

3.3. SANS 10177 – PART 11, HORIZONTAL (CLASSIFICATION)

The large-scale fire propagation properties of the system were evaluated by performing a test in the **FIRELAB** large-scale roof insulation test facility. A schematic diagram of the test facility with the specimen frames are shown in Figure 3.3.1 and 3.3.2.

The ignition source for the under-roof evaluation was constructed from 60 kg dry 38 mm x 38 mm SA Pine sticks stacked in an open-crib configuration to form a 1 000 mm x 750 mm x 480 mm high crib. The pack was ignited with commercial firelighters at each corner, in order to simulate a fire with slow heat build-up. The maximum heat output of the fire source (approximately 2.5 MW based on previous research) occurred after approximately 12 minutes.

The fire source was located at one end of the facility, approximately 1.5 m from the front end, 1.5 m from the side and 1.5 m from the center line of the specimen frame. The position of the crib is indicated on Figure 3.3.1. No mass loss measurements were taken during the evaluations.

This test was performed simulating a roof insulation system. This evaluation investigated the fire propagation properties of the Extruded Polystyrene insulation with the purlins positioned across the width of the test facility. A schematic side view of a typical roof test installation is shown in Figure 3.3.2.

For this evaluation the specimen frames were aligned in such a way that the roof slope was equal to 3 degrees. The distance between the top of the fire source and the roof directly above it was 2.7 metres.

