

PROTECT-A-DOOR SPECIALIST IRONMONGERY



PRODUCT NAME

CONTINUOUS GEARED ALUMINIUM HINGES



INTUMESCENT SEALS



30 OR 60 MINUTES

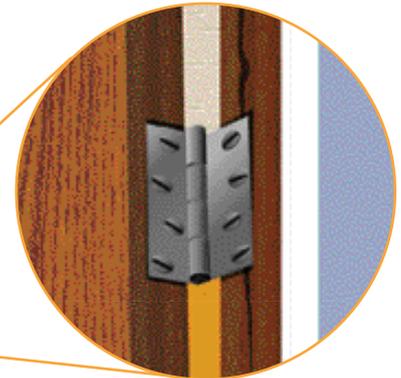
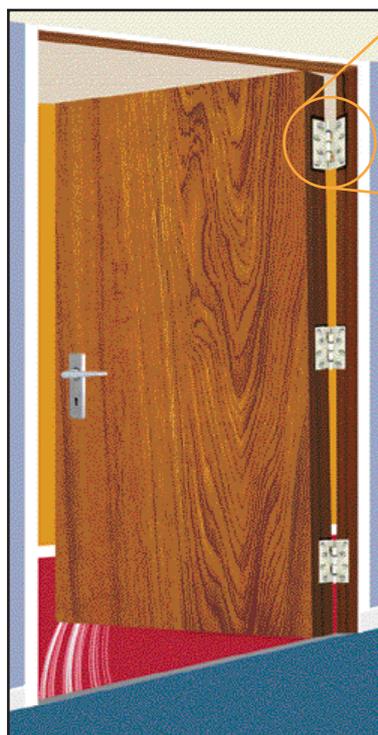
INTRODUCTION

A recent survey into building maintenance costs revealed an unacceptable level of expenditure to maintaining and repairing fire resisting doorsets and associated hardware, which are subjected to excessive impact and stress.

Whilst a drain on financial resources, the problems were compounded by rejection by the Fire Officer of the fire door's efficiency and ability to hold back fire and smoke. Failure of these doors directly compromised the building's safety as they were installed to maintain the integrity of means of escape routes.

Incorrect Specification remains the prime cause of hinge and doorset failure associated with excessive impact and stress. Repairs involve hinge and split frame or lipping replacement plus realignment of the door and the closing mechanisms. Often the same doorsets may be repaired 3 or 4 times per year at considerable expense.

The survey embraced hospitals, universities, schools, care homes and



high occupancy commercial buildings. Conventional butt hinges do not solve the problem of absorbing high impact levels and stress.

They are designed to maintain the alignment of fire resisting doorsets which are subject to excessive impact and stress. In many high traffic areas of a building, doorsets, more than any other building element are subject to unacceptable levels of punishing treatment.

Sealmaster continuous geared hinges provide a proven and obvious answer to maintaining the functional aspects of such doors in their daily use.

With conventional knuckle type hinges the door weight is concentrated in three hinge locations causing downward weight overload on the bottom hinge and pulling away of the top hinge often resulting in damage to the floor and door frame. Sealmaster continuous geared hinges support the door weight over the entire length of the hinge so that it is evenly distributed throughout the door leaf and door frame.

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DESCRIPTION

Sealmaster continuous geared hinges consist of two full height, paired and geared hinge leaves. Each leaf rotates evenly from top to bottom. Riding on multi Delrin bearings, which provide for extremely low friction operation. The geared leaves are protected by a full length channel cap and include specially formulated intumescent seals which protect the entire length of the hinge and which are discretely fitted.

APPLICATION

Sealmaster continuous geared hinges provide a commercially viable alternative to traditional knuckle type hinges.

PERFORMANCE

Sealmaster continuous geared hinges exceed the requirements of BS7352:1990 in ensuring alignment of the door with no drop or binding after 1.5 million cycles on 75kg doors. The gearing avoids the need for undue force to open heavy doors of up to 245kg and eliminates repetitive maintenance of hinges, lippings and frames arising from hinge failure.

AUTHORITY

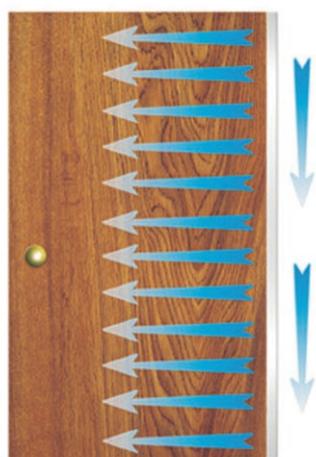
Sealmaster continuous hinges have been successfully tested with FD30 and FD60 single action double leaf door sets to BS476: part 22. They have also successfully met the smoke leakage requirements of BS476: part 31.1 in independent tests at Warrington Fire Research.

WARRES Test No. 106217	Dated 11.2.1999	FD30S 39 Minutes
WARRES Test No. 110251	Dated 6.10.1999	FD60S 82 Minutes
WFRC Assesment No. C113604	Dated 6.6.2000	FD30S & FD60S Doorsets



Traditional (Knuckle) Hinges

Weight and stress is concentrated solely at the hinge locations.



Sealmaster (Continuous Geared Hinge)

Weight and stress is dissipated down the entire hinge and evenly 'absorbed' throughout the entire door and frame length.

