

**60-minute fire resistance test  
in accordance with BS EN 1634-1  
Powermatic (R100) concealed door closer**

Independent fire assessments for all products are effective for a five year period.

Where products have not been subject to changes in specification and there have been no changes in the performance standard against which the original assessment was made, it is common practice for the assessment to be reviewed by the independent authority, rather than a completely new assessment being conducted.

In such cases, the authority issues a report which extends the assessments validity, normally for a further five years.

This document contains both the original assessment and appropriate review report.

Testing. Advising. Assuring.

WF Report No. 199610  
Page 1 of 2  
2<sup>nd</sup> December 2010

**Samuel Heath & Sons plc**  
Leopold Street  
Birmingham  
B12 UJ

**For the attention of Mr. Mark Stonelake**

**Review of Assessment Report Referenced WFRC Assessment Report No. 151270 issue 2**

**1 Introduction**

The assessment referenced WFRC Assessment Report No. 151270 issue 2 presented a considered opinion regarding the expected fire resistance performance of single-acting single-leaf timber based doorsets, when fitted with 'Perko Powermatic R100' Jamb Mounted Concealed Door Closers.

The appraisal report concluded that should the recommendations given in the report be followed, it could be concluded that previously fire tested (or assessed by warringtonfire or covered by CERTIFIRE certification) timber doorsets which have achieved 60 minutes integrity and, where applicable insulation, may be fitted with an 'Perko Powermatic R100' Jamb Mounted Concealed Door Closers as discussed in the report, without detracting from the overall performance of the doorset.

**2 Confirmation of Specification**

It has been confirmed by Samuel Heath & Sons plc that there have been no changes to the specification of the door closer considered in the original appraisal referenced WFRC 151270 Assessment Report issue 2.

**3 Conclusions**

The data used for the original appraisal has been re-examined and found to be satisfactory.

The procedures adopted for the original assessment have also been re-examined and are similar to those currently in use.

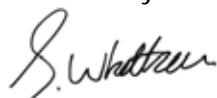
Therefore, with respect to the assessment of performance given in WFRC Assessment Report No. 151270 issue 2, the contents should remain valid until the 1<sup>st</sup> December 2015.

#### 4 Validity

This review is based on information used to formulate the original assessment. No other information or data has been provided by Samuel Heath & Sons plc which could affect this review.

The original appraisal report was performed in accordance with the principles of the UK Fire Test Study Group Resolution 82: 2001. This review has therefore also been conducted using the principles of Resolution 82: 2001.

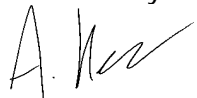
Performed by:



**S Whatham**

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**A Kearns**

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**Title:**

The Fire Resistance  
Performance  
Of Timber Or Mineral Composite  
Based Insulated Doorsets When  
Fitted With 'Perko Powermatic  
R100' Jamb Mounted Concealed  
Door Closers

**Report No:**

WF 151270 – issue 2

**Prepared for:**

**Samuel Heath and Sons Plc**

Leopard Street  
Birmingham  
B12 0UJ

**Date:**

**13<sup>th</sup> December 2005**

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## Executive Summary

|                               |   |
|-------------------------------|---|
| <b>Objective</b>              | This report presents an appraisal of the fire resistance performance of single-acting timber or mineral composite doorsets when fitted with a 'Perko Powermatic R100' jamb mounted concealed door closer if tested in accordance with BS EN 1634-1: 2000. In addition, this report will provide regarding the provision to offset the installation position within the leaf edge and/or frame rebate.   |
| <b>Report Sponsor</b>         | <b>Samuel Heath And Sons Plc</b>  |
| <b>Address</b>                | Leopard Street<br>Birmingham<br>B12 0UJ   |
| <b>Summary of Conclusions</b> | Should the recommendations given in this report be followed, it can be concluded that the 'Perko Powermatic R100' jamb mounted concealed door closers may be fitted to previously tested or assessed (by warringtonfire) insulated doorsets, to provide 60 minutes integrity and insulation performance if tested in accordance with BS EN 1634-1: 2000. The closer may be installed centrally within the leaf edge or maybe offset by up to 6 mm from the centre line. |
| <b>Valid until</b>            | 1 <sup>st</sup> July 2010   |

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## Introduction

This report presents an appraisal of the fire resistance performance of single-acting insulated (timber or mineral composite) doorsets when fitted with a 'Perko Powermatic R100' jamb mounted concealed door closer. The doorset, onto which the closer is to be fitted, may be of single-leaf or double-leaf configuration. In addition, this report will provide regarding the provision to offset the installation position within the leaf.

