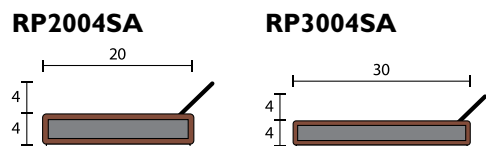
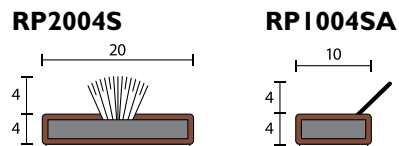
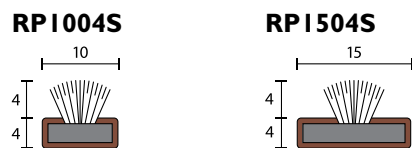
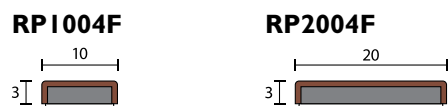
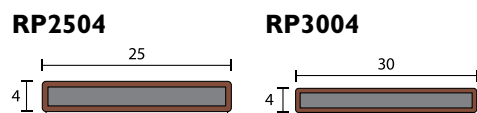
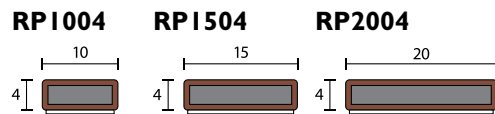


FIRE & SMOKE SEALS



FITTING INSTRUCTIONS

OEM - Door and Door Frame Intumescent Seals and Ambient Smoke Seals



INTRODUCTION

The diagrams on **PAGE 2** cover application of Raven intumescent sealing strip to the most common types of resistant doors. It should be noted that double leaf and 180° swing doors present a very complex subject and only broad generalisations are given here. In case of difficulty, more specific operation will gladly be supplied on request.

OPERATION

Raven intumescent seals are designed to seal off the air gap between the door leaf and frame in the event of a fire, thus increasing the integrity of the structure and preventing the passage of flames, hot gases and hot smoke. Seals fitted with an integral elastomeric fin or brush pile element are also effective barriers to ambient smoke * from a fire in a remote location relative to the door. In every day use the seal does not interfere in any way with the normal opening and closing operations of the door. In an actual fire condition, sealing is accomplished by swelling and expansion of the intumescent fire seal which occurs only at temperatures above approximately 200°C at which point no life could exist on the hot side of the door but lives could be endangered if the fire is allowed to spread. A firm seal is effected and will remain for the designed fire resistance period but no difficulty would be experienced in opening the door after the fire, or indeed during the fire if required by the fire fighting personnel.

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Part No. ZSDSFIRE SMOKE

* IMPORTANT NOTE

In Australia, smoke door systems tested to AS 1530.7 that meet AS6905 leakage rates meet NCC BCA C3.4 for smoke doors, or for the UK, EN1634-3 with classifications "Sa" or "Sm" in accordance with BS EN 13501-2 meet Approved Document B. Therefore the addition of Raven tested smoke seals should be fitted to comply to medium temperature smoke requirements, and the ambient smoke seal option for intumescent seals need not be used.

FIXING

In all cases Raven intumescent seals should be fixed in position with adhesive. High performance self-adhesive backings thoroughly evaluated by Raven are supplied on all profiles. Pinning is not recommended. All Raven intumescent seals are supplied with square cut ends to enable neat butt joints to be made. Cutting to length can be carried out, if required, using a hacksaw or shears.

Note: Contact surface must be clean, smooth and if painted, well cured. Self adhesive seals will not adhere to oiled or alkyd finishes or to easy clean wash and wear paint surfaces.

FINAL NOTE

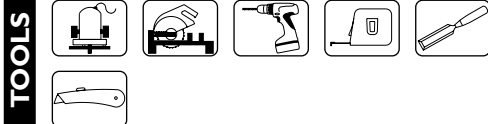
Fitting in accordance with these instructions, Raven intumescent seals will aid the performance requirements of BS 476 Pt. 22, AS 1530.4 & EN 1634-1 to be met on new door designs under consideration and for upgrading existing doors originally satisfying the lower performance requirements of earlier years. It should be remembered that the choice of locks, hinges, glazed panels etc., can also affect fire performance and it should therefore not be assumed that the fitting of intumescent seals alone will guarantee fire resistance of any given period for a complete structure consisting of many other critical

elements. Refer * **IMPORTANT NOTE** for ambient and medium temperature smoke.

