

# centor®



E3 bifold door hardware for panels to 250lb

centor®

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flexibly manage  
space in a wide range  
of applications



#### Engineered excellence

One moment bifold doors are acting as an effective, secure barrier from rain, wind and noise. The next they're effortlessly moved aside to reveal wide open space – with no fixed glass panels or posts. E3 can be relied upon to add flair and flexibility to the widest range of applications, from private residences to the most ambitious store front, restaurant or commercial project. The considerable weight-bearing capacity of the elegant, precisely functioning E3 ensures that possible applications for Centor's bifold range are limited only by the imaginations of the world's most progressive architects and designers.

Engineered to withstand the most severe weather, E3 is just as suited to interior use where the ability to visually and physically connect spaces can be just as beneficial and the sound-proofing effect of double-glazing just as important. The benefits to the end-user in flexibly managing interior or exterior space to suit lifestyle or business are literally changing the face of contemporary building design.

#### E3 Specifications

<b>max panel weight</b>	250lbs (115kg) each
<b>max panel width</b>	4' (1200mm)
<b>max panel height</b>	12" (3600mm)
<b>door thickness</b>	a) 1 3/4" or 2 1/4" (44.45 or 57.15mm) when using E3 sill system b) 1 3/8" to 3" (34.9 to 76.2mm) when using floor channel
<b>max number of doors</b>	16 (8 each direction)

**Note >** When using maximum door width and height 4' x 12' (1200mm to 3600mm) door may exceed maximum door weight of 250lbs (115kg). Calculated weight check should be done.





### High performance results

Environment, operational function, durability, painstaking attention to detail and unerring commitment to quality ensure E3 achieves 'Centor-grade' performance – whatever the category. The result is a degree of control and comfort for the end-user which matches the easy flexibility of modern design.

### Rain and Wind

A door using Centor's bifold system was the first tracked bifolding door system to be successfully certified against Australian Standard AS2047, which specifies the performance required of external windows and sliding doors, in particular for resistance to rain and wind. Many door manufacturing clients in Australia, Canada and the United States have tested doors using Centor's systems to their relevant local standards. Centor's E3 system has since been certified to stringent *Miami Dade County* hurricane standards, the toughest testing anywhere in the world. Impressive water performance ratings are achievable from both outward and inward opening doors. Driving rain and howling gales can be shut out completely.

### Air Infiltration

The system achieves its superior rain and wind resistance in part from the way it allows the folding door panels to close snugly against weather seals. In the same way doors using the E3 system effectively resist air infiltration to a level up to 50 times better than a sliding door.

### Noise and Temperature

With double glazing allowed for by E3's impressive panel weight capacity, unprecedented insulation against noise and temperature variation is possible.

# Centor hardware for doors that glide open and slide shut



## **Effortless Operation**

While E3's outstanding performance as part of a secure, weatherproof barrier is crucial, it's not until the doors are opened that the space-transforming benefits of the system truly come into play. For maximum enjoyment and use of the system every effort has been made to ensure that doors glide open and slide shut with the minimum of effort – and that they continue to do so.

## **Quality Manufacture, Clever Design**

E3 carriers, guides and pivots use the highest grade stainless steel bearings custom machined to extremely fine tolerances on state-of-the-art Japanese and Swiss machinery – a minimum of five bearings to each carrier. Machined wheels are individually precision ground to an ultra-fine hone. Clever carrier design prevents scraping on the inside of the overhead track. A polypropylene floor channel lining adds to the smooth, almost silent rolling action which brings a smile to the face of the user!

## **Installation and Adjustment**

All fittings are surface-mounted with no mortising required. Installation couldn't be easier with comprehensive instructions and drill jigs available for fittings.

While E3 is designed to operate flawlessly well into the future, built-in adjustment mechanisms make the system tolerant of an imperfect world. Surelock™, Centor's patented carrier pin locking system ensures that once heights are set they stay set. However should door panels swell or a newly built structure settle over time, the end-user can easily make vertical and lateral adjustments simply using a screwdriver.





#### **Structural Testing**

Structural proof load tests up to 3600 Pa (74 psf) have been achieved by doors using the less substantial E2 system.

#### **Finite Element Analysis**

Finite Element Analysis (FEA) is a computerized simulation technique where products are exposed to virtual operating environments and accurate predictions are made in terms of load and deflection. Centor undertakes FEA in the design process to ensure the best balance of performance, cost and materials in every system.

