TEST REPORT

SABS

Your ref: POA 10392
Our ref: 15/25/9/4
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Report no: FPE/84777/07

Date: 2007-03-23

Motswalle Distributors

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PORTABLE, NON-REFILLABLE TYPE FIRE EXTINGUISHERS

0 Significance of test results contained in this report.

0.1 Refer to the print on the back of this page.
0.2 The sample described was tested for all the requirements of SANS 1322:2004.
0.3 The sample tested complies with all the requirements of SANS 1322:2004.

1 DESCRIPTION OF SAMPLE

Twelve disposable foam type fire extinguishers were submitted by the sponsor to the Fire Protection Engineering Laboratory of the SABS on 13 February 2007

Suitable drawings and specifications of the extinguishers were not submitted and it could therefore not be typified.

The extinguishers were labelled as follows:

Capacity:	- 687 g
Class:	- A B
Fire rating:	- Class A
	- Class B
Working pressure:	- 970 kPa
Corrosion Quality	- Light
Trade mark:	- Motswalle
Identification marks	- Container: - Not present
	- Head: - Not present

The extinguishers were tested during February and March 2007

2 NATURE AND METHOD OF TEST

The extinguishers were evaluated for compliance with SANS 1322:2004 "Portable non-refillable fire extinguishers – General purpose type extinguishers'. (at the request of the sponsor not all tests specified in SANS 1322 were conducted but only those reported on under sections 4,5 and 6 of this report)

2.1 OBSERVATIONS AND FINDINGS

NOTE: The sections that follow reflect observations and findings. The numbering of these sections are consistent with the numbering of the relevant paragraphs in SANS 1322. This numbering system is utilized with the objective to ease cross reference.

3 OPERATIONAL REQUIREMENTS

3.1 Class

A fire extinguisher shall be of one of the following classes, as required:

a) Class I. An extinguisher that is suitable for installation in locations where temperatures will not exceed 110 °C.

b) Class II. An extinguisher that is suitable for installation in locations where temperatures will not exceed 65 °C.

3.2 Position

i) Extinguishers shall operate in the normal upright position - Complied

ii) With the operating head uppermost and shall operate effectively when the longitudinal axis of the extinguisher is inclined at an angle that is not less that 45 ° to the horizontal - Complied

3.3 Method of operation

a) An extinguisher shall be operated by a mechanism that pierces a sealing device, - Not applicable
Or opens a valve, thereby allowing the discharge of the extinguishing medium - Complied

b) The discharge through the nozzle shall be so controlled by a valve (operated by a trigger device or other actuating mechanism that the operator can interrupt the flow of the extinguishing medium - Complied

4 CONSTRUCTIONAL REQUIREMENTS

4.1 Capacity and gross mass

The capacity of an extinguisher shall be as specified by the purchaser and shall not exceed 1,5 kg and the gross mass shall not exceed 2,5 kg - Complied – 687 g

4.2 Components

Each extinguisher shall consist of a cylindrical pressurized container and the following fittings:

a)	an internal tube;	- Complied
b)	an operating head (see also 4.8) and discharge nozzle	- Complied
c)	an effective means for preventing accidental actuation of the extinguisher (see 4.8(b))	- Complied
d)	a carrying handle (when so specified by the purchaser), which may form part of the operating head	- Not applicable
e)	a mounting bracket (see 4.12)	- Complied

4.3 Charge

4.3.1 Developed pressure

The charge shall be such that the developed pressure at the reference temperature does not exceed 1000 kPa - Complied

4.3.2 Extinguishing medium

NOTE: An extinguishing medium shall have a toxicity rating in the order of 5 to 6 (see table 1).

The extinguishing medium shall be one of the following, as specified by the purchaser:

a)	a low-pressure liquefiable gas, of which the stability of its chemical and physical propertied is such that, after exposure at any time to a temperature within the range - 12°C to+65 °C, its ability to meet the relevant requirements of the specification is not impaired; or	- To be evaluated at the filling site
b)	any other acceptable medium of acceptable quality that enables the charge to comply with the requirements of 4.3.1 and the extinguisher to meet the performance requirements given in section 5: or	- To be evaluated at the filling site
c)	dry powder that is non-toxic and free flowing and that will retain its properties under normal conditions of storage. It shall be such that the extinguisher complies with the requirements of section 5.	- Not applicable

4.3.3 Pressurizing medium

a) If the vapour pressure, when relevant, of the extinguishing medium is insufficient to cause its discharge in accordance with the requirements of 5.1.1 and 5.1.2, or if the vapour pressure is known to decrease drastically at low temperatures, the extinguisher shall be pressurized by means of an acceptable inert medium such as nitrogen, or fluorocarbon propellants.

