

## Material Specification

### Ferritic Stainless Steel

Links	Stainless Steel to BS EN 10088-2 GRADE 1.4016
Track	Stainless Steel to BS EN 10088-2 GRADE 1.4016

### Austenitic Stainless Steel

Links	Stainless Steel to BS EN 10088-2 GRADE 1.4301
Track	Stainless Steel to BS EN 10088-2 GRADE 1.4301
Pivot Rivets	Stainless Steel to BS EN 10263-5 GRADE 1.4567

### Other Materials

End Cap Moulding	Grey Nylon
End Point with Packer Moulding (Highline Hinges only)	Grey Nylon
Pivot Block (Selected Hinges only)	Grey Acetal Homopolymer or Acetal Copolymer
Slider	Grey Acetal Homopolymer or Acetal Copolymer
Slider Friction Pad (Defender® Slimline Hinges only)	Grey Acetal Homopolymer or Acetal Copolymer
Slider Insert (EDTH24* only)	Stainless Steel to BS EN 10088-2 GRADE 1.4301
Friction Cam	Zinc Alloy plated with Zinc and Gold Passivate
Friction Screw (Defender® Slimline Hinges only)	Brass
Side Hung Riser (12" Side Hung Hinges only)	Grey Acetal Homopolymer or Acetal Copolymer
Pivot Washer	Grey Nylon

### Egress Hinges

End Cap	Zinc Alloy plated with Copper Nickel and coated with Everlube® 6102G
End Point Moulding	Black Nylon
End Point with Packer Moulding (Highline Hinges only)	Black Nylon
Inserted Slider	Black Acetal Homopolymer or Acetal Copolymer with Stainless Steel to BS EN 10151 GRADE 1.4310
Short Slider	Black Acetal Homopolymer or Acetal Copolymer
Support Plate	Zinc Alloy plated with Zinc and Gold Passivate plus Bleach Seal

## Packaging

25 pairs per box

## Maintenance and Lubrication

As with most mechanical devices, hinges require periodic maintenance and lubrication. The hinge in general and particularly the pivots, sliding shoe and track must be kept free from dirt, debris and any obstructions at all times.

**At Time of Installation** - Lubricate all pivot points with light machine oil and wipe away excess, one drop per pivot is sufficient. We suggest one of the following lubricants or equivalent:

General light engineering oil with corrosion inhibitors such as 3 in 1 oil (available in aerosol can for convenience).

**Note:** Solvent-based aerosol sprays e.g. WD40 are not suitable for this application.

**Every Five Years** - Carry out the following checks every five years:

- Clean any dirt or debris from the hinge and clear any obstructions from the pivots, sliding shoe and track.
- Apply lubrication as detailed above.
- Check the tightness and security of all fixing screws and rivets.



### 10 Year Mechanical Guarantee

Delivering peace of mind from the world's favourite lock company



### Corrosion Testing

Anti-corrosion performance



### BBA

All products have been tested and approved by BBA



### Lifetime Security Guarantee\*

All products in our Defender Window Hinge Range are included within our Lifetime Security Guarantee scheme, providing your customers with numerous benefits and peace of mind



### Made in Britain

Yale Doors and Windows are members of Made in Britain, which champions British manufacturing by encouraging and developing the supply chain of UK-made goods

**THE YALE BRAND**, with its unparalleled global reach and range of products, reassures more people in more countries than any other consumer locking solution.

**THE ASSA ABLOY GROUP** is the world's leading manufacturer and supplier of locking solutions, dedicated to satisfying end-user needs for security, safety and convenience.

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Due to a continuous programme of development the company reserves the right to make alterations without notice. (Products which are not a stocked item will be subject to a longer lead time which needs to be agreed with your Yale representative).