#### **Hurricane Testing**

In the course of obtaining approval under the stringent *Miami Dade County* testing regime, doors using Centor's E3 system were subjected to hurricane strength wind loads, flexing the doors in and out five thousand times without component failure. Small and large missile impact testing was also performed as part of the single toughest testing process anywhere in the world.

#### **Proven durability**

In addition to the extensive weather testing undergone by doors using Centor's bifold systems, all individual E3 components have undergone extensive laboratory testing, ensuring years of trouble-free enjoyment from hardware which ages with grace.

#### **Cyclic Testing**

Centor's minimum requirement of cyclic testing for any released product is a grueling 50,000 cycles without a single failure at maximum configuration. E3 has been tested in excess of 50,000 cycles with many of the parts rated to over 100,000 cycles.

# pair E3 based doors with the award winning Centor S1E Eco-Screen™



## **E3 up close**

Even a casual glance at the E3 system gives a strong impression of Centor's commitment to quality, but it's only upon closer inspection that the attention to detail really becomes apparent. Stacked with standard features and with an abundance of options to choose from, Centor E3 looks even better up close!

## **Materials and Finishes**

E3 carriers, guides, pivots and hinges are available in brushed stainless steel for a modern industrial look, PVD Bronze powdercoat or a PVD brass finish over stainless steel should a more traditional finish be required. Head tracks, sills and floor guide channels are produced in extruded aluminum with the option of bronze and satin anodized. Both sills and channels have black polypropylene liner.

## **Panel Size and Materials**

Centor's innovative hinge system enables all door panels to be made the same size regardless of the door configuration (eg 3L2R or 1L4R). The easily installed hardware can be teamed with ordinary 'book end' door panels in wood, aluminum, PVC or fiberglass.

## **Concealed Floor Guide Channel**

Floor guides and floor pivots have been offset so that the floor guide channel is located directly under the doors when they are in the closed position. Beneficial from an aesthetic perspective this design feature also reduces opportunity for dust and debris to enter the channel.

## **Wall Pivot**

A floating wall pivot is used to control door stile deflection and bowing on tall doors caused by wind loads or climatic conditions. When using tall doors (over 7'4" high), use of four rather than three hinges at each junction is recommended.

## **Dropbolts**

Easily installed with a dedicated router bit available from Centor, DF and DO dropbolts are available in a range of lengths and finishes to suit every E3 application. Available keyed and non-keyed, the clean-lined DF and DO dropbolts anchor doors firmly in the closed position and, together with the weather seals, eliminate rattling in strong winds.

## **Screening**

E3 is fully compatible with the S1E insect door screen, Centor's superbly effective, world-first integrated screening solution for bifold scale openings.

range of features  
allow E3 to be utilised  
with confidence



#### **E3 Assurance**

Modern design is all about allowing the end-user to feel relaxed and comfortable in their surroundings. E3's superior functioning and performance goes much of the way towards meeting this goal and Centor takes care of the rest with a range of measures to ensure the system can be used with complete confidence.

#### **Unparalleled Security**

The E3 system responds to an increasingly security conscious market place with measures designed to ensure unwanted visitors are excluded along with the elements.

#### **Concealed Fittings**

When doors utilizing E3 are closed there are no externally accessible parts that can be removed or damaged. Screw fixings are concealed and hinge caps are retained by hidden fasteners.

#### **Locking Screw Technology**

The E3 system incorporates locking screw technology which ensures hardware can not be removed from the track when the doors are closed.

#### **Warranty**

In line with a commitment to the highest possible quality Centor offers a 10-year warranty on all E3 hardware.

