

# OVERVIEW OF

# SS 578:2019

CODE OF PRACTICE FOR THE USE  
AND MAINTENANCE OF  
PORTABLE FIRE EXTINGUISHERS

## OBJECTIVES OF THIS CODE OF PRACTICE:

- COVERS THE SELECTION, INSTALLATION, INSPECTION, TESTING & MAINTENANCE OF PORTABLE FIRE EXTINGUISHERS.
- THE REQUIREMENTS STATED THEREIN ARE THE MINIMUM.
- FIRE EXTINGUISHERS ARE ESSENTIAL EVEN IF OTHER FORMS OF FIRE PROTECTION EQUIPMENT LIKE HOSE REELS, SPRINKLERS AND RISING MAINS ARE INSTALLED ON THE PREMISES.

# WHAT IS A FIRE EXTINGUISHER?

**AN APPLIANCE CONTAINING AN  
EXTINGUISHING MEDIUM THAT CAN  
BE EXPELLED BY THE ACTION OF  
INTERNAL PRESSURE AND DIRECTED  
ON TO A FIRE**



# A PORTABLE FIRE EXTINGUISHER

- It is designed to be carried and operated by hand.
- Has a mass of not more than 20 kg.

Extinguishers heavier than 20 kg are wheel mounted.



## PORTABLE FIRE EXTINGUISHERS



## WHEELED FIRE EXTINGUISHERS

Extinguisher design safety is determined by the country's standards for manufacture, performance testing and labelling of the extinguisher.

This is the responsibility of the manufacturer to get the extinguishers listed to SS EN 3 standards by an approved certification body.

Once an extinguisher is placed in service, it is the owner's responsibility to maintain it to SS 578 standards during its life cycle.

# SINGAPORE STANDARDS:

**SS.EN 3 Series** – Specification for portable  
Fire Extinguishers.

**SS.578** – Code of Practice for use and  
maintenance of portable fire  
extinguishers



# CLASSIFICATION OF FIRES

This classification is particularly for use with fire extinguishers.

The different classes of fires are classified according to the materials on fire:

Class A	Fires involving ordinary combustible materials like wood, paper etc
Class B	Fires involving flammable liquids, solvents, oils, paints, thinner and liquefiable solids
Class C	Fires involving flammable gases
Class D	Fires involving combustible metals
Class F	Fires involving cooking media in cooking appliances
Fires involving Electrical Equipment	There is no recognised classification for this additional type of fire. Electricity in itself does not burn but can cause fire in Class A,B,C, D and F

# SS.EN 3-7

## COMPONENTS OF A FIRE EXTINGUISHER:



# SS.EN 3-7

## REQUIREMENT OF COMPONENTS:



SAFETY PIN  
& SEAL



TYPES OF  
BRACKETS

Metal

1 kg



## SS.EN 3-7

### REQUIREMENT OF COMPONENTS:

5. Pressure Indicator shall indicate whether extinguisher is in operable condition
6. Pressure gauge shall have a green zone (working pressure zone). The zones on either side of the green zone shall be red.



## SS.EN 3-7

### FIRE PERFORMANCE

Specifies a series of tests to test the efficiency of the extinguisher and give it a rating for each class of fire.

Portable fire extinguishers are classified for use on certain classes of fires and rated for relative effectiveness.

The ratings are written as (e.g.) 13A, 115B, 75F

## SS.EN 3-7

## CLASS C & D FIRE TESTS

There are no fire tests for class C & D ratings prescribed in this code.

