

Annex L (normative)

A1 Specific requirements for Class F fire extinguisher

L.1 General

Portable fire extinguishers for use on cooking oil fires shall have a class F test fire rating.

Powder and carbon dioxide fire extinguishers should not be used on Class F fires as their use on this type of fire is considered hazardous. For this reason powder and carbon dioxide fire extinguishers shall neither be tested according to this annex or marked with the "F" pictogram.

NOTE Extinguishers may also have class A and/or B fire ratings.

L.2 Class F test fire ratings

L.2.1 Class F fire rating

Extinguishers shall have a class F fire rating in accordance with Table L.1 when tested in accordance with L.5.

Table L.1 — Fire rating minimum duration of operation and nominal charges for class F extinguishers

Rating	Volume of cooking oil in test fire (l)	Test apparatus mm	Nominal permitted charges (l)	Minimum duration of operations s
5F	5 (+1 -0)	See Figure L.2	2, 3	6
25F	25 (+1 -0)	See Figure L.3: X = 578 Y = 289	2, 3, 6	9
40F	40 (+1 -0)	See Figure L.3: X = 600 Y = 450	2, 3, 6, 9	12
75F	75 (+1 -0)	See Figure L.3: X = 1 000 Y = 500	2, 3, 6, 9	15

L.5.3 Combustible oil

Pure edible vegetable oil, with an auto-ignition temperature range of between 330 °C and 380 °C.

L.5.4 Procedure

The test chamber shall have the following characteristics:

- minimum height of the house (internal): 8 m;
- area: Around the tray there shall be a minimum distance of 3 m to the test house wall. (For example: in the case of a 75F, the room shall have a minimum length of 4,5 m and a minimum breadth of 3,5 m).

Heat the oil in the fire test tray using a suitable heating arrangement until non-piloted auto-ignition occurs.

Auto-ignition shall occur in a maximum time of 3,5 h from the start of heating of the apparatus.

When auto-ignition occurs

Turn off the heat source and allow to burn freely for (120_0^{+10}) s before commencement of fire fighting.

After each test, clean the apparatus thoroughly and renew with fresh oil prior to subsequent fire testing.

NOTE Care should be taken to avoid the fuel vapours being ignited by the heat source before auto ignition occurs.

L.5.5 Fire test requirements/measurements

Portable fire extinguishers shall conform to the following requirements.

- a) Burning material shall not be ejected.
- b) The fire shall be extinguished and there shall be no re-ignition of the test fire, or any overflow of fuel during a 20 min period following the complete discharge of the extinguisher.
- c) Oil shall remain in the tray at the end of the test to prove that extinguishment has occurred by application of the extinguishant and not by oil starvation.
- d) The oil temperature shall be monitored at auto-ignition.
- e) Application of the media shall not cause enlargement of the flames.

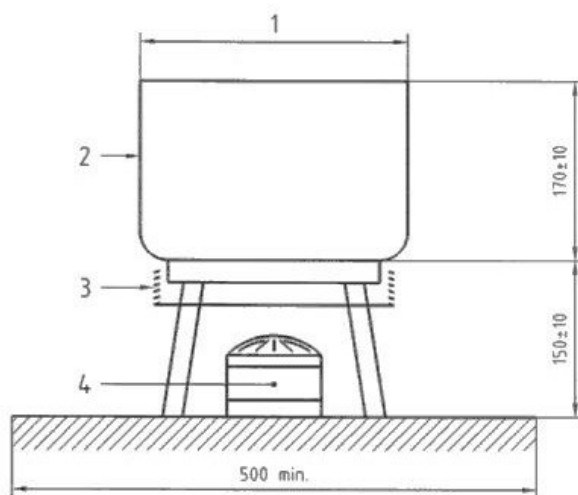
NOTE Flames over 2 m in height constitute enlargement. Short term flame peaks (< 2 s in duration) above 2 m are acceptable.

Video recording of the fire tests shall be carried to establish compliance with this requirement.



Figure L.1 — Class F pictogram

Dimensions in millimetres

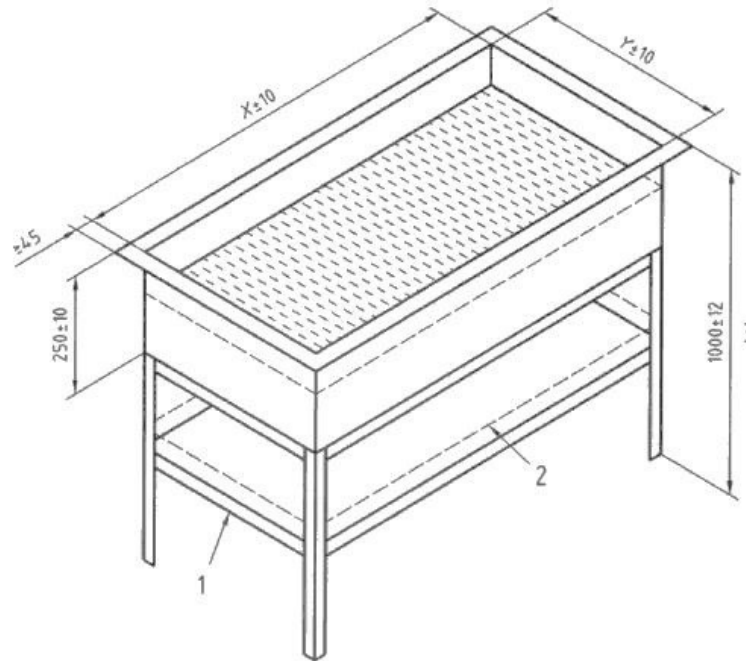


Key

- 1 pan diameter
- 2 nominal wall thickness
- 3 skirt to suit burner type
- 4 burner

Figure L.2 — Fire test apparatus – 5F

Dimensions in millimetres



Key

- 1 tray to support gas burners (alternatively electric heating may be used)
- 2 skirts to contain flames for gas heating (to prevent pilot ignition)
- 3 distance to floor level
- X internal length (see Table L.1)
- Y internal width (see Table L.1)

Figure L.3 — Fire test apparatus – 25F, 40F and 75F ^(A1)