# Defender Window Hinge Range

High-performance friction hinge offering enhanced resilience against corrosion

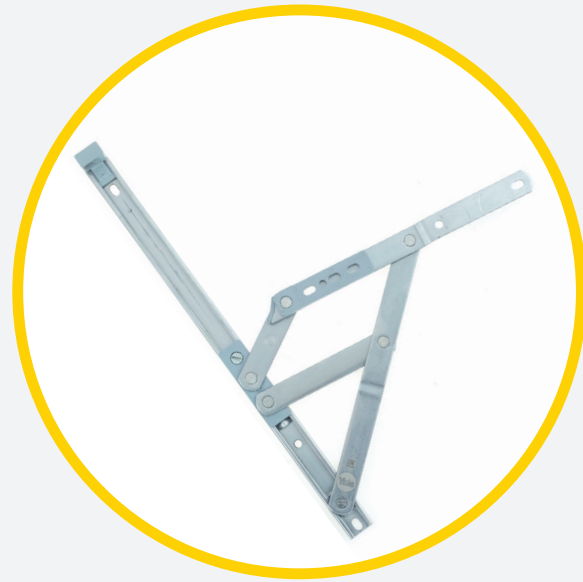


- Tough with high performance
- Available in Ferritic 430 or Austenitic 304 Stainless Steel
- Available in standard, plus and egress variants
- Made in Britain

## Defender Standard

### Features

- Improved weather sealing and draught proofing performance from extended enclosed end cap and asymmetrical vent arm form to BS 6375-1
- Lipped slider for enhanced smooth operation
- Easy friction adjustment without metal to metal contact
- Unique robust cam friction device eliminates the risk of screw misuse
- Ability to carry a load of up to 40kg top-hung and 24kg side-hung
- Asymmetric location system for reliable and accurate closure
- Enclosed end cap to prevent ingress of debris and provide increased cavity tolerance
- Slot-hole-slot format allowing for easier vent adjustment
- Highline variant available for deeper profiles with cavities between 16mm and 18mm
- Available in ferritic 430\* as standard or austenitic 304\* stainless steel for enhanced corrosion resistance
- Restricted variant available (Please visit [www.yaledws.co.uk](http://www.yaledws.co.uk) for more info)



### Specification

- 10 or 12 Year Mechanical Guarantee\*\*
- Endurance tested to 30,000 cycles
- Corrosion tested to a minimum of 96 hours
- Secured by Design approved
- BBA certification

### Top Hung

Part Code	Hinge Size (mm)	Stack Height (mm)	Max Vent Weight (kg)	Min Vent Height (mm)	Max Vent Height (mm)	Opening Angle (+/- 2.5°)
EDT6	159	13	10	150	300	50°
ED8	209	13	12	200	350	65°
EDT10	259	13	16	275	400	80°
EDT12	310	13	20	350	550	80°
EDT16	412	13	21	500	780	80°
EDT20	513	13	26	700	1100	50°
EDT24	615	13	40	850	1300	37.5°

### Side Hung

Part Code	Hinge Size (mm)	Stack Height (mm)	Max Vent Weight (kg)	Min Vent Width (mm)	Max Vent Width (mm)	Opening Angle (+/- 2.5°)
ED8	209	13	18	200	400	65°
EDS12	310	13	22	300	600	60°
EDS16	412	13	24	400	700	60°

- Also available in 16mm & 17mm stack height
- Add H6 for 16mm
- Add H7 for 17mm
- For austenitic variants add 'A' to end of part code (not including EDT6)
- For slimline variants add 'S' to end of part code (not including EDT6, 13mm stack height only)
- For timber variants add '-TV' to end of part code (13mm stack height only)

\* Standard ferritic (was 430) to BS EN 10088-2 Grade 1.4016 or Austenitic (was 304) Stainless Steel to BS EN 10088-2 Grade 1.4301 for enhanced corrosion resistance  
 \*\* 10 Year Mechanical Guarantee for Standard Ferritic and 12 Year Mechanical Guarantee for Austenitic Stainless Steel

Note: As with all types of friction hinges, friction cannot be provided until the slider moves, therefore when opening top hung vents to angles of 10° or less a separate device may be required to prevent the window from closing.

## Defender Plus

### Features

- Ability to carry a load of up to 50kg top-hung and 40kg side-hung
- Asymmetric location system for reliable and accurate closure
- Slot-hole-slot vent fixing configuration for ease of adjustment and guaranteed fixing into reinforcement on PVC window frames
- Improved weather sealing and draught proofing performance from asymmetrical vent arm form
- Enclosed end cap to prevent ingress of debris and provide increased cavity tolerance
- Adjustable friction cam in slider
- Available in a highline variant for deeper profiles with cavities between 16mm and 18mm
- Top hung variant available in ferritic and austenitic stainless steel\*
- Side hung variant available in austenitic stainless steel as standard\*

### Specification

- 10 or 12 Year Mechanical Guarantee\*\*
- Endurance tested to 30,000 cycles
- Corrosion tested to minimum of 96 hours
- BBA certification
- Secured By Design approved