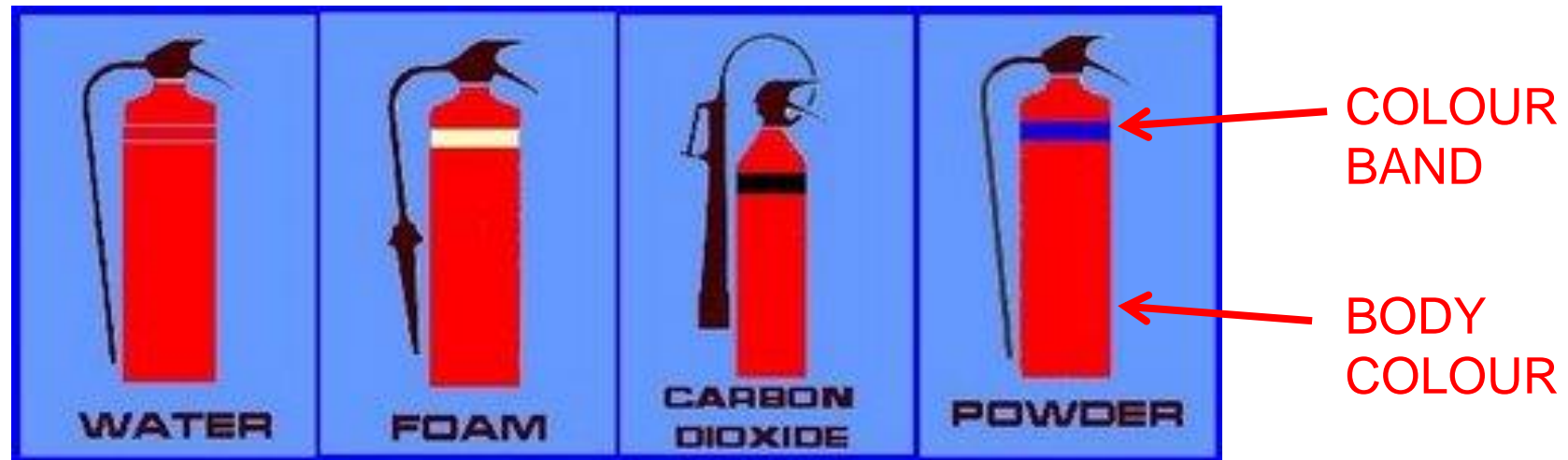
Manufacturers are to prove to authority and certification laboratory, the suitability of the extinguisher for the particular class of fire to be listed.

# SS.EN 3-7

## EXTINGUISHER IDENTIFICATION & MARKINGS

SS.EN.3-7 specifies the colour of the extinguisher and the way it should be labelled.

The colour of the body shall be red with a zone of colour band to identify the extinguishing agent.



