

# HINGES

SPECIAL HINGES

SECTION 8.1 SHEET 1 of 7

ISSUE: March, 2006

## VENT SIZE AND WEIGHT CHART - Special Hinges

Hinge Code (Side Hung)	Max. Vent Weight (Kg)	Min. Vent Width (mm)	Max. Vent Width (mm)	Restricted Angle (+/- 2.5°)	Opening Angle (+/- 2.5°)	Test Standard
EDCSM12A-SP	16	300	600	-	90°	SISIR 212: 1998
EDCSR12A-SP				17°	83°	
EDCSM12A-SP	22	300	600	-	90°	AAMA 904.1: 1987 & BS 6375 Pt. 2
EDCSR12A-SP				17°	83°	
EDCSM16A-SP	30	400	900	-	90°	SISIR 212: 1998 & AAMA 904.1: 1987 & BS 6375 Pt. 2
EDCSR16A-SP	26	400	700	12.5°	83°	SISIR 212: 1998 & AAMA 904.1: 1987 & BS 6375 Pt. 2
DS12W2	20	300	600	-	88°	AAMA 904.1: 1987 & BS 6375 Pt. 2

**Note:** Vent width is measured from rebate to rebate (not overall size or outer frame size) on conventional windows or glass size on structurally glazed windows e.g. curtain wall panels whichever is the greater dimension. For maximum vent height consult profile manufacturers for recommendations on requirements of system strength and sealing.

**Note:** For slim aluminium systems these vent sizes may need to be reduced on restricted hinges to comply with a maximum restricted opening of 100mm. See chart in restricted section.

**Note:** The restricted opening gap with restricted hinges is controlled by the angle shown; the resulting gap will vary with profile and vent width.

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It is the responsibility of the window manufacturer to ensure that the finished window meets the required performance and safety specification.

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# HINGES

## FITTING INSTRUCTIONS: Position and Clearances

### DEFENDER® EDCSM12A-SP, EDCSM16A-SP & DS12W2 Special Series

- 8.1.1 The Special hinge series is designed to be fitted between two flat and parallel rigid faces that conform to the measurements shown below. If fitting the EDCSM12A-SP and the cavity height is greater than 13.5 - 14.5mm, use the Highline variant.
- 8.1.2 The vent and outer frame hinge location recess or up stand, if any, must be as shown below.

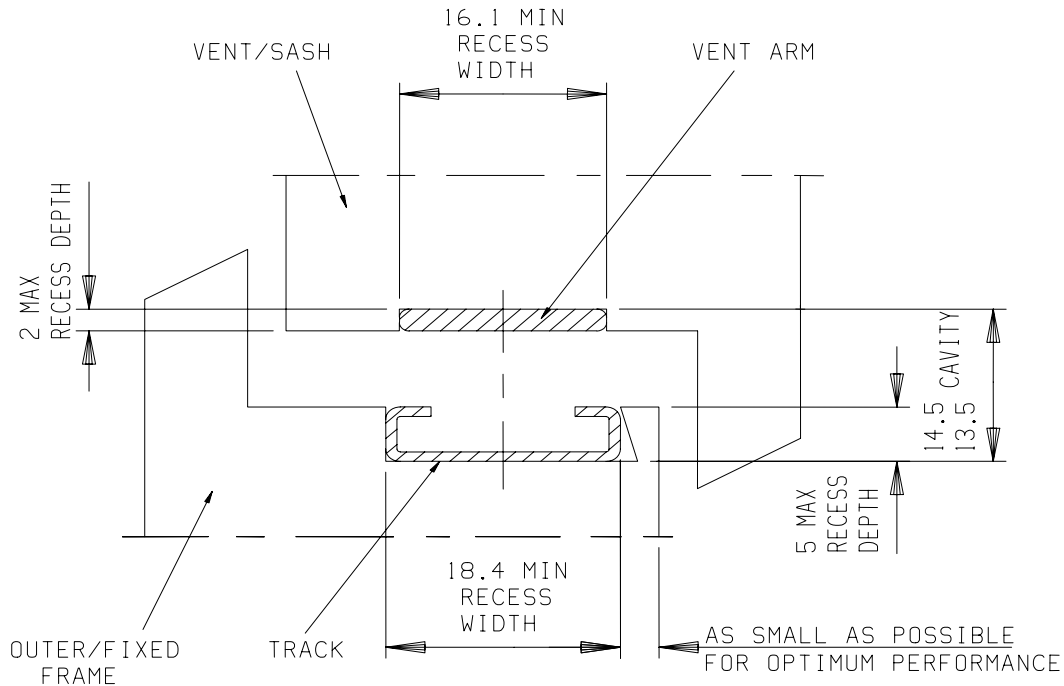


Fig. 1

- 8.1.3 The end cap of the hinge must be located in the internal corner of the outer frame. All fixing holes and slots must be used to ensure optimum performance and weather sealing.

