REPUBLIC OF SOUTH AFRICA

REPUBLIEK VAN SUID AFRIKA

**PATENTS ACT, 1978**

# CERTIFICATE

In accordance with section 44 (1) of the Patents Act, No. 57 of 1978, it is hereby certified that:

**KAIMART PHANAWATNAN**

Has been granted a patent in respect of an invention described and claimed in complete specification deposited at the Patent Office under the number

**2009/08334**

A copy of the complete specification is annexed, together with the relevant Form P2.

In testimony thereof, the seal of the Patent Office has been affixed at Pretoria with effect from the **25** day of **August 2010**

.....
**Registrar of Patents**

This is to certify that

***EZ Trade 290 cc***

is a Full Associate Member
of the

**FIRE PROTECTION ASSOCIATION OF SOUTHERN AFRICA**

An Association established to improve fire prevention and protection practices through the exchange of information and ideas and the dissemination of knowledge thus gained with the overall objective of reducing wastage of lives and property through the effects of fire.

Chairman

**2009-02-01**
Date

FIRE PROTECTION ASSOCIATION OF SOUTHERN AFRICA
BRANDBESKERMINGSVERENIGING VAN SUIDER-AFRIKA

# TEST REPORT

SABS

Your Ref: SAB 001
Our ref : 19/3/21/1
Enquiries: ASW van Rensburg
Tel No: 012- 428-6315
Project . FPE/84935/08
Date: 18 November 2008

EZ TRADE 290 cc
**Att:** Mr C Page
5 Hyde Park
Platinum Cresent
Marconi Beam
Milnerton
7447

## TECHNICAL INFORMATION ON FIRE BALLS

1. The fire exting ball contains a non toxic Furex Powder named Mono Amonium Phosphate ( 91.0 % MAP).

2. The ball has been tested at thermal temperatures of 85 degrees for 24 hours to prove the fire extinguishing ball cannot be activated by heat. The fire extinguishing ball can only be activated by open flames ( 85 degrees or more) and not by heat. This was conducted in point 5.3 of the test report.

3. In point 5.4 of the test report it is proved that the burts effect of the fire extinguisher ball cannot cause harm to humans, animals or property upon activation.

4. The sound level test on activation was measured to be 121 dB and thus is safe for use and cannot be harmfull to human and /or animal eardrums as it is below the recommended 140 dB. This is substantiated in Point 5.5 of the test report.

5. The fire extinguishing ball has been subjected to compression test in Point 5.6 of this report and complies to 150 kg compression.

6. Drop test on Point 5.7 of this test report proves that the ball can be dropped from a height of 2.5 m with no damages caused.

7. Fire ball complies with class 1A, 5B and C fire rating. These are Thailand fire ratings and could be comparable with 3A, 21 B and C according to SANS 6172:2003( South Afican National Standards).



Yours faithfully

E Seeger
MANAGER: BUILDING & CONSTRUCTION

ASW van Rensburg:

SENIOR TEST OFFICER
FIRE PROTECTION ENGINEERING:SABS

# TEST REPORT

SABS

Your ref: SAB 001
Our ref: 15/25/9/1
Enquiries: ASW v Rensburg
Tel: (012) 428-6315
No.: FPE/84935/08
Page: 1 of 3
Date: 2008-11-10

EZ TRADE 290 CC
Attention: Mr. C Page
5 Hyde Park
Platinum Cresent
Marconi Beam
Milnerton
7447

## DRY POWDER TYPE FIRE EXTINGUISHING BALLS

**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 the clients own testing manual for Fire Extinguishing Balls.
0.3 The sample tested complies with the requirements of the testing manual for Fire Extinguishing Balls.

**1 DESCRIPTION OF SAMPLE**

Twenty four 1,2 kg dry powder type fire extinguishing balls marked "Elide Fire"were submitted by the sponsor to the Fire Protection Engineering Laboratory of the SABS on 25 April 2008.

The specimens were accompanied by drawings and specifications of which copies are attached to this report.

2. The extinguishing balls were labelled as follows:

Capacity: 1,2 kg
Class: A B C
Trade mark: Elide Fire

**3. NATURE AND METHOD OF TEST**

The extinguishing balls were evaluated for compliance to the "Testing manual for Fire Extinguishing". At the request of the sponsor all the tests specified in the Testing manual were conducted and reported under section 5 of this report.

## 4 OBSERVATIONS AND FINDINGS

Note:- The sections that follow reflect observations and findings. The numbering of these sections is consistent with the numbering of the relevant paragraphs in the testing manual. This numbering system is utilized with the objective to ease cross reference.

## 5 GENERAL REQUIREMENTS

### 5.1 General Appearance

The extinguishing balls shall not show any cracks, tears or leakage of the extinguishing agent, when inspected visually.

### 5.2 Extinguishing agent contained inside the fire extinguishing balls

The agent must be dry chemical powder, which is not in a hardened or agglomerative form. The test for the agent depends on the age of the ball. The ball with the age of one year or more must be tested according to clause 5.2.1 and with the age less than one year must be tested according to clause 5.2.2.

5.2.1 By removing the soft shell of the fire extinguishing ball, the chemical powder can be examined. It must not agglomerated.