These notes

### Top Hung

Part Code	Hinge Size (mm)	Stack Height (mm)	Max Vent Weight (kg)	Min Vent Height (mm)	Max Vent Height (mm)	Opening Angle (+/- 2.5°)
EDTH24	615	13	50	850	1500	32°

• Also available in 16mm & 17mm stack height  
 • Add H6 for 16mm  
 • Add H7 for 17mm  
 • For austenitic variants add 'A' to end of part code  
 • For timber variants add '-TV' to end of part code (13mm stack height only)

These notes only relevant to the top hung Defender Plus

### Side Hung

Part Code	Hinge Size (mm)	Stack Height (mm)	Max Vent Weight (kg)	Min Vent Width (mm)	Max Vent Width (mm)	Opening Angle (+/- 2.5°)
EDSH16A	412	13.5	40	400	1000	60°
EDSH16H6A	412	16.5	40	400	1000	60°
EDSH16H7A	412	17.5	40	400	1000	60°

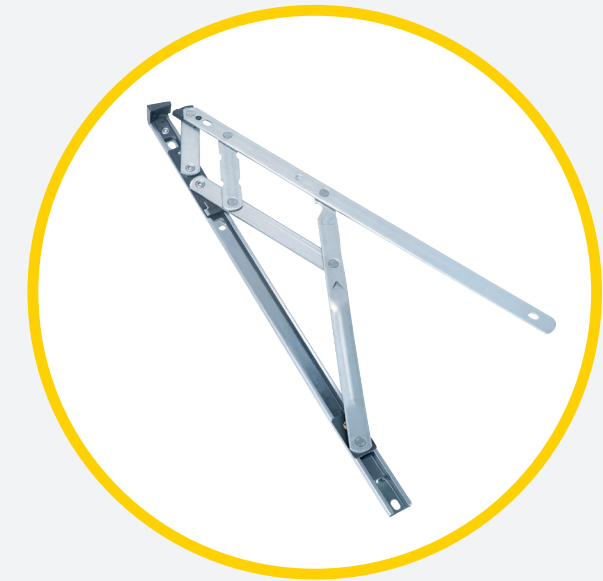
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 \*\* 10 Year Mechanical Guarantee for Standard Ferritic and 12 Year Mechanical Guarantee for Austenitic Stainless Steel

Note: As with all types of friction hinges, friction cannot be provided until the slider moves, therefore when opening top hung vents to angles of 10° or less a separate device may be required to prevent the window from closing.

## Defender Egress Easy Clean

### Features

- 16" hinge opens to a full 90° for emergency exit
- Self-lubricating PTFE based coating on the end cap to provide a smooth closing
- Composite slider with stainless steel release lever mechanism allows cleaning access from the inside of the building
- Automatically resets to the fire escape mode when the window is closed
- Die cast support plate in the bottom slider ensures consistent performance
- Available in 12" or 16" for side hung windows
- Drilling jigs for all sizes are available to order
- Screw fixing in the centre of the track to reduce vent drop
- Compliant with Building Regulations approved document B1. Casement to provide an unobstructed area that is at least 0.33m<sup>2</sup> with minimum size of 450mm in both directions. Minimum clear opening of 450mm x 734mm at a maximum sill height of 1.1m



### Specification

- 10 or 12 Year Mechanical Guarantee\*\*
- BS 9999 Fire safety in the design, management and use of buildings
- BS8213-1 Design for safety in use and during cleaning of windows
- Endurance tested to 30,000 cycles
- Corrosion tested to minimum of 96 hours
- BBA certification
- Secured By Design approved

### Side Hung

Part Code	Hinge Size (mm)	Stack Height (mm)	Max Vent Weight (kg)	Min Vent Width (mm)	Max Vent Width (mm)	Opening Angle (+/- 2.5°)
EDSE12	311	13	22	300	600	80
EDSE16	413	16	24	400	700	90

- Also available in 16mm & 17mm stack height
- Add H6 for 16mm
- Add H7 for 17mm
- For austenitic variants add 'A' to end of part code

\* Standard ferritic (was 430) to BS EN 10088-2 Grade 1.4016 or Austenitic (was 304) Stainless Steel to BS EN 10088-2 Grade 1.4301 for enhanced corrosion resistance  
 \*\* 10 Year Mechanical Guarantee for Standard Ferritic and 12 Year Mechanical Guarantee for Austenitic Stainless Steel

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