1)	Be such that, whatever its solubility in the extinguishing medium, the pressure developed in the extinguisher at the reference temperature does not exceed 1000 kPa (see 4.3.1; and	- Complied

2)	have a purity of at least 99,0%(m/m) and a moisture content not exceeding 0,015 % (m/m)	- To be evaluated at filling site

4.4 Filling ratio

The maximum filling ratio of a low pressure liquefiable gas extinguisher shall be such that, at a temperature of 65 ºC, the liquid portion of the extinguishing medium does not occupy more than 90%, of the volume of the container. If a gaseous pressurizing medium is used, the vapour space shall in any case be large enough to ensure that sufficient gas is present to effect discharge of the extinguishing medium in accordance with the requirements of 5.1.2.	- To be evaluated at filling site

4.5 Materials

4.5.1 General

The materials used for components that are welded, swaged, forged, fused or drawn shall be of compatible quality

a)	All materials shall be free from cracks, lamination and other defects	- Complied
b)	All materials shall be intrinsically corrosion-resistant or shall have a coating that complies with the requirements of 4.5.2. NOTE: In case where the internal surfaces of the container and or other components in contact with the charge may be subjected to corrosion by the charge, these surfaces shall have been acceptably protected against such corrosion	- Complied
c)	Where dissimilar metals are used in contact with one another, they shall be such that electrolytic corrosion will not occur in the presence of moisture. NOTE: A paint coating shall not be considered to be a means of preventing contact between dissimilar metals (e.g. between mounting brackets and the surface of the extinguisher).	- Complied

4.5.2 Corrosion-resistant coatings

A corrosion-resistant coating shall

a)	not embrittle, become soft or tacky, or show any form of breakdown at temperatures between -2ºC and 65 ºC;	- Complied
b)	Be such that, when the fire extinguisher is tested in accordance with 8.7, there is no sign of general penetration of the salt fog to, or evidence of corrosion of the base metal, and operation of the extinguisher shall remain unimpaired.	- Complied

4.5.3 Containers

a)	**Metal**. The cylindrical part and ends of a container shall be of one of the following metals:	
1)	cold-rolled or hot-rolled mild steel of acceptable quality;	- Not applicable
2)	stainless steel of acceptable quality;	- Not applicable
3)	other material of acceptable quality that would permit the extinguisher to comply with the requirements of 5.4 and 5.5	-Complied- Aluminium
b)	**Plastics**. Only effective materials of virgin polymer that are glass-reinforced unsaturated polyester resin compounds or are based on one of the following polymers, shall be used:	
1)	Polymide;	- Not applicable
2)	Polycarbonate; or	- Complied
3)	Polyoxymethylene	- Not applicable

4.6 Joints and seams

4.6.1 Screwed joints

Screw threads shall be of an acceptable type, fully formed, and cleanly cut. Threads on metal components designed to mate with threads on plastics operating heads shall be smooth, and shall have a pitch of at least 1,5 mm.	- Not applicable

4.6.2 Seamed joints

Joints may either be swaged, crimped, double-seamed and soldered, brazed. Fusion-welded or machine resistance-welded. Fusion- or braze-welded joints subject to pressure shall be in accordance with one of the following standards, as appropriate:	- Not applicable
All joints subject to pressure shall be of adequate strength such that when pressurized, the container will comply with the requirements of 5.4 and 5.5	- Complied
Components that are welded to containers (other than steel parts welded to steel containers) and that are subject to pressure shall be provided with internal flanges of adequate strength)	- Not applicable