5.2.2 To determine moisture aging of the chemical powder, a desiccator or similar equipment may be used. This may be conducted by filling the device with water to cover the bottom and then hanging the ball above the water, and keeping the device at room temperature for 14 days. Remove the ball out of the device, and test in accordance with sub clause 5.2.1.

### 5.3 Thermal resistance test

When the fire extinguishing balls are tested according to clause 8, for thermal resistance they should not show any cracks, tears or leakage of the extinguisher agent. - Complied

### 5.4 Bursting effect

When the fire extinguisher balls are rested for resistance to bursting according to clause 9, the glass panels used in the test should not crack or break. - Complied

### 5.5 Sound level test

When the sound pressure level of the explosion, as measured in accordance with clause 10, it should not be more than 140dB. - Complied - 121 dB

### 5.6 Test for resistance to compression

When the fire extinguishing balls are tested for the resistance to the compression, according to clause 11, they should not show any cracks , tears or leakage. - Complied

### 5.7 Drop test

When the fire extinguishing balls are dropped to the ground according to clause 12, they shall show no cracks, tears or leakage of the extinguishing agent. - Complied

**5.8 Performance of the extinguisher**

In addition the fire extinguishing balls shall meet the criteria of acceptance as described in table 1. (See clause 13)

| NO | Performance rating | Criteria | Test method | Results |
|---|---|---|---|---|
| 1 | Class 1 A extinguishers | Must extinguish fire | 13.1 | Complied |
| 2 | Class 5 B extinguishers | Must extinguish fire | 13.2 | Complied |
| 3 | Class C extinguishers | Must extinguish fire | 13.3 | Complied |

**6 Results**

The sample of dry powder extinguishing balls as described under section one of this report complies to requirements of the properties listed under section 5 of this report.

E Seeger

**MANAGER: BUILDING AND CONSTRUCTION**

ASW v Rensburg

**TEST OFFICER: FIRE PROTECTION ENGINEERING**

WA vd Hoogt

**TEST OFFICER**

MANGAUNG
LOCAL MUNICIPALITY
PLAASLIKE MUNISIPALITEIT
LEKGOTLA LA MOTSE

DIRECTORATE COMMUNITY & SOCIAL DEVELOPMENT

*Emergency Management Services*

| | | |
|---|---|---|
| P.O. BOX 3704<br>BLOEMFONTEIN<br>9300 | TEL:(051) 4066305<br>FAX (051) 4066487 | OUR REF: 12/1/7<br>J M VAN DER WESTHUIZEN |
| E-MAIL<br>sonja.crouch@mangaung.co.za | | YOUR REF: |


**The Managing Director**
**Elide Fire**
**P.O.Box 830**
**George**
**6530**

**Sir**

**ELIDE FIRE EXTINGUISHING BALL**

Thank you for the opportunity to have been introduced to your product, "Elide Fire Extinguishing Ball", during your recent demonstration to the Technical Committee of the Southern African Emergency Services Institute (SAESI) in Bloemfontein.

The International awards and certification of the product as well as the progress made in obtaining certification from the South African Bureau of Standards is noted and you are encouraged to finalize the SABS certification of the product.

The product was demonstrated under an actual indoor fire condition and the outcome was indeed very positive. The fire which simulated a typical indoor kitchen type fire involving a substance burning on a stove was extinguished by the Fire Ball extinguisher in less than 15 seconds from the time of ignition of the fire, to the actual self-activation of the extinguisher.

I sincerely am of the opinion that the "Fire Ball" concept of fire extinguishing is a very useful addition to the conventional approach of fire extinguishment in that the extinguisher is portable self-activating and very audible upon activation, thus adding the additional benefit of alarming inhabitants of the prevailing fire condition. The application possibilities of the concept is vast, varying form domestic use in the kitchen, garage and other areas at risk, to commercial and industrial applications.

I am also very exited about the possibilities of this applications in communities living in informal dwellings where numerous lives are lost due to fire, every year. The "Fire Ball" concept of fire extinguishment may be a very useful measure in preventing and extinguishing fires in the very densely populated informal settlements. With the correct application of the product, the rapid spreading of fire from dwelling to dwelling so often seen in the informal residential areas leading to massive destruction and loss in life and property, may be controlled, thus saving life and property.

I wish you all the best with the product and trust that it will assist in reducing loss of life and property due to fire in South Africa.

**Yours Faithfully**

**CHIEF FIRE OFFICER**

PAMODZI
GOLD

# MEMO

Date: 5 September 2008
Subject Testing of the fireball after being exposed to underground conditions

Reason for test:
There was uncertainty whether the Fire Ball will operate as per specifications once exposed to underground conditions i.e. humidity and dust.

Method of test:
Two Fire Ball units were placed underground in condition where they we exposed to humidity and dust. The one fire ball was placed in a substation and the other at a stoping section. After a month both the fire balls were removed to surface and used in a demonstration hosted by the distributor of the Fire Ball units.

Both the Fire Balls reacted and extinguished the demonstration fire conditions in line with the specifications provided by the manufacturer.

Conclusion:
Fire Ball unit is not affected by underground condition namely dust and humidity and function normal after being exposed to these conditions



Pierre Labuschagne
Health and Safety Manager
Pamodzi Gold Free State