# SS.EN 3-7

## EXTINGUISHER IDENTIFICATION & MARKINGS

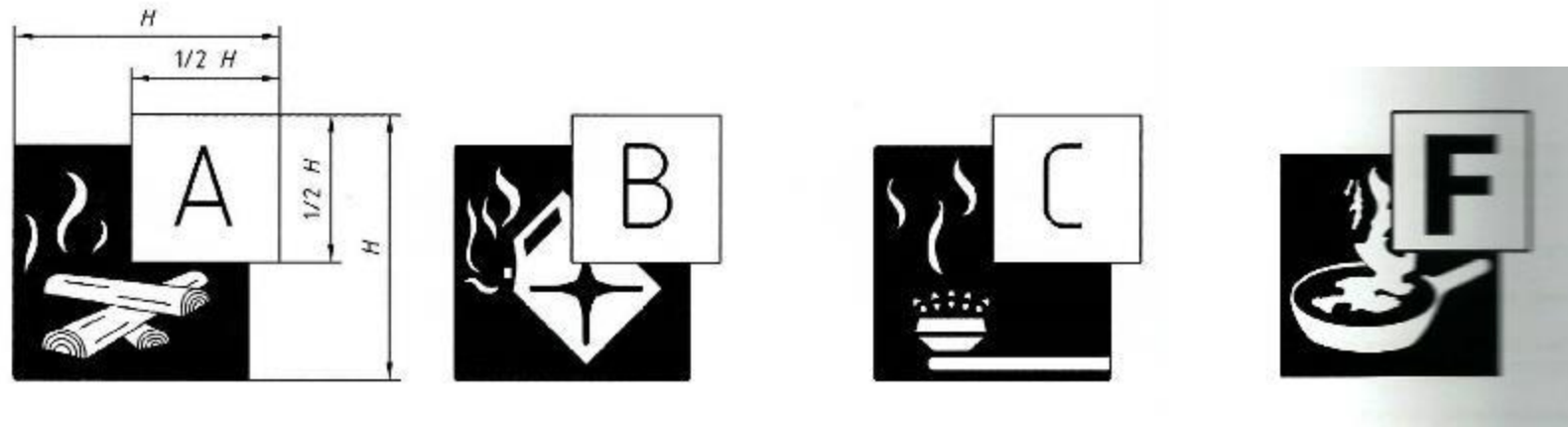


Figure 3 — Pictograms

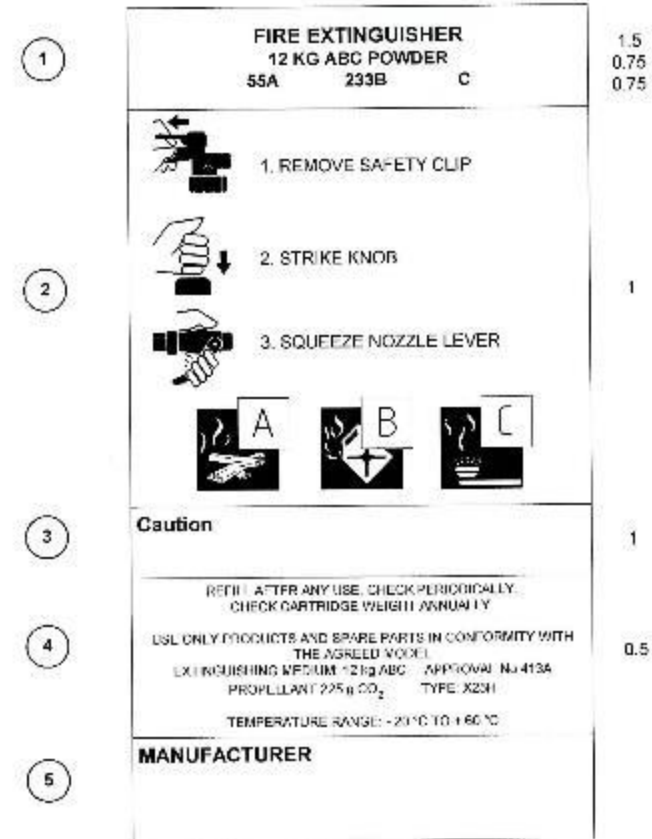
Standard pictograms on extinguishers to denote the classes of fires the extinguisher can be used effectively



# SS.EN 3-7

## EXTINGUISHER IDENTIFICATION & MARKINGS

1. WORD – “FIRE EXTINGUISHER”.
2. TYPE & NOMINAL CHARGE.
3. TYPE OF FIRES IT CAN BE USED ON.
4. INSTRUCTIONS FOR USE.
5. RESTRICTIONS OR DANGERS OF USE.
6. MAINTENANCE INSTRUCTIONS.
7. MAKERS NAME & ADDRESS.
8. YEAR OF MANUFACTURE.