5.4	Resistance to internal pressure	
a)	When a class I or class II extinguisher is tested in accordance with 8.6.1, it shall show no sign of leakage	- Complied-Class II
b)	when the cylindrical container of a class I extinguisher is tested in accordance with 8.6.2(d), it shall not burst or show any sign of gross leakage, and	- Not applicable
c)	When the cylindrical container of a class II extinguisher is tested in accordance with 8.6.2 (e), it shall not burst or show any sign of gross leakage	- Complied
5.5	Resistance to dropping	
	When a fully charges extinguisher with its protective cap in position is subjected to dropping in accordance with 8.3, it shall not fail or suffer any damage that causes it to leak when subsequently subjected to a temperature of 65 °C	- Complied
5.6		
	When an extinguisher is tested in accordance with 8.9, there shall be no increase in the conductivity across the gap between the target plate in extinguisher nozzle.	– Not applicable

6 Marking

6.1 Markings

Each extinguisher shall be legibly and indelibly marked with the following information:

a)	Primary information	
1	the class of the extinguisher	- Complied
2	the generic and chemical name of the medium;	- Complied-AFFF6%
3	the class of fire for which the extinguisher is intended;	- Complied -A-B
4	instructions for use;	- Complied
5	the words "ventilate and evacuate the area directly after use"	- Complied
6	the words "Check mass of extinguisher periodically"	- Complied
7 i)	for a class I extinguisher, the words "Do not place on a hot surface, incinerate or install in an area where the temperature could exceed 110 °C",	- Not applicable
ii)	for a class II extinguisher, the words "Do not place on a hot surface, incinerate or install in an area where the temperature could exceed 65 °C",	- Complied
8	the words "Discard the extinguisher after it has been used or damaged, even if not empty"	- Complied
9	the batch identification or date of manufacture (month and year) or both NOTE: If incorporated in the batch identification, the date of manufacture shall be readily apparent, e.g. 98A-08-76	- Complied

4.7	**Containers**	
4.7.1	General	
a)	A container shall be cylindrical and shall be able to stand upright without support	- Complied
b)	Mild steel and stainless steel containers shall comply with the requirements of an acceptable international or national standard	- Not applicable
c)	Aluminium and plastics containers shall be seamless	- Complied- Aluminium
4.7.2	Wall thickness	
	1,0 mm for seamless containers 0,7 mm for welded containers	- Complied - Not applicable
4.7.3	Pressurized containers	
	After filling, all containers shall comply with the requirements of 5.4 and 5.5.	- Complied
4.8	Operating heads	
a)	The operating head shall consist of the actuating mechanish	- Complied
	controllable discharge vale	- Complied
	safety device	- Complied
	and fixed directional discharge nozzle (ie discharge shall be directly ahead of the operator without swivelling of the nozzle)	- Complied
	It shall be such as to allow the extinguisher to be operated with the use of one hand only	- Complied
	and the method of operation shall be readily apparent	- Complied
b)	The safety device shall afford protection against accidental actuation of the extinguisher and shall be so sealed that any disturbance of the seal shall be immediately obvious	- Complied
4.9	**Internal tubes**	
	An internal tube shall be of an effective material of acceptable rigidity, and its length shall be such as to enable the extinguisher to comply with the requirements of 5.12	- Complied
4.10	**Controllable discharge valves**	
	An actuating mechanism or trigger device shall be such as to provide an easily operated means of interrupting the flow of the extinguishing medium from the actuated extinguisher	Complied

b)	Secondary information	
1	the net and tare masses of the extinguisher;	- Complied
2	the manufacturer's trade name or trade mark;	- Complied
3	the distributor's name and address	- Complied

6.2 Method of marking

a)	The front side of the extinguisher shall be marked in bold lettering , or	- Complied
	preferably, suitable pictograms with the primary information (see 6.1(a))	- Complied
	A less prominent part of the extinguisher shall be marked in smaller lettering with the secondary information (see 6.1(b))	- Complied
b)	The markings shall be such that, after the extinguisher has been subjected to salt fog in accordance with 8.7, the markings shall not be adversely affected, and that, when relevant, adhesive labels still adhere firmly	- Complied

7 RESULTS

The sample of Portable, non-refillable fire extinguisher as described under section one of this report, (and at the request of the sponsor only tested for the properties listed under sections 4, 5 and 6 of this report) did comply with all the requirements tested for, of SANS 1322:2004 'Portable non-refillable fire extinguisher - General purpose type extinguisher'.

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