For full details go to [www.centorusa.com](http://www.centorusa.com)

#### **Specifying E3**

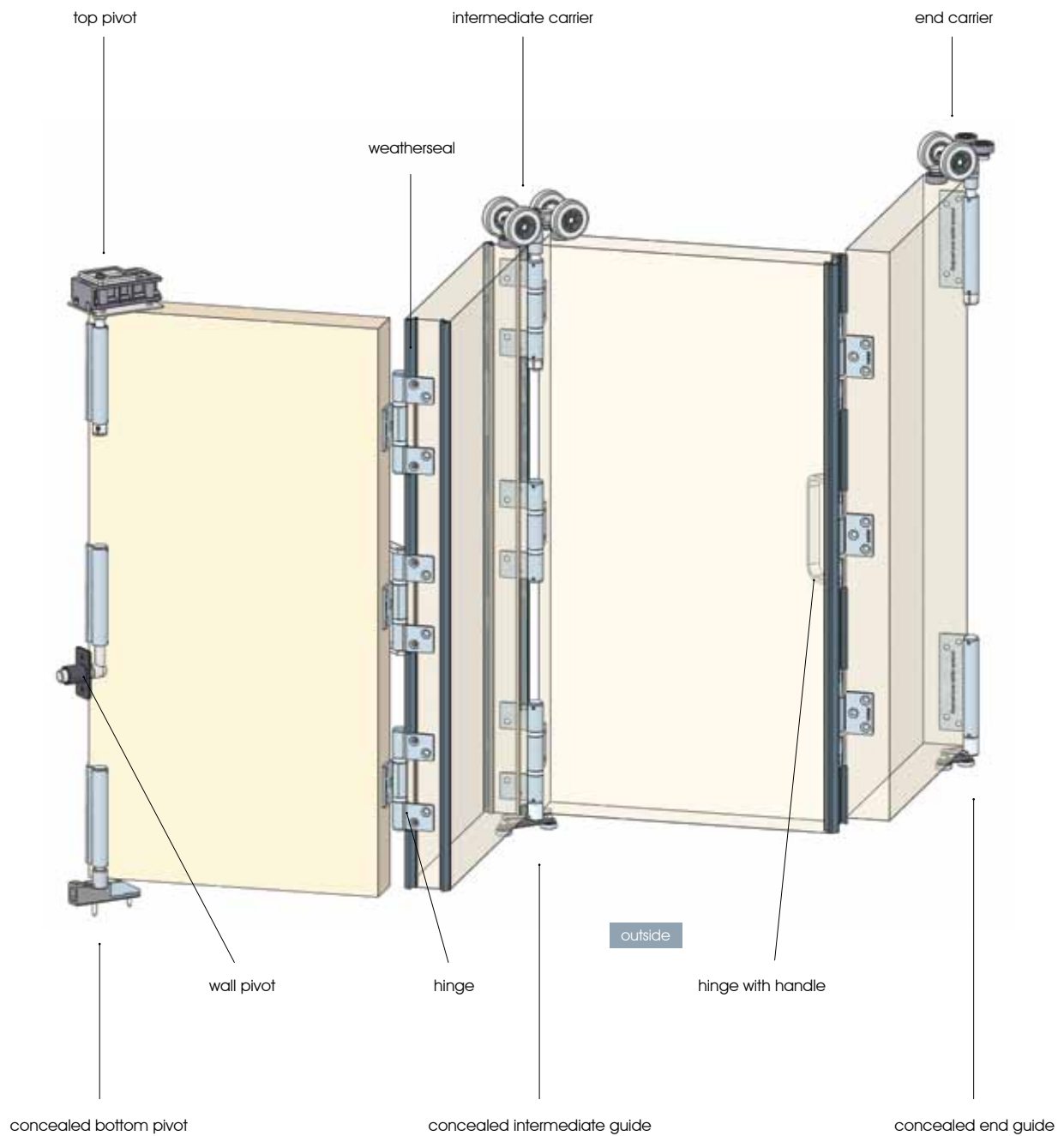
E3 is a fully integrated system suitable for applications up to 220lb per panel in wood, aluminum, PVC or fiberglass. Architects and specifiers can feel confident simply specifying 'Centor E3' and leaving detailed component selection to the builder, joiner or fabricator. For more detailed selection refer to Component Selection on page 18.