**Not to Scale, All dimensions in mm**

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# HINGES

## FITTING INSTRUCTIONS: Vent and Frame Preparation and Fitting

### Vent Preparation and Fitting

8.1.4 If using a drill jig:

- 8.1.4.1 Drill the first fixing hole using a single hole drill jig, (CJ-**\*\*DSS**). **OR** Drill all of the fixing holes using a multi hole drill jig, (CJ-**\*\*THVM**, CJ-**\*\*SHVM**, CJ-**\*\*EVM**). If subsequent adjustment is required, e.g. during installation, drill only the holes which correspond to the slotted hinge fixing holes. **\*\*** equals Hinge stack height.
- 8.1.4.2 Place the hinge onto the vent with its fixing holes/slots aligned with the previously drilled holes.
- 8.1.4.3 Insert the fixings, to the fixing manufacturer's recommendations, into the slotted fixing holes only, if subsequent adjustment is required, or all fixing holes, if subsequent adjustment is not required.
- 8.1.4.4 If adjustment has taken place, when complete, use the hinge as a template to drill the remaining fixing holes if necessary, and insert fixings into all fixing holes/slots.

8.1.5 If not using a drill jig:

- 8.1.5.1 Position the hinge vent arm against any sideways hinge location features or in the hinge location channel on the vent. If the vent does not have hinge location features, determine the correct position by referring to the profile manufacturers fabrication manual and measuring/markng, (See section 8.1.7.1).
- 8.1.5.2 **EITHER:** Determine the correct longitudinal hinge position 'x': As shown in Fig. 2

**Tip:** Make a pencil mark on the vent as a visual check to confirm that the hinge has not moved from its correct position.

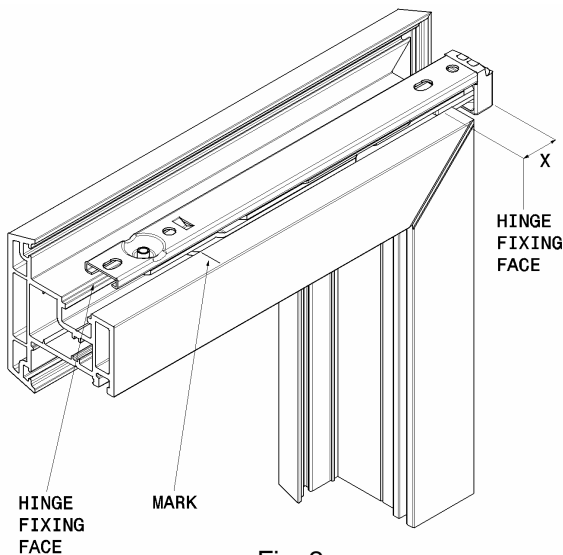


Fig. 2

<b>DEFENDER® Special Hinges</b>	<b>'x'</b>
13.5mm Stack Height	13.5 to 14.5mm
H5 - 15.5mm Stack Height	15.5 to 16.5mm

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## FITTING INSTRUCTIONS: Vent and Frame Preparation and Fitting

**OR:** Measure/mark the position 'y' of the first fixing hole from the corner of the vent, to the dimensions shown in Fig. 4 and pre-drill.

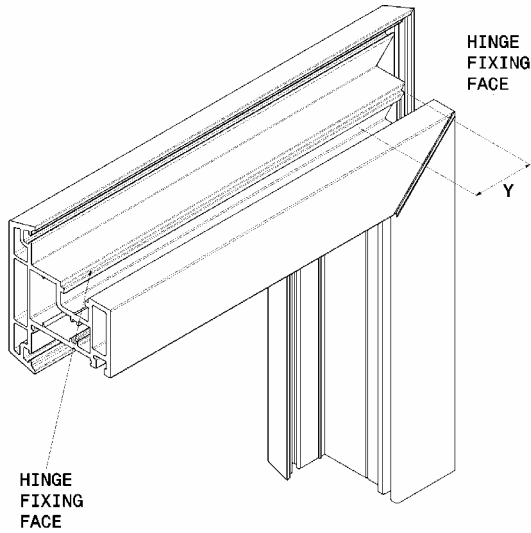


Fig. 3

DEFENDER® Special Hinges	'y'
13.5mm Stack Height	22.75 ± 0.5mm
H5 – 15.5mm Stack Height	20.75 ± 0.5mm

- 8.1.5.3 Hold the hinge in place and use it as a template to drill the fixing holes, if the fixings need pre-drilled holes. If subsequent adjustment is required, e.g. during installation, drill only the holes which correspond to the slotted hinge fixing holes.
- 8.1.5.4 Hold the hinge in place and follow steps 8.1.7.3 & .4

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# HINGES

## FITTING INSTRUCTIONS: Vent and Frame Preparation and Fitting

### Frame Preparation and Fitting

#### 8.1.6 If using a drill jig:

8.1.6.1 Drill the first fixing hole using a single hole drill jig, (JIGDF). OR Drill all of the fixing holes using a multi hole drill jig, (JIGF). If subsequent adjustment is required, e.g. during installation, drill only the holes which correspond to the slotted hinge fixing holes.

