



TOOL BOX 060- 10400 – Portable Fire Equipment Requirements

This Toolbox Talk has been created to assist you, and the user to assess the building Occupancy and classification.

We all know that the user’s guide for placement, and quick inspection of their equipment (monthly Checks) is SANS10105.

But SANS10105 does not even suggest to the user what actually should be installed in their buildings. So what are they going to do? Ask you for advice.

Well you cannot give them much advice unless you carry out a risk assessment on the building, checking the original occupancy, products produced, special risk areas, and so on.

SANS 10105 maybe a user guide. But it is referred to in SANS 1475, and there for you must also fully understand it.

This Talk is put together not just for you. But as a hand-out to assist your customers.

Firstly you need to know the Classification of the Building.

This information is on page 43 of SANS10400A.

Table 1 — Occupancy or Building Classification

1	2
Class of occupancy of building	Occupancy
A1	Entertainment and public assembly Occupancy where persons gather to eat, drink, dance or participate in other recreation.
A2	Theatrical and indoor sport Occupancy where persons gather for the viewing of theatrical, operatic, orchestral, choral, cinematographical or sport performances.
A3	Places of instruction Occupancy where school children, students or other persons assemble for the purpose of tuition or learning.
A4	Worship Occupancy where persons assemble for the purpose of worshipping.
A5	Outdoor sport Occupancy where persons view outdoor sports events.
B1	High risk commercial service Occupancy where a non-industrial process is carried out and where either the material handled or the process carried out is liable, in the event of fire, to cause combustion with extreme rapidity or give rise to poisonous fumes, or cause explosions.
B2	Moderate risk commercial service Occupancy where a non-industrial process is carried out and where either the material handled or the process carried out is liable, in the event of fire, to cause combustion with moderate rapidity but is not likely to give rise to poisonous fumes, or cause explosions.
B3	Low risk commercial service Occupancy where a non-industrial process is carried out and where neither the material handled nor the process carried out falls into the high or moderate risk category.
C1	Exhibition hall Occupancy where goods are displayed primarily for viewing by the public.
C2	Museum Occupancy comprising a museum, art gallery or library.



TOOL BOX 060- 10400 – Portable Fire Equipment Requirements

D1	<p>High risk industrial Occupancy where an industrial process is carried out and where either the material handled or the process carried out is liable, in the event of fire, to cause combustion with extreme rapidity or give rise to poisonous fumes, or cause explosions.</p>
D2	<p>Moderate risk industrial Occupancy where an industrial process is carried out and where either the material handled or the process carried out is liable, in the event of fire, to cause combustion with moderate rapidity but is not likely to give rise to poisonous fumes, or cause explosions.</p>
D3	<p>Low risk industrial Occupancy where an industrial process is carried out and where neither the material handled nor the process carried out falls into the high or moderate risk category.</p>
E1	<p>Place of detention Occupancy where people are detained for punitive or corrective reasons or because of their mental condition.</p>
E2	<p>Hospital Occupancy where people are cared for or treated because of physical or mental disabilities and where they are generally bedridden.</p>
E3	<p>Other institutional (residential) Occupancy where groups of people who either are not fully fit, or who are restricted in their movements or their ability to make decisions, reside and are cared for.</p>
E4	<p>Health care Occupancy which is a common place of long term or transient living for a number of unrelated persons consisting of a single unit on its own site who, due to varying degrees of incapacity, are provided with personal care services or are undergoing medical treatment.</p>
F1	<p>Large shop Occupancy where merchandise is displayed and offered for sale to the public and the floor area exceeds 250 m².</p>
F2	<p>Small shop Occupancy where merchandise is displayed and offered for sale to the public and the floor area does not exceed 250 m².</p>
F3	<p>Wholesalers' store Occupancy where goods are displayed and stored and where only a limited selected</p>
G1	<p>Offices Occupancy comprising offices, banks, consulting rooms and other similar usage.</p>



TOOL BOX 060- 10400 – Portable Fire Equipment Requirements

H1	Hotel Occupancy where persons rent furnished rooms, not being dwelling units.
H2	Dormitory Occupancy where groups of people are accommodated in one room.
H3	Domestic residence Occupancy consisting of two or more dwelling units on a single site.
H4	Dwelling house Occupancy consisting of a dwelling unit on its own site, including a garage and other domestic outbuildings, if any.
H5	Hospitality Occupancy where unrelated persons rent furnished rooms on a transient basis within a dwelling house or domestic residence with sleeping accommodation for not more than 16 persons within a dwelling unit.
J1	High risk storage Occupancy where material is stored and where the stored material is liable, in the event of fire, to cause combustion with extreme rapidity or give rise to poisonous fumes, or cause explosions.
J2	Moderate risk storage Occupancy where material is stored and where the stored material is liable, in the event of fire, to cause combustion with moderate rapidity but is not likely to give rise to poisonous fumes, or cause explosions.
J3	Low risk storage Occupancy where the material stored does not fall into the high or moderate risk category.
J4	Parking garage Occupancy used for storing or parking of more than 10 motor vehicles.

