Singapore Standard SS 578:2019

Code of practice for the use and maintenance of portable fire extinguishers

AMENDMENT NO. 1

April 2022

1. Page 15, 8.2.8 Special precautions for Class C and D fires

(a) *Replace* the heading of 8.2.8 with the following:

8.2.8 Special precautions

8.2.8.1 Class C and D fires

(b) *Replace* the first sentence of 8.2.8.1 with the following:

Class C and D fires should not be tackled by untrained personnel.

(c) *Insert* the following new subclause:

8.2.8.2 Photovoltaic (PV) solar panel fires

Fires involving solar panels should not be tackled by untrained personnel. The solar panels shall be de-energised during firefighting operations as they pose an electrical hazard to the firefighters. The generation of electricity by the solar panels cannot be shut down so long as it is exposed to available daylight or sunlight.

Such fires should be tackled by trained personnel competent in the use of suitable isolating/ coating products (see NOTE) to cover the solar panels to prevent daylight or sunlight from reaching the solar panels thus shutting down the generation of electricity, making it safe for the firefighting operations.

NOTE – Isolating/coating products are typically non-flammable, fire-retardant, non-toxic and non-polluting. When applied, an isolating/coating layer will de-energise the solar panels and stop electrical generation from the coated panels.

To ensure that the solar panels are de-energised safely and efficiently when fires are involved for the safety of firefighters, such isolating/coating products shall be provided in accordance with the recommended methodology/formula from the original equipment manufacturer (OEM) of the product with sufficient quantity to de-energise an affected solar PV string (comprising a set of solar panels installed in series).

Isolating/coating products should be provided within the vicinity of solar panel installations. For roof mounted solar panels, the isolating/coating product should be placed at the entrances to the roof (e.g., exit staircases or access openings). For other installations, the isolating/coating product should be placed near to the areas where solar panel installations are located with proper signages (e.g. near to buildings on land such as maintenance/control buildings, boat ramps for solar PV installed on water). At minimum, each solar PV array (PV modules/solar panels are connected in series to form a PV String. A solar PV array is a system formed by the aggregation of multiple PV modules/solar panels) should be provided with sufficient isolating/coating product to de-energise its affected string based on the recommended quantity (e.g., minimum number of canisters needed based on formula/methodology) by the OEM.

In general, the application of isolating/coating product should be performed sufficiently to de-energise the solar panels, in accordance with the recommended formula/methodology by the OEM or supplier. The fire can then be extinguished by using appropriate fire extinguishers (see 8.2.11).

2. Page 25, 10.2.1 Frequency of inspection

Replace the first sentence of 10.2.1 with the following:

The extinguishers shall be inspected monthly, manually or by electronic means, by the building owner or occupant. Inspections shall be conducted at more frequent intervals when any of the following circumstances exist:

3. Page 25, 10.2.2 Inspection procedures

(a) *Number* the first paragraph as 10.2.2.1.

(b) *Insert* the following new subclause:

10.2.2.1 Inspection by means of electronic monitoring

For inspection by means of electronic monitoring, the following applies:

(a) Electronic monitoring can be considered to meet the requirements of the monthly physical inspection of the fire extinguisher.

(b) The fire extinguisher electronic monitoring device should indicate all the inspection requirements stated in 10.2.2 (a) to (g).

(c) Where the monitoring device is not able to monitor some of the inspection procedures listed in 10.2.2 (a) to (g), the owner/occupier shall ensure that the shortfall in the inspection procedures as stated in 10.2.2 and at frequencies as stated in 10.2.1, are carried out at the annual maintenance of the fire extinguishers, provided the premises' inspection records of previous years indicate that:

(i) there is no evidence of vandalism, damage or theft of fire extinguishers.

(ii) the environment within the premises is not hazardous and there has been no evidence of corrosion on the installed fire extinguishers.

(d) The electronic inspection shall be monitored at an indicator panel in a 24-hour manned location.

(e) The connection to the electronic monitoring device shall be continuously supervised for integrity.

(f) The power source for the electronic monitoring device shall be supervised for continuity of power.

(g) The monitoring device and its indicator panel shall be tested for the purpose by a recognised testing laboratory.

(h) The components of the monitoring device/system shall be tested and maintained in accordance with the manufacturer's maintenance manual.