8.1.6.2 Place the hinge onto the frame with its fixing holes/slots aligned with the previously drilled holes.

8.1.6.3 Insert the fixings, to the fixing manufacturers recommendations, into the pre-drilled holes which correspond with the slotted fixing holes only, if subsequent adjustment is required, \* or all fixing holes, if subsequent adjustment is not required.

**\* Note:** Use the hinge as a template to drill any holes not previously drilled as required.

8.1.6.4 If adjustment has taken place, when complete, use the hinge as a template to drill the remaining fixing holes if necessary, and insert fixings into all fixing holes/slots.

#### 8.1.7 If not using a drill jig:

8.1.7.1 Position the hinge track against any sideways hinge location features or in the hinge location channel on the frame, commonly the glazing bar clip channel. If the profile does not have hinge location features, determine the correct position by measuring/markings, (Fig. 1 at 8.1.2 will help).

8.1.7.2 Position the hinge so that its end cap is located fully into the corner of the outer frame.

8.1.7.3 Hold the hinge in place and use it as a template to drill the fixing holes, if the fixings need pre-drilled holes. If subsequent adjustment is required, e.g. During installation, drill only the holes which correspond to the slotted hinge fixing holes.

8.1.7.4 Hold the hinge in place and follow steps 8.1.10.3 & .4 above.

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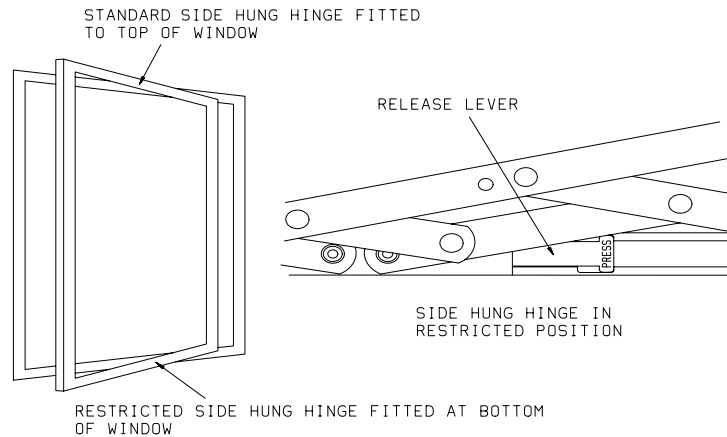


# HINGES

## FITTING INSTRUCTIONS: Restricted

### Notes on the fitting of Restricted hinges

- 8.1.8 A side hung window configuration as shown below would require a Restricted side hung hinge at the bottom - right hand e.g. EDCSR12AR-SP and a Standard side hung hinge at the top - left hand e.g. EDCSM12AL-SP.



- 8.1.9 To fully open a restricted window in side hung configuration, open the vent to the restricted position then draw the window slightly towards. Depress the lever to release the restrictor and open the window. To reset the restrictor from fully open depress the lever, pull the window in and the mechanism will auto-relocate. (See self adhesive window label packed with hinges)

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## FITTING INSTRUCTIONS: Fixing Hole References

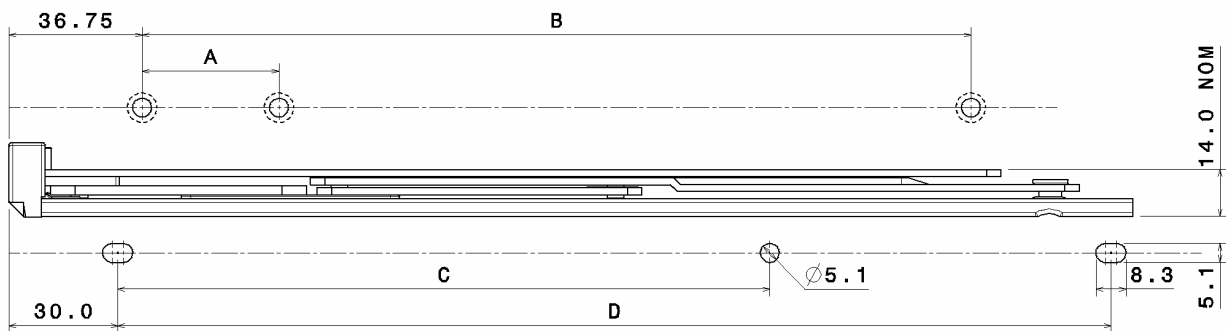
### Fixing Hole Centre Reference Chart - DEFENDER® Standard Hinges

EDCSM - Defender Side Hung

EDCSR - Defender Side Hung Restricted

#### Dimensions

Description	A	B	C	D
EDCSM12A-SP	37.75	228.60	179.9	274.0
EDCSM16A-SP	101.0	314.0	265.0	338.0
EDCSR12A-SP	37.75	228.60	231.5	274.0
EDCSR16A-SP	101.0	314.0	327.0	352.4
DS12W2	133.25	188.25	136.5	274.0



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