The proposed doorsets are required to provide a fire resistance performance of 60 minutes integrity and insulation with respect to BS EN 1634-1: 2000.

### FTSG

The data referred to in the supporting data section has been considered for the purpose of this appraisal which has been prepared in accordance with the Fire Test Study Group Resolution No. 82: 2001.

## Assumptions

It is assumed that the 'Perko Powermatic R100' jamb mounted concealed door closers will be fitted to an insulated doorset (timber or mineral composite) which has been previously shown to be capable of providing the required fire resistance performance when tested in accordance with BS EN 1634-1: 2000 in the proposed configuration i.e. single-leaf or double-leaf.

The door leaf shall be a minimum of 53 mm thick and include sub-facings comprising a minimum of 3 mm thick non-combustible board.

It is assumed that the doorset will be in the fully closed position. It is also assumed that the door closer will return the doorset to the fully closed position, overcoming the latch mechanism (if fitted) from any angle.

### Supporting wall

It is also assumed that the construction of the wall, which supports the proposed doorsets, will have been the subject of a separate test and the performance of the wall is such that it will not influence the performance of the doorset for the required period.

### Clearance gaps

Door leaf to frame clearance gaps can have a significant effect on the overall fire performance of a doorset. It is therefore assumed that the leaf to leaf and leaf to frame clearance gaps will not exceed those measured for the relevant fire tested doorset. In addition, it is assumed that the door leaves will be in the closed position.

## Proposals

It is proposed that 'Perko Powermatic R100' jamb mounted concealed door closers may be fitted onto a previously tested (in accordance with BS EN 1634-1: 2000) insulated (timber or mineral composite) doorset which has been shown to be capable of providing 60 minutes integrity and insulation in the same configuration as that proposed i.e. single-leaf or double-leaf.

Closers are typically fitted such that the rebates provided in the leaf edge are located along the centre line of the door. It is proposed that the closers installation may offset by up to 6 mm either side of the centre line of the door leaf.

## Basic Test Evidence

The test referenced WARRES No. 149150/A included a fully insulated, single-acting, single-leaf, timber doorset which was fitted with a 'Perko Powermatic R100' jamb mounted concealed door closer.

The doorset was orientated such that the door leaf opened towards the heating conditions of the test and was rendered unlatched for the duration of the test.

Whilst integrity failure of the doorset occurred after a period of 52 minutes, there were no modes of integrity failure either co-incident with, or attributable to the 'Perko Powermatic R100' jamb mounted concealed door closer position for the 62 minute test duration.

## Assessed Performance

It is proposed that previously fire tested (or assessed by warringtonfire) timber or mineral composite based insulated doorsets may be fitted with a 'Perko Powermatic R100' jamb mounted concealed door closer in order to provide 60 minutes integrity, without detracting from the performance of the doorset.

The tested assembly included a 'Perko Powermatic R100' jamb mounted concealed door closer fitted within the door leaf edge/frame at approximately mid-height of the doorset.

The tested assembly restrained the doorset for the required period and did not incur any modes of integrity failure for the test duration of 62 minutes. This therefore provides direct test evidence relating to the ability of the proposed closer to contribute towards a fire performance in excess of 60 minutes.

### Proposed Doorsets

As stated in this report, the doorset, in the required configuration, will be previously tested (or assessed by warringtonfire) and its performance is therefore not in doubt.



To enable the use of the door closers on a range of doorsets, it is necessary to address the available information on the proposed doorset. As this appraisal is intended to be used on a general basis and not restricted to any particular manufacturer of fire resisting doorsets, the following points are given to enable the closers to be used safely:

- a) The doorset shall carry valid certification or the doorset, including the door frame and associated ironmongery should have achieved up to 60 minutes integrity, when tested by a NAMAS/UKAS approved laboratory (or assessed by warringtonfire) to BS EN 1634-1: 2000.
- b) If the proposed doorset is to be used in double-leaf configuration the test or assessment evidence should be applicable to double-leaf configurations.
- c) The critical aspects of the doorset construction are given earlier in this report and shall be replicated on the proposed doorset, in particular the necessity for the door leaf to include non-combustible sub-facings.