TYPICAL LABEL OF  
FIRE EXTINGUISHER

# SS.EN 3-7

## EXTINGUISHER IDENTIFICATION & MARKINGS



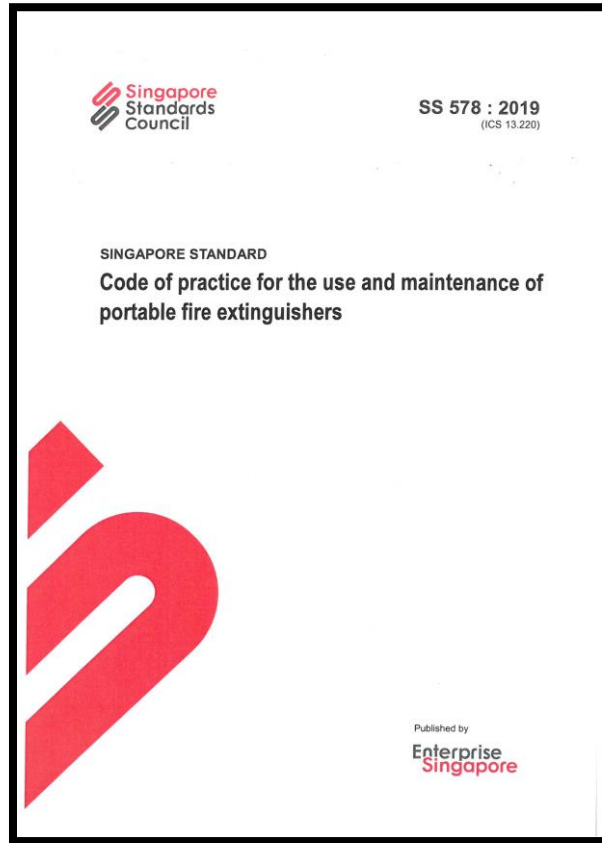
EXAMPLES  
OF  
APPROVED  
LABELS



## SS.EN 3-10

Fire extinguishers for use in Singapore must be approved by the relevant authority





# SS 578 : 2019

## USE & MAINTENANCE OF PORTABLE FIRE EXTINGUISHERS

# GENERAL REQUIREMENTS

- Extinguishers shall be conspicuously located, readily accessible & immediately available, e.g.
  - a) Exit staircases(just beside the exit doors but not inside exit staircase)
  - b) Exit doors(for 1<sup>st</sup> Storey)
  - c) Common lobby or common corridor
  - d) Room exit access doors
  - e) Internal corridor along path of escape
- Extinguishers for special risks shall be sited near to the risk concerned, but not too near as to be inaccessible in case of a fire. If the special risk is contained in a confined space, its is generally advisable to position the extinguisher outside that space

# GENERAL REQUIREMENTS

- Extinguishers shall not be sited where they may be exposed to unduly corrosive atmospheres or to splashing by corrosive fluids
- Extinguishers shall be mounted on walls by the hangers or brackets supplied

# GENERAL REQUIREMENTS

- Cabinets shall not be locked. If locked for security reasons – must include means of emergency access.



# GENERAL REQUIREMENTS

In certain locations where visual obstruction cannot be avoided, appropriate signs shall be provided to indicate the location:



Examples of signs used to indicate location of fire extinguishers

As per SS 508: 2013



# GENERAL REQUIREMENTS

Extinguishers shall be installed such that the carrying handles are at a height above floor based on their gross weight:

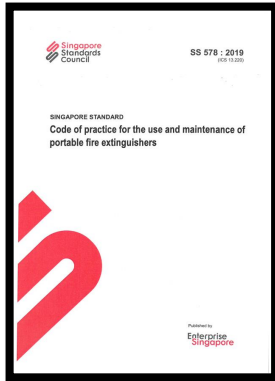


Max. 1.2m  
for gross  
wt. < 4 kg

Max. 1m  
for gross  
wt. > 4 kg



FLOOR LEVEL



# SS 578: 2019

## INSPECTION & MAINTENANCE OF FIRE EXTINGUISHERS

## MAINTENANCE OF FIRE EXTINGUISHERS INVOLVES FOUR TYPES OF ACTIVITIES:

1. Inspection
2. Maintenance
3. Recharging
4. Hydrostatic testing

SS 578

Fire extinguishers shall be  
inspected monthly

And maintained annually

## What is an inspection?

An inspection is a **visual examination** (a quick check) to see that the extinguisher is in good working order

## What is maintenance?

Maintenance work involves a **thorough examination** of the extinguisher and its contents

## WHO IS RESPONSIBLE FOR MAINTENANCE?

The **owner or occupant** of the property in which fire extinguishers are located shall be responsible for the inspection, maintenance and recharging

**Inspection** is normally performed by the owner or occupant or any designated responsible personnel.

## WHO IS RESPONSIBLE FOR MAINTENANCE?

**Maintenance & recharging** shall be performed by competent persons of an approved organisation, authorised by the relevant authority and having available the proper types of tools, recharge materials, lubricants, and manufacturer's recommended replacement parts.

# WHO IS RESPONSIBLE FOR MAINTENANCE?

## COMPETENT PERSON:

A person with qualifications, training and experience, with access to relevant tools, equipment and information, manuals and knowledge of any special procedures recommended by the manufacturer of an extinguisher, to carry out the relevant maintenance procedures.



## WHO IS RESPONSIBLE FOR MAINTENANCE?

### APPROVED ORGANISATION:

The organization, company or workshop with relevant tools, recharge material, lubricants and manufacturer's recommended replacement parts, authorized by relevant authority to be responsible for the maintenance and recharging of fire extinguishers.