## E3 Product Details



### US Patents Granted

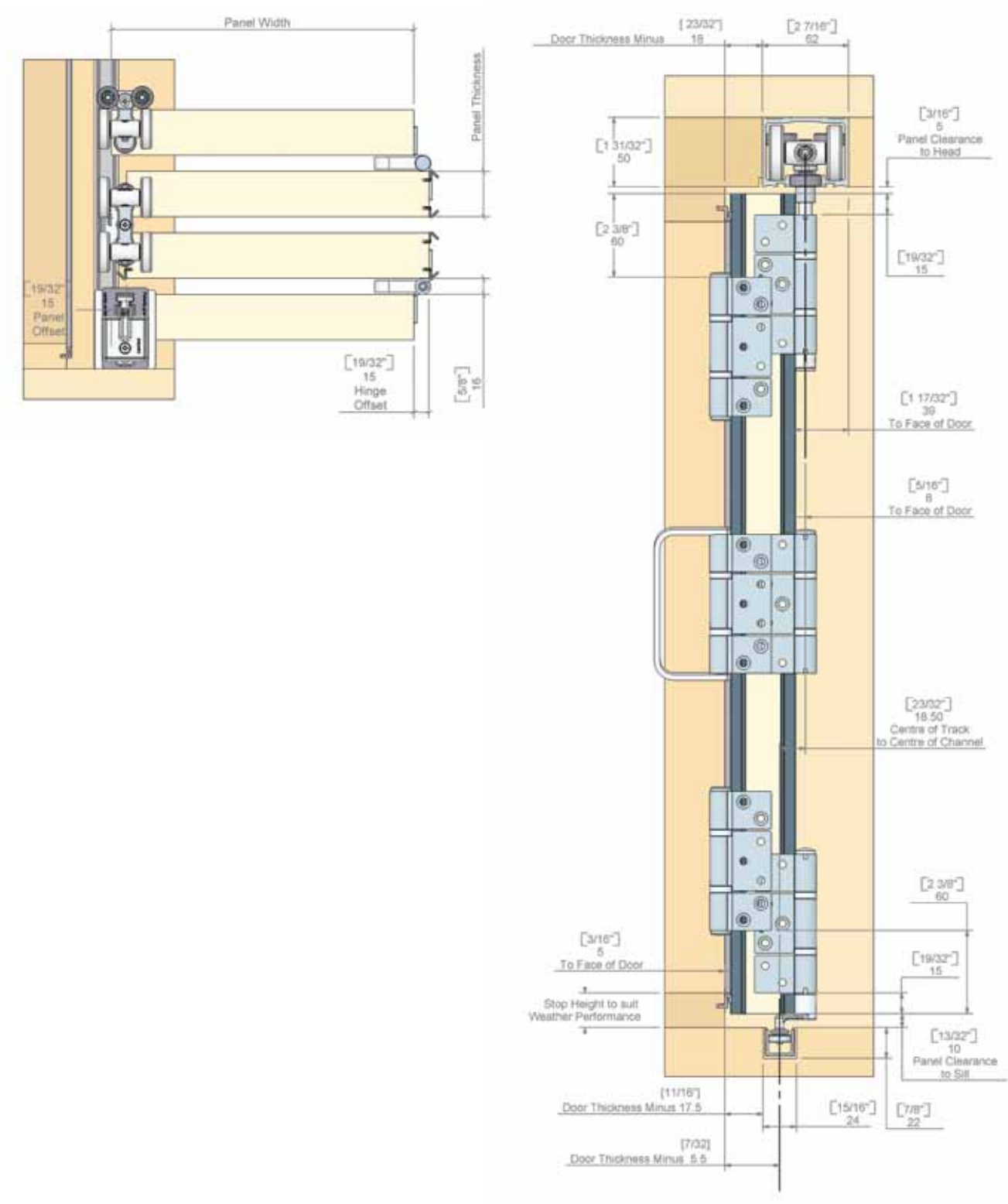
US 6618900 B2

US 6834703 B2

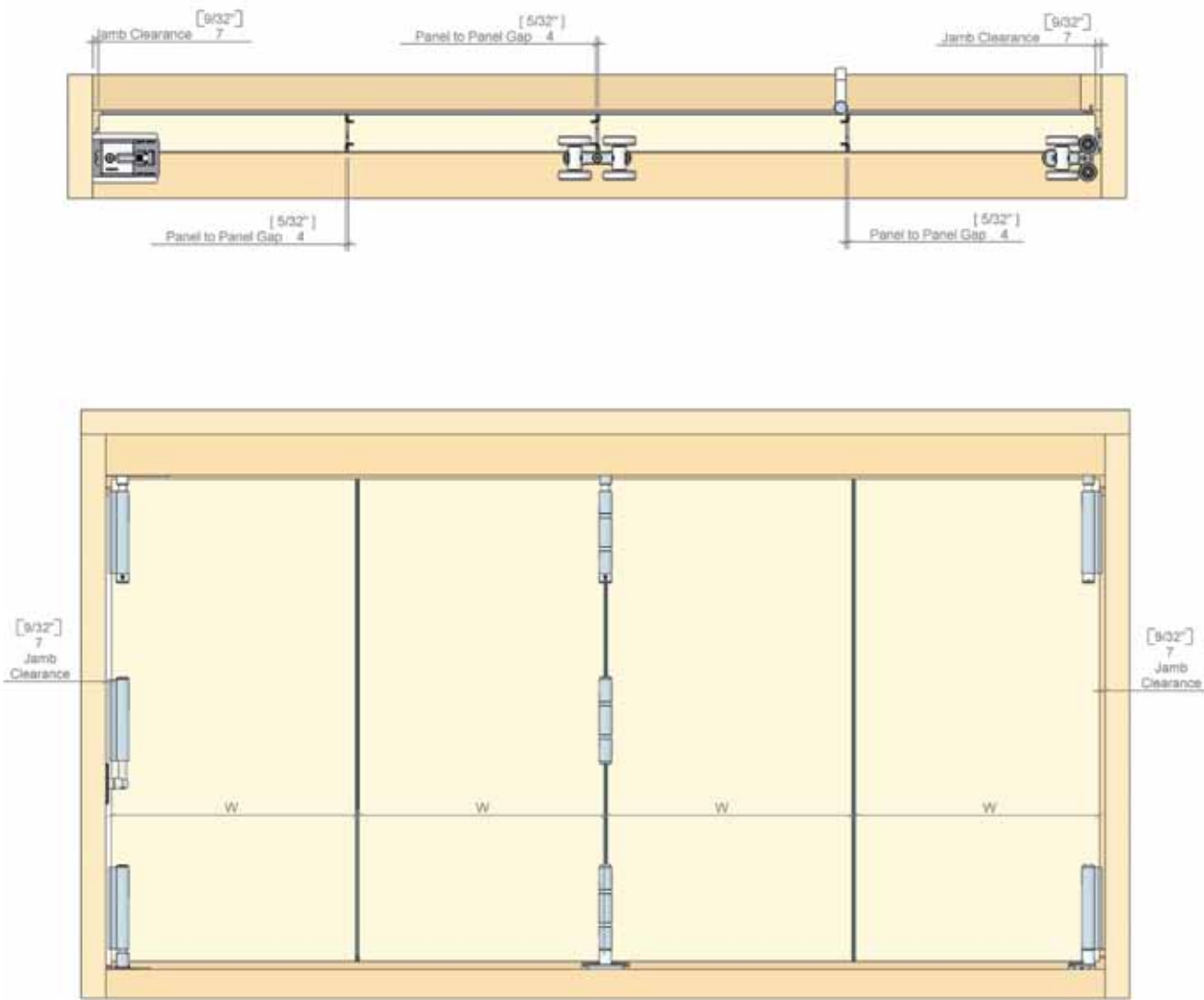