DISCLAIMER

All technical data and recommendations, although based upon our research and believed to be reliable, are given in good faith but without warranty. It is understood that users will independently determine the suitability of all products shown or specified herein for their purposes and as such Raven Products Pty. Ltd. accepts no liability.

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In accordance with the recommendations of the fire testing authorities, the seals should be fitted to the head and vertical edges of the fire door assemblies in either leaf of the frame. Location in the door frame is generally preferred since no difficulty will then be experienced in hanging and fitting of the door leaf. Significant benefit is obtained in more severe fire tests by protecting the threshold area with an additional seal in the door leaf. The strip should always be set in a groove of suitable width and depth such that the section does not stand proud of its surroundings. Positioning the strip as shown will minimise any effects of the distortion of the assembly which frequently occurs during an actual fire.

SINGLE DOORS



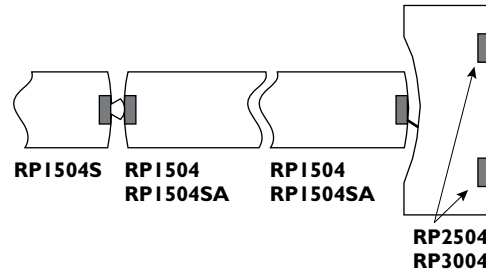
RP1504



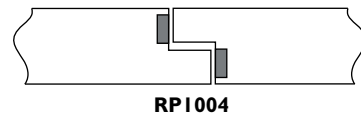
RP1504

PAIR OF DOORS

Plain Meeting Stiles: Two seals are recommended for non-rebated meeting stiles. An ambient smoke seal is fitted to one stile only to compensate for the absence of a rebate. One seal only is required at the heel position. Refer * **IMPORTANT NOTE** for ambient and medium temperature smoke **PAGE I**.



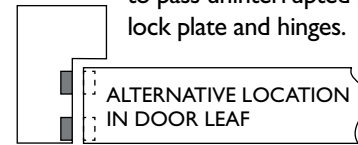
Rebated Meeting Stiles: Pairs of doors with rebated meeting stiles are generally suitable designs for fire resistance due to integrity losses which can be experienced with relatively small amounts of distortion on fire exposure and the complexity of hardware required to achieve the self-closing function in the correct sequence.



Fitting of Raven intumescent seals is generally on similar lines to that used for 30 minute doors except that at least twice the specification is recommended using two strips as shown. Section RP2004, or wider, is also acceptable in place of two strips of RP1004 but must be notched in the area of the hinges, leaving at least 5mm width to bypass the hardware, in order to maintain integrity.

SINGLE DOORS

The wide spacing allows one strip to pass uninterrupted passed the lock plate and hinges.



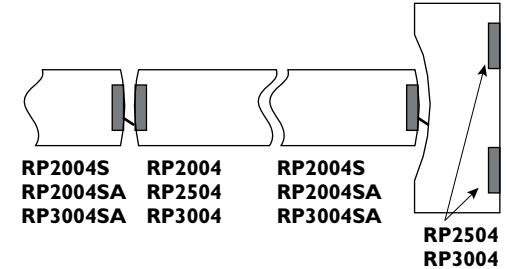
**RP1004
RP1504**



**RP2004
RP2504
RP3004**

PAIR OF DOORS

Plain Meeting Stiles: Seals fitted to both stiles. An integral ambient smoke seal section fitted to one stile only. One seal only is required at the heel position. Refer * **IMPORTANT NOTE** for ambient and medium temperature smoke **PAGE I**.



Rebated Meeting Stiles: In the case of rebated meeting stiles, fitting is the same as for 30 minute doors with the heel area, following the recommended practice for the 60 minute situation.

Seriously reduced performance may be experienced with the strip fitted in any of the positions shown right.

1. Ineffective if door leaf tends to distort away from the frame under fire conditions. Loss of integrity will occur.
2. Similar to the above.
3. Intumescent ineffective if fitted on edge.
4. Reduced effectiveness if door tends to distort away from the frame during fire exposure. Loss of integrity will occur.