This organization shall be certified by the certification body authorized by the relevant authority.

# WHO IS RESPONSIBLE FOR MAINTENANCE?

## APPROVED ORGANISATION:

The approved organization shall not engage or appoint a third party organization or persons to perform the inspection, maintenance, recharging and issuance of maintenance service labels for the fire extinguisher on their behalf.

# INSPECTION PROCEDURE

- Extinguisher in its correct location
- Not obstructed
- Check service label for next maintenance date



# INSPECTION



- Label legible
- Tamper seal intact
- Check pressure gauge reading



# INSPECTION

- Check fullness by weighing
- Gross weight should tally with label



# INSPECTION



CO<sub>2</sub> EXTINGUISHER CONTENTS CAN ONLY BE CHECKED BY WEIGHING

# INSPECTION



CHECK  
FOR  
PHYSICAL  
DAMAGE



INSPECTION:

CORRECTIVE ACTION:

- If inspection reveals any deficiency - the extinguisher shall be subjected to full maintenance procedures
- Evidence of corrosion or physical damage – extinguisher to be hydrostatically tested



INSPECTION:

## RECORD KEEPING

An inspection record shall be kept of those extinguishers that were found to require corrective actions

Date of inspection & initials of person performing the inspection shall be recorded.

Inspection/maintenance records shall be kept by the owner.

# MAINTENANCE

To be carried out at least once a year or when indicated by the inspection

Work involves a thorough examination of the extinguisher and its contents and shall be carried out by a competent person

Extinguishers taken away for maintenance work shall have in replacement, extinguishers of the same type and at least equal rating

# RECORD KEEPING: SERVICE LABEL

Each extinguisher subjected to maintenance work shall be affixed with a service label stating month & year work done and whether serviced, recharged or hydrostatic tested.

<b>ABC FIRE EXT. CO.</b>	
<i>Company address</i> <i>Tel. No. :</i>	
We certify that this fire extinguisher has today been <i>*inspected/serviced/re-charged/hydro-tested</i> by us and is in good working condition.	
Date : _____ (dd/mm/yyyy)	Name & Signature : _____
<i>* Delete accordingly</i>	
Next service due date: _____	<i>Affix accredited certification body control tag here</i>

Figure D.1 – Example of service label

The label shall identify the person and organisation performing the service

The service label shall be affixed with a control tag issued by the CB and it will have a unique serial number for this service company

# RECORD KEEPING: SERVICE LABEL

- FROM 1<sup>ST</sup> JANUARY 2020 ONWARDS ALL SERVICED PORTABLE FIRE EXTINGUISHERS SHALL HAVE A “CONTROL TAG” AFFIXED TOGETHER WITH THE SERVICING WORKSHOP’S SERVICE LABEL.
- EACH CONTROL TAG WILL HAVE ITS OWN CONTROLLED SERIAL NUMBER.
- THE CONTROL TAG HAS TO BE PURCHASED FROM TUV SUD PSB.
- THE TAGS CAN ONLY BE PURCHASED BY SERVICE PROVIDERS WHO ARE REGISTERED WITH TUV SUD PSB AS APPROVED FIRE EXTINGUISHER SERVICE WORKSHOPS.

# RECORD KEEPING: SERVICE LABEL

## EXAMPLE OF CONTROL TAG



THE CONTROL TAGS WILL BE TAMPER PROOF WITH QR CODE PRINTED ON IT

# RECORD KEEPING: SERVICE LABEL

The service label shall be affixed with a control tag issued by the Certification Body and it will have a unique serial number for this service company.