### Other US Patents Pending

10/913279

Architectural Detail



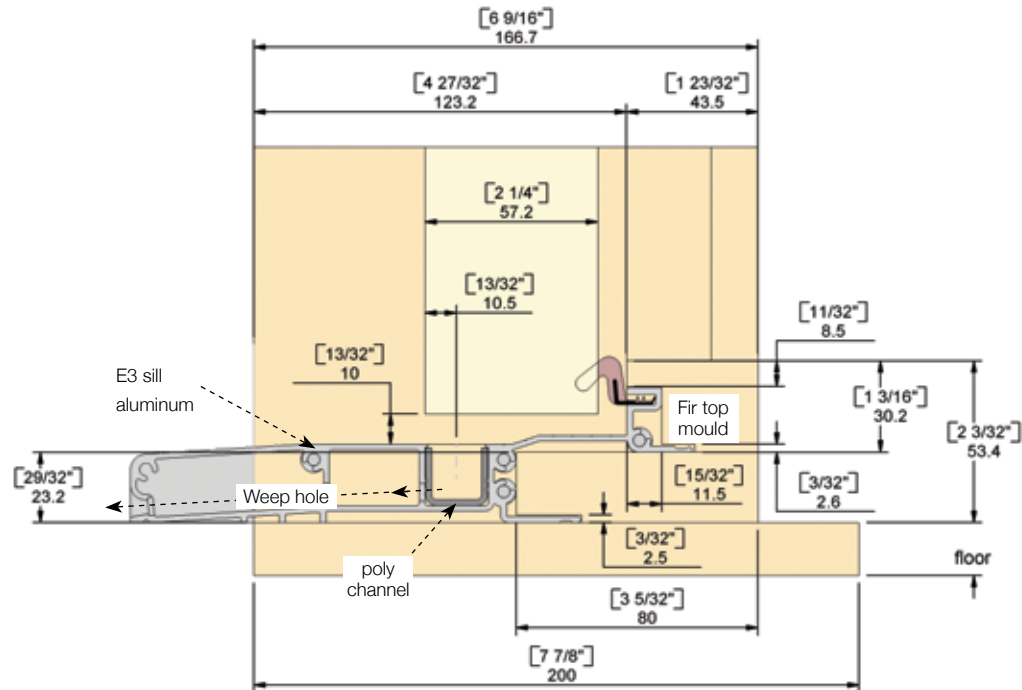
Architectural Detail



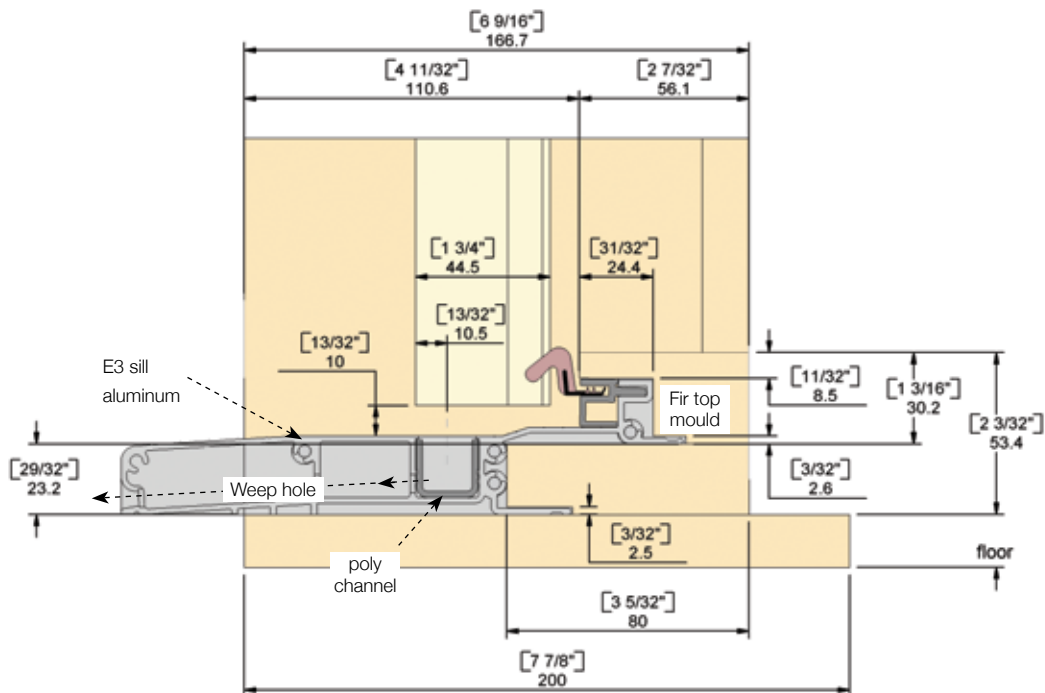


