 79th 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 3.8 mph	below 124.8 Watt	slower than 15:37 min	below 127 bpm	
Medium endurance run	MER	3.8 - 7.4 mph	124.8 - 239.4 Watt	15:37 min - 8:08 min	127 - 159 bpm	
Speed endurance run	SER	7.4 - 7.8 mph	239.4 - 254.5 Watt	8:08 min - 7:39 min	159 - 165 bpm	
Extensive interval training	EIT	7.7 - 8.3 mph	249.4 - 269.6 Watt	7:49 min - 7:14 min	163 - 171 bpm	

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

Supplemental data

Heart rate vs. performance

Third Coast Training
Running (treadmill) on 18/12/2020



Note: Prediction without lactate!

Running (treadmill), Step duration 3 min

Distance m	Running Speed mph	Performance Watt	Heart rate bpm	Lactate mmol/L	Energy expenditure kcal/h
(Rest)	(Rest)	(Rest)	78	0.70	77
402	5.0	358	127	0.80	364
451	5.6	401	136	1.00	408
499	6.2	444	141	1.40	452
547	6.8	487	150	1.90	495
595	7.4	530	159	2.90	539
644	8.0	573	168	4.40	583
692	8.6	616	174	5.60	627
740	9.2	659	182	9.70	670

Analysis of results

18/12/2020	
Body weight	169.1 lb.
Lactate Threshold (LT)	3.8 mph / 1.72 m/s
Lactate at LT (Lactate Threshold)	not provided
Heart rate at the LT (Lactate Threshold)	127 bpm
Percentage of p(LT) to p(IAT)	50 %
Max. glyc. Power (VLaMax)	not provided
IAT (Lactate constant: 1.5 mmol/L):	7.7 mph / 3.46 m/s
Percentile p(IAT))	79.5 %
Lactate concentration at p(IAT)	not provided
Heart rate at p(IAT)	164 bpm
p(IAT) as a percentage of p(max)	84 %
VO2max (estimated)	3.60 L/min
Relative VO2(max) (calculated)	46.9 ml/min/kg
Training age	not provided
Prediction for 1,500-meter run	No lactate sampling
Prediction for 5,000-meter run	No lactate sampling
Prediction for 10,000-meter run	No lactate sampling
Prediction for Half marathon	No lactate sampling
Prediction for Marathon	No lactate sampling

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 3.8 mph	below 124.8 Watt	slower than 15:37 min	below 127 bpm	
Medium endurance run	MER	3.8 - 7.4 mph	124.8 - 239.4 Watt	15:37 min - 8:08 min	127 - 159 bpm	
Speed endurance run	SER	7.4 - 7.8 mph	239.4 - 254.5 Watt	8:08 min - 7:39 min	159 - 165 bpm	
Extensive interval training	EIT	7.7 - 8.3 mph	249.4 - 269.6 Watt	7:49 min - 7:14 min	163 - 171 bpm	

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

Heart rate vs. performance

Third Coast Training
Running (treadmill) on

Lactate-to-performance-curve, Running (treadmill)

Note: Prediction without lactate!