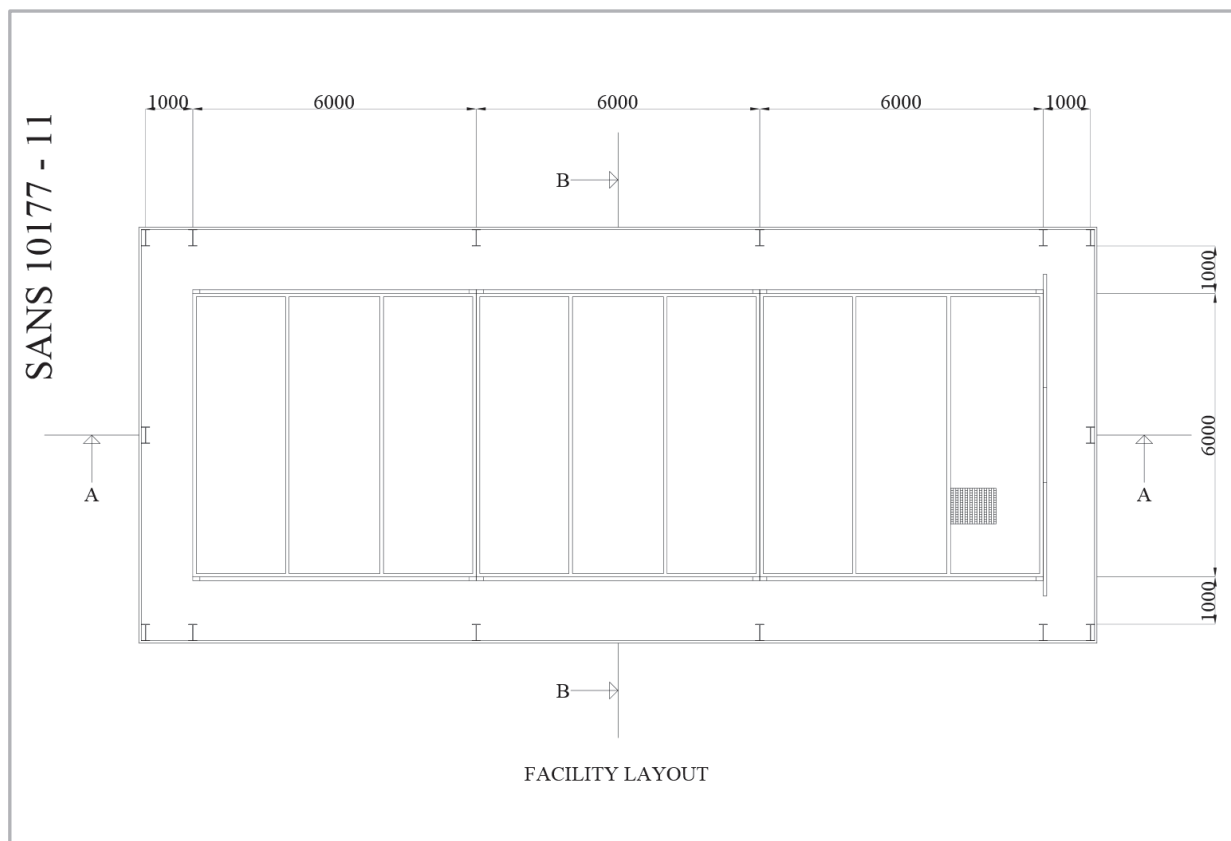


Figure 3.3.1: SANS 10177 – Part 11 test facility with specimen frames

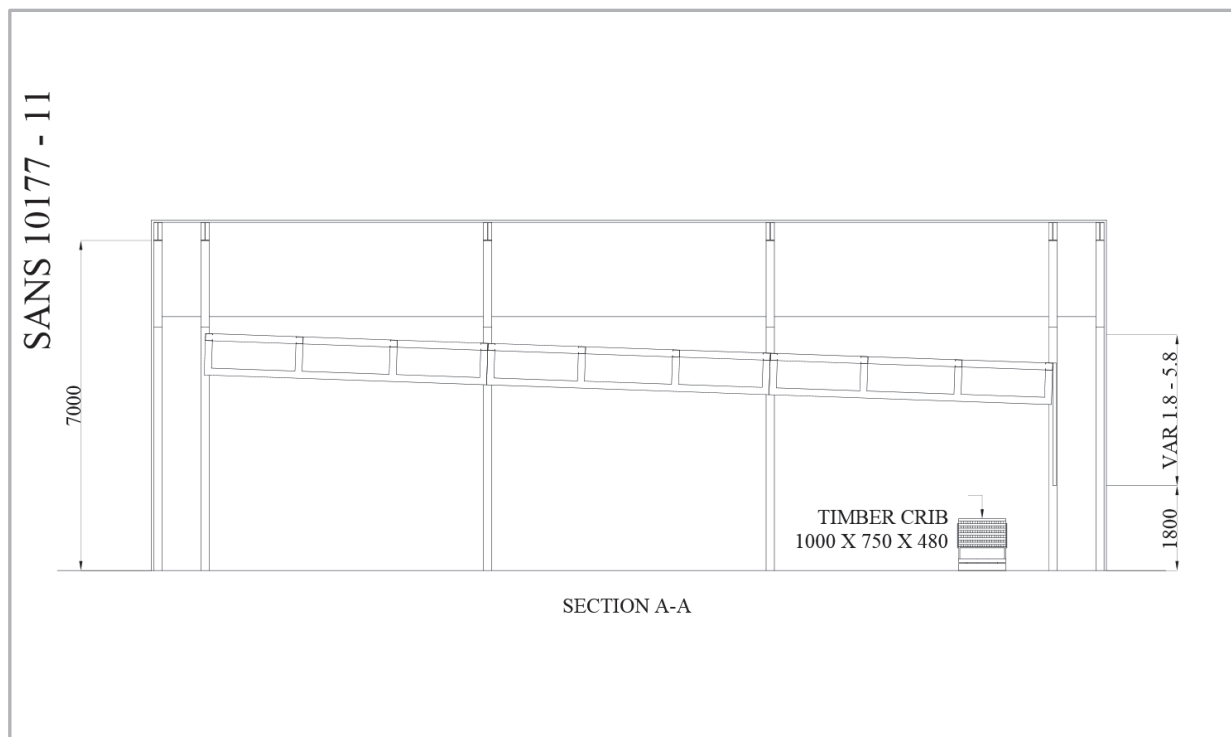


Figure 3.3.2: Typical roof test installation in the SANS 10177 – Part 11 facility