## Architectural Detail

*E3 Sill System for 2-1/4" (57.2mm) door thickness*

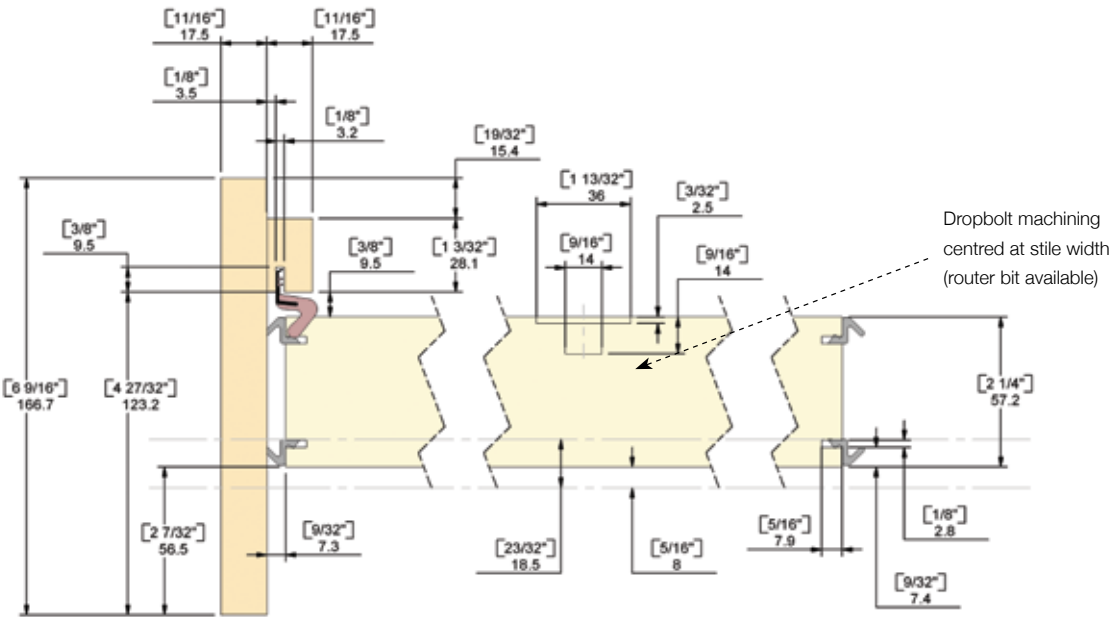


*E3 Sill System for 1-3/4" (44.5mm) door thickness*

