



Aerobic Endurance

Maximum oxygen uptake ($\text{VO}_{2\text{max}}$) will be measured during a progressive, incremental exercise test to exhaustion on a treadmill.

After a mandatory standardized 5-minute warm-up, the applicant walks at a speed of 3.5 mph and 10% grade for 8 minutes. This is called the constant work rate phase.

Once the constant work rate phase is completed the applicant immediately progresses to the incremental phase. During this phase the treadmill speed remains at 3.5 mph but the grade increases 1% every minute to a maximum of 15%. If the applicant is not yet exhausted the grade will remain fixed at 15% but the speed of the treadmill will be increased 0.5 mph each minute until the applicant can no longer continue. The duration of this part of the test depends on the applicant's fitness level and motivation, but usually lasts about 6 minutes. Generally, the longer the duration of the test, the better the $\text{VO}_{2\text{max}}$ score.

Aerobic endurance will be ranked based on both total time on the treadmill as well as $\text{VO}_{2\text{max}}$.

When the incremental phase is completed, there is also a mandatory 5-min cool-down (slow walk on a flat treadmill).

In order to pass the treadmill test, the applicant **MUST** complete the 5-min warm-up, the 8-min constant work rate phase and the 5-minute cool-down (for a total of at least 18 minutes).

During the test, expired gases are monitored with an automated metabolic measurement system to calculate the rate of oxygen consumption. Heart rate is monitored continuously with a telemetry system.

After the treadmill test, there is a 60 minute rest period before the start of an orientation to the job-related performance tests.