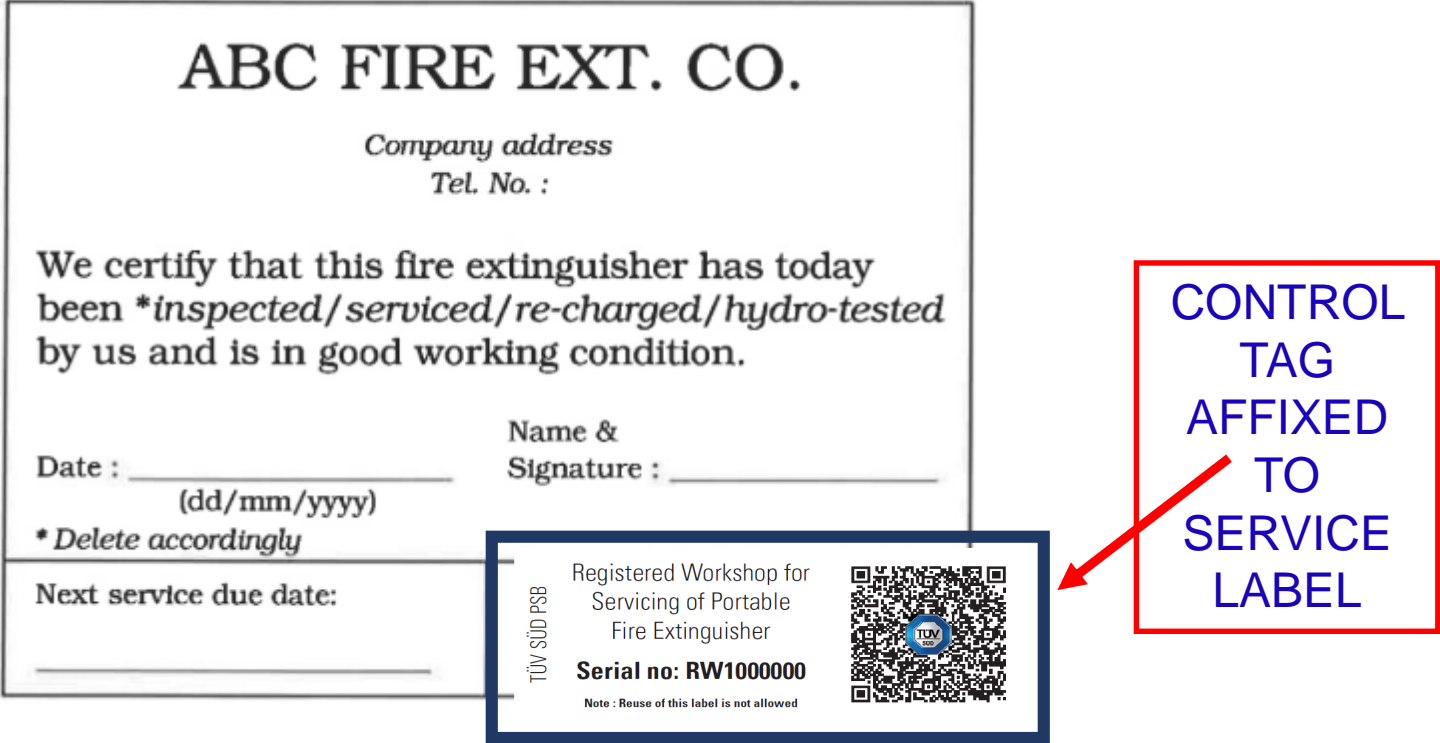


Figure D.1 – Example of a service label

# RECORD KEEPING

The approved organization shall keep proper records of the tags and labels affixed to extinguishers on which maintenance works have been carried out.

Such records shall include:

- Date maintenance work was carried out;
- Serial number of the label and tag affixed to the extinguisher; and
- Name of person or organization that owns the extinguisher.

# RECORD KEEPING:

The service label shall not be placed over the operating instructions of the extinguisher.





# RECORD KEEPING: WRONG USE OF CONTROL TAG

The Control Tag shall be affixed such that it is partially over the service label and partially over the extinguisher body

**ABC FIRE EXT. CO.**  
Company address  
Tel. No. :

We certify that this fire extinguisher has today been *\*inspected/ serviced/ re-charged/ hydro-tested* by us and is in good working condition.

Date : \_\_\_\_\_ Name & Signature : \_\_\_\_\_  
(dd/mm/yyyy)

\* Delete accordingly

Next service due date: \_\_\_\_\_

Registered Workshop for Servicing of Portable Fire Extinguisher  
Serial no: RW1000000  
Note: Reuse of this label is not allowed




Figure D.1 – Example of a service label



**THANK YOU**