

Attention: Mr. Ivan le Roux

P.O. Box 1250
Honeydew
2040

**Emergency Exit Device
(SAFE – T – PUNCH)**

Report Number:

2710/C4734

Sample Tested

Date:

28 March 2007

Tested by:
T. Mnisi



Approved by:
L.J. van Driel
(Manager)

Conclusion:

The sample complied with customer requirements, as per the tests conducted in this report.

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**1 Dr Lategan Road Groenkloof, Private Bag X191 Pretoria 0001, Tel: +27 (012) 428-7911,
Fax: +27 (012) 344-1568.**

This test was performed by SABS Commercial (Pty) Ltd.

This report relates only to the specific sample(s) tested as identified herein. It does not imply SABS approval of the quality and/or performance of the item(s) in question and the test results do not apply to any similar item that has not been tested. (Refer also to the complete conditions printed on the back of the official test reports.)

1. Introduction

1.1 Object

To submit the sample identified below for compliance with the specific requirements of the customer.

1.2 Submitted information

The customer submitted all relevant information.

1.3 Sampling procedure

The customer submitted the sample personally.

The test house had no influence on the selection of the sample.

The sample handed in were test worthy.

1.4 General information

All tests were conducted in accordance with the requirements of the customer, specific to those test conducted in this report.

Table 1: *Sample description*

Manufacturer	Ivan Le Roux
Trade name or mark	SAFE-T-PUNCH
Number of samples tested	1 sample tested
Date Tested	22 March 2007

2. Test Results

The symbols referred to in the results column are as follows:

N/A = not applicable

N/T = not tested

N/F = not fitted

T = tested

P = compliance

F = non compliance

I = inspected

* = see remark

Requirement	Description	Results
2	The impact tip of such a device is to be made of material that is harder than the surface hardness of glass conforming to SANS 1193.	P
3	The impact tip must have the ability to penetrate the glass to a minimum thickness of 10% of the thickness of the SANS 1193 marked glass	P
4	The force and ability required for penetrating and fragmenting the glass to be within the means of a 12 to 13 year old child.	P

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Clause	Description	Remarks
3. Description of the requirements		
The following criteria was provided by the customer: -		
1	Devices are to be fitted to clearly marked toughened glass conforming to SANS 1193	I*
2	The impact tip of such a device is to be made of material that is harder than the surface hardness of glass conforming to SANS 1193.	I/P*
3	The impact tip must have the ability to penetrate the glass to a minimum thickness of 10% of the thickness of the SANS 1193 marked glass.	I/P*
4.	The force and ability required for penetrating and fragmenting the glass to be within the means of a 12 to 13 year old child.	T/P*
5	These devices must be fitted in their position of use and mounted in a secure manner. Such devices shall be fitted to the left or right or on the emergency exit window or hatch.	I*

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4. Remarks

With reference to the description of the requirements: -

1. The device is designed to break SANS 1193 toughened glass. Its application must remain within the design parameters. The device will not function on laminated glass.
2. The customer submitted evidence for the material selection of the tip. The material is Tungsten 184 (10% cobalt).
3. Evidence was provided for the requirement of the tip of the device, after impact, to penetrate the glass by at least 10%, in order for the glass to break. The sample submitted was measured for maximum penetration and for glass thickness of 4mm and 5mm, as submitted for breakage tests; penetration of the tip exceeds the minimum 10% requirement. Maximum possible penetration of the sample is 3mm.
4. The possible force applied to the device by an average woman was measured utilizing a load cell. The same force was duplicated by dropping a weight from a certain distance and for glass thickness 4mm and 5mm, in both instances the glass shattered on the first attempt. The force was then reduced by 40% and again on the first attempt both the 4mm and 5mm thickness glass shattered. The force was then further reduced representing 30% of the original applied load by the average woman, with the result that both the 4mm and 5mm glass shattered, however multiple blows were required to shatter the glass.
5. This specific device is mounted onto the glass with the aid of a double-sided adhesive ring.
6. In addition to the above, a test was conducted with the glass laid flat on a table, thereby representing a force from the opposite direction. When the device was operated by hand (average male) the glass shattered. This indicates, although not tested, that the device can be effective should water exert a pressure from the opposite direction.

5. Conclusion

- SANS 20107: 2006 (Uniform provisions concerning the approval of category M₂ or M₃ vehicles with regards to their general construction) Annex 3 Clause 7.6.8.2.2., requires a device to be provided for each emergency window, readily available to each person inside the vehicle, to ensure that each window can be broken. The results from the test conducted confirmed that the device is capable of breaking windows, and the forces required is such that an average teenager would be able to operate the device successfully.

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This report relates only to the specific sample(s) tested as identified herein. It does not imply SABS approval of the quality and/or performance of the item(s) in question and the test results do not apply to any similar item that has not been tested.

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