#### Offset Closers

It is proposed that the closers installation may offset by up to 6 mm either side of the centre line of the door. This level of offset will ensure that the rebate is provided in the internal timber stiles of the door leaf and that the non-combustible facings are not compromised in any way. As the non-combustible facings are not removed, a significant level of protection will still be afforded to the rebate area and subsequently the likelihood of excessive charring and burn through at the position of the closer would not be expected to be increased.

## Conclusions

Timber or mineral composite based doorsets that have previously been successfully fire tested by a NAMAS/UKAS accredited laboratory (or assessed by warringtonfire) which have achieved 60 minutes integrity and insulation as discussed in this report, may be fitted with 'Perko Powermatic R100' jamb mounted concealed door closers, without detracting from the overall performance of the doorset. The closer may be installed centrally within the leaf edge or maybe offset by up to 6 mm from the centre line of the door leaf.

The fitting of the door closers into alternative doorsets, on the basis of compliance with the conditions given above, is therefore considered to be acceptable.

## Validity

This assessment is issued on the basis of test data and information available at the time of issue. If contradictory evidence becomes available to warringtonfire the assessment will be unconditionally withdrawn and Samuel Heath And Sons Plc as will be notified in writing. Similarly the assessment is invalidated if the assessed construction is subsequently tested because actual test data is deemed to take precedence over an expressed opinion. The assessment is valid initially for a period of five years i.e. until 1<sup>st</sup> December 2010, after which time it is recommended that it be returned for re-appraisal.

The appraisal is only valid provided that no other modifications are made to the tested construction other than those described in this report.

## Summary of Primary Supporting Data

### WARRES No. 149150/A

Test report relating to the performance of a fully insulated, single-acting, single-leaf, timber doorset incorporating a jamb mounted concealed door closer referenced 'Perko Powermatic R100', when subjected to a test in accordance with BS EN 1634-1: 2000 to determine its fire resistance performance.

The doorsets had overall dimensions of 2090 mm high by 1015 mm wide and incorporated door leaves of overall dimensions 2040 mm high by 926 mm and by 53 mm thick.

The doorset was retained via a 'Perko Powermatic R100' jamb mounted concealed door closer.

The doorset was orientated such that the doorset opened towards the heating conditions of the test and was rendered unlatched for the duration of the test.

The specimen satisfied the test requirements for the following periods:

|            |                  | Doorset B   |
|------------|------------------|-------------|
| Integrity  | Sustained Flames | 52 minutes  |
|            | Gap Gauge        | 62 minutes* |
|            | Cotton Pad       | 52 minutes  |
| Insulation |                  | 52 minutes  |

\* The test duration.

Test date : 30<sup>th</sup> September 2005

Permission has been provided for this test report to be utilised for the purposes of this appraisal

## Declaration by Samuel Heath And Sons Plc

We the undersigned confirm that we have read and complied with the obligations placed on us by the UK Fire Test Study Group Resolution No. 82: 2001.

We confirm that the component or element of structure, which is the subject of this assessment, has not to our knowledge been subjected to a fire test to the Standard against which the assessment is being made.

We agree to withdraw this assessment from circulation should the component or element of structure be the subject of a fire test to the Standard against which this assessment is being made.

We are not aware of any information that could adversely affect the conclusions of this assessment.

If we subsequently become aware of any such information we agree to cease using the assessment and ask warringtonfire to withdraw the assessment.

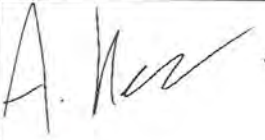
Signed:

\_\_\_\_\_  
For and on behalf of:

\_\_\_\_\_



## Signatories

|   |
|---|
|  |
| Responsible Officer<br>A Kearns* - Technical Manager                              |

|   |
|---|
|  |
| Approved<br>C Johnson* - Technical Consultant                                     |

\* For and on behalf of warringtonfire.

Report Issued: 13<sup>th</sup> December 2005

**Issue 2 – offset closer option  
added (17<sup>th</sup> July 2007)**

The assessment report is not valid unless it incorporates the declaration duly signed by the applicant.

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