Page 42 – 10400A

A20 Classification and Designation of Occupancies

- (1) The occupancy of any building shall be classified and designated according to the appropriate occupancy class given in **column 1 of table 1** and such classification shall reflect the primary function of such building: Provided that, in any building divided into two or more areas not having the same primary function, the occupancy of each such area shall be separately classified.
- (2) Notwithstanding the requirements of sub-regulation (1), any area in any building which is used for any purpose ancillary to that of any occupancy classification contemplated in sub-regulation (1) shall, subject to adequate facilities and safety measures being provided, not be classified as a separate occupancy.
- (3) Any room or space used for the storage or processing of flammable liquids **shall not be deemed to be a J1 occupancy** as herein defined if –
 - (a) Such liquid is stored in the fuel tank of any engine, motor vehicle, boat or lawnmower;



TOOL BOX 060- 10400 – Portable Fire Equipment Requirements

- (b) The quantity of liquid to be stored or handled in such room **does not exceed 40 litres**; or
- (c) the quantity contemplated in paragraph (b) **exceeds 40 litres but does not exceed 200 litres and the closed cup flash point of such liquid above 40 °C.**

Now You Move to SANS10400T – Page 49

Table 11 - Provision of portable fire extinguishers SANS10400-2011: T Section

MINIMUM CHARGE					
1	2	3	4	5	6
Class of Occupancy	Number of portable fire extinguishers required per m ²	Water	Foam	Carbon dioxide	Dry chemical powder
A1	1/200	9L	9L	5KG	4.5KG
A2	1/200	9L	9L	5KG	4.5KG
A3	1/200	9L	9L	5KG	4.5KG
A4	1/400	9L	9L	5KG	4.5KG
A5	1/400	9L	9L	10KG	4.5KG
B1	1/100	9L	9L	10KG	9KG
B2	1/200	9L	9L	10KG	9KG
B3	1/400	9L	9L	10KG	9KG
C1	1/200	9L	9L	10KG	9KG
C2	1/200	9L	9L	10KG	9KG
D1	1/100	9L	9L	10KG	9KG
D2	1/100	9L	9L	10KG	9KG
D3	1/200	9L	9L	10KG	9KG
D4	1/400	9L	9L	10KG	9KG
E1	1/200	9L	9L	5KG	4.5KG
E2	1/200	9L	9L	5KG	4.5KG
E3	1/200	9L	9L	5KG	4.5KG
E4	1/200	9L	9L	5KG	4.5KG
F1	1/200	9L	9L	5KG	4.5KG
F2	1/200	9L	9L	5KG	4.5KG
F3	1/200	9L	9L	5KG	4.5KG
G1	1/200	9L	9L	5KG	4.5KG
H1	1/200	9L	9L	5KG	4.5KG
H2	1/200	9L	9L	5KG	4.5KG
H3	1/400	9L	9L	5KG	4.5KG
H4	N/A	N/A	N/A	N/A	N/A
H5	1/100	9L	9L	5KG	4.5KG
J1	1/100	9L	9L	10KG	9KG
J2	1/100	9L	9L	10KG	9KG
J3	1/400	9L	9L	10KG	9KG
J4	1/400	9L	9L	10KG	9KG

The owner shall install by extinguisher charge mass. If the required size of extinguisher required is 1 x 9kg powder extinguisher per 200m² as with a C2 occupancy, **the owner of the building** may install 2x4.5kg extinguishers of the same type per 200m².



TOOL BOX 060- 10400 – Portable Fire Equipment Requirements

See SANS 1910 for required minimum performance ratings

Note: There is no such unit as a 10kg CO2, and there for 2x5kg CO2s will have to be used.

The extinguishers above are the only ones covered under the building regulations 1/1.5/2.5 Dry Powder, and 2kg CO2 extinguishers will not be considered protection even if you double up. (they do not meet the required fire rating)

Apart from the fact there is no 10kg CO2. If there was it would not be considered as a portable unit with a weight of +28/34kgs. (23kg and above is not a portable)

What do you notice from these tables?

There is no Extinguisher below 4.5Kg in size, or water mist type, or 5kg CO2.

You will also notice no Wet Chemical types – In this case you will find this type of extinguisher recommender as additional to Kitchen stand-alone fixed fire protection systems.

These extinguishers dictated in the tables, are the minimum acceptable sizes (note no 2kg CO2). Anything under the size/fire rating in the table is not part of the building protection requirement, and only be a nice to have extinguisher.

These table do not take into account Special Risk Areas

Your Customers must be aware that only the fire department can confirm / issue an occupational certificate of compliance, and expectable fire protection cover has been achieved.

Remember your qualification is as a service technician (note the word service).

Going forward in your career will lead to a grade of qualification which will licence you to perform full fire risk assessment concerning portable fire equipment and more.

Remember this it's not a simple matter assessing portable fire extinguisher requirements

Like "In my experience I suggest you only need an extra 2 x 9kg DCP"

If I was the customer I would ask you to justify your suggestion by quoting from standards.

Do you have a wide knowledge of the standards, MSDS, By-Laws????

Presented By:	Date	Signature
Name: _____	_____	_____
NAME	SIGNATURE	NAME