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PRODUCT RANGE

Sealmaster continuous geared hinges are available in four versions for upgrading existing door sets as well as for new door sets.

Full Surface Hinge (type FS)

Half Surface Hinge (type HS)

Full Mortice Hinge (type FM)

Full Surface Centre Pivot (type FSCP)

Each hinge is available in standard or heavy duty version according to the weight of the door; extent of expected impact and stress. Standard hinges contain 14 bearings distributed down the height of the door which absorb weight, impact and stress and are suitable for doors up to 125kg in weight. Heavy duty hinges contain 27 bearings and are suitable for doors up to 245kg in weight.

Example or order code:

HSHD- Half surface heavy duty hinge for high load applications.

FMS- Full mortice standard duty hinge for normal load applications.

All Hinges are produced from extruded aluminium alloy grade 6063-T6 comprising three interlocking sections in a pin-less assembly. Standard finish is natural anodised with gold or dark bronze available to special order. All hinges are supplied in 2.1m lengths but can be cut to suit the door height.

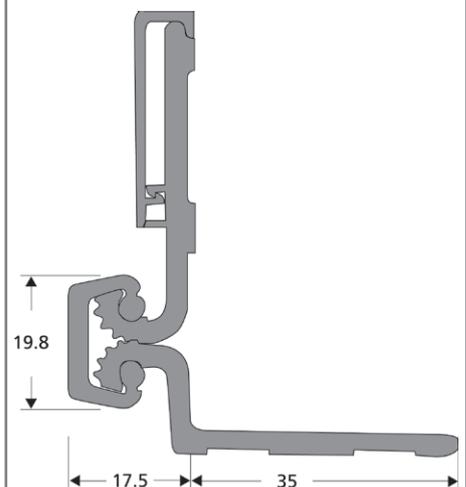
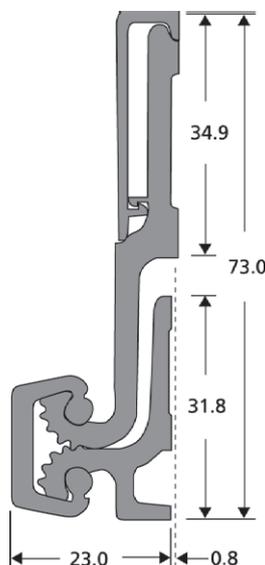
FULL SURFACE HINGE (type FS)

Designed mainly for upgrading existing door sets and applied to the exposed surface of the door and frame.



HALF SURFACE HINGE (type HS)

Designed mainly for upgrading existing door sets. One hinge leaf is applied to the exposed surface of the door and the frame leaf is applied to the concealed surface of the frame jamb.



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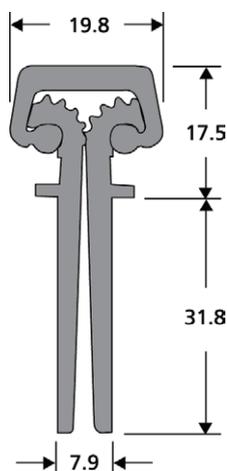


60 MINUTES



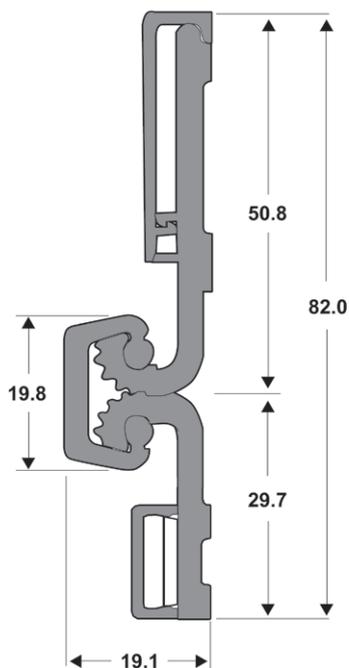
FULL MORTICE HINGE (type FM)

This hinge can only be used on new door sets because it requires an 8mm gap at the hanging stile to accommodate both leaves and this is more satisfactorily achieved when the new door can be produced to fit the frame.



**FULL SURFACE CENTRE PIVOT
 (type FSCP)**

The centre pivot variant of the full surface hinge has a smaller 'foot print' and is suitable for use on a wide range of frame details including narrower frame (29mm) or frames set close to an adjacent wall reveal.



**INTUMESCENT SEAL
 PROTECTION**

Full Surface Hinge (type FS)

For existing fire door sets, no additional intumescent seal to those already installed is required with this hinge. For new fire door sets, intumescent protection should be specified in the normal way.

Half Surface Hinge (type HS)

On existing door sets, intumescent seals fitted into the frame will be covered by the hinge leaf and so additional intumescent protection is necessary by installing the special intumescent fire and smoke seal, supplied by Sealmaster, along side the hinge leaf on the frame.

Full Mortice Hinge (type FM)

On new door sets, a surface mounted intumescent fire and smoke seal, supplied by Sealmaster, is installed along side the hinge leaf on the frame. Intumescent protection for the other stiles and head should be specified in the normal way.

Full Surface Centre Pivot (type FSCP)

On new fire resisting door sets, intumescent protection should be specified in the normal way. For existing door sets no additional intumescent protection, other than that specified in the normal way, is required with this hinge.