FIREFIGHTER APPLICANT PHYSICAL APTITUDE EVALUATION

MEDICAL CLEARANCE FOR TESTING

Applicant name: _____

This program is designed to **evaluate the physical work capacities of healthy, physically active individuals.** Each test requires a maximal effort. All of the tests are completed while wearing firefighting personal protective equipment (PPE) that weighs approximately 22 kg (50 lb) depending on size. This ensemble includes: helmet, flash-hood, gloves, coveralls, pants, boots, jacket and self-contained breathing apparatus (SCBA). The applicant is not required to breathe from the SCBA, but must carry it. For safety during the treadmill test, running shoes are substituted for firefighting boots. The tests are administered by the Faculty of Physical Education and Recreation at the University of Alberta, and are **not medically supervised**. The test procedures are described briefly below:

PART I - AEROBIC FITNESS

Peak oxygen uptake (VO_{2peak}) will be measured during a progressive, incremental exercise test to exhaustion on a treadmill. 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. Depending on fitness level and motivation, this test normally requires the individual to walk on the treadmill at a brisk pace for between 10 – 20 minutes. Regardless of the fitness level of the individual, the test involves a maximal effort and is terminated when the test subject is too fatigued to continue exercise. Combined with the maximal exercise stress, the weight and heat retention properties of the PPE result in a significant level of fatigue.

After completing the treadmill test, the applicant will recover for 60 minutes before beginning the job-related tests.

PART II - JOB-RELATED PERFORMANCE TESTS

Prior to completing the job-related tests, the applicant will complete a comprehensive "walk-through" session with an opportunity to practice each of the six tests. This takes approximately 30 minutes and serves two purposes. First, the applicant will be familiarized with all testing procedures and second, the practice provides a suitable warm-up for the demanding tests that follow. Each test is followed by a recovery period of exactly 3 minutes. Applicants may not leave the testing area or remove the protective clothing during the recovery periods.

Equipment Carry/Vehicle Extrication Test (followed by 3-min of recovery)

The applicant carries small (20 kg or 44 lb) and large (36 kg or 80 lb) vehicle extrication tools (the "Jaws of Life") a total distance of 105 m (345'). In addition, the applicant will lift and hold the 20 kg tool in specific positions that simulate the work required to remove a vehicle door. The tools will then be returned to the starting point. The test involves continuous heavy work for approximately 3.5 minutes. This test is designed to evaluate the strength required to lift, carry and use heavy tools in rescue situations.

Charged Hose Advance Test (followed by 3-min of recovery)
The applicant will drag a charged (full of water) 44 mm (1.75 in) hose a distance of 30 m (100'). The nozzle must be held securely over the shoulder with two hands at all times as the applicant advances to the finish line. This test assesses lower body strength and power for pulling and dragging.

Rope Pull Test (followed by 3-min of recovery)
The applicant will pull a weighted sled a distance of 15 m (50') over a smooth concrete floor using a rope. This task is repeated 3 times. During this test, the applicant must stand still and pull the hose bundle towards them using 16 mm (5/8") rope. This test assesses upper body strength, power, and endurance for pulling.

Forcible Entry Test (followed by 3-min of recovery)
Using a 4.5 kg (10 lb) sledge hammer, the applicant will strike a target on a mechanically-braked forcible entry apparatus until it has moved the required distance. This test assesses muscle strength, power and endurance necessary for breaking through reinforced structures.

Victim Rescue Test (followed by 3-min of recovery)
The applicant will grasp a rescue harness and drag a mannequin weighing approximately 83.0 kg (183 lb) a distance of 30 m (100') through a simple obstacle course. The applicant will walk backwards for 15 m and return to the start line as quickly as possible while navigating around a series of traffic cones. This test assesses muscular strength and endurance for dragging.

Ladder Climb Test (followed by 3-min of recovery)
The applicant will climb a 7.3 m (24') ladder to the 10th rung and return to the floor as quickly as possible. This task will be repeated five times. The applicant must step on every rung on the way up and down the ladder and maintain "3-point" contact with the ladder at all times for safety. Fall protection is provided. This test assesses muscle strength, endurance, and anaerobic capacity for climbing.

Is this individual taking any medication that could affect normal physiological responses to exercise?

No ____ Yes _____ If yes, please explain.

Were the resting heart rate and blood pressure measurements within the normal ranges?

No ____ Yes _____

Is there any medical reason that this individual should not undertake very strenuous exercise?

No ____ Yes _____ If yes, please explain.

My signature below confirms that this applicant has been given a medical examination and is medically cleared to undertake the Firefighter Physical Aptitude Evaluation described above:

Physician's name: _____ **Date:** _____

Office or Clinic Address:

Telephone: _____

Signature: _____