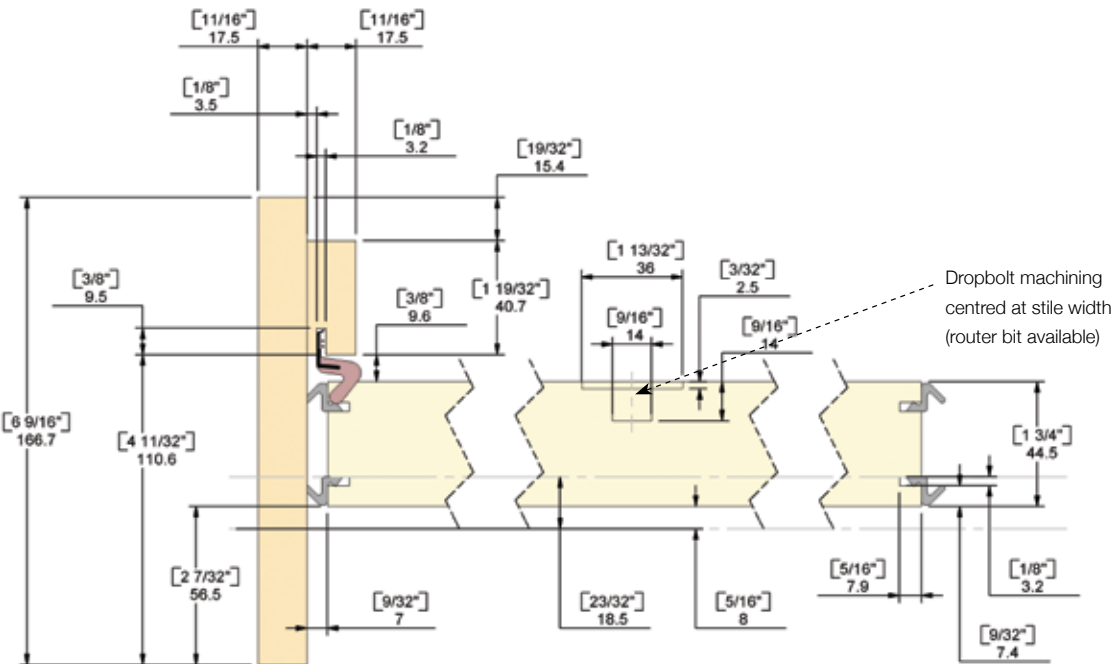


Architectural Detail

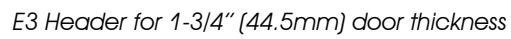
E3 Jamb for 2-1/4" (57.2mm) door thickness



E3 Jamb for 1-3/4" (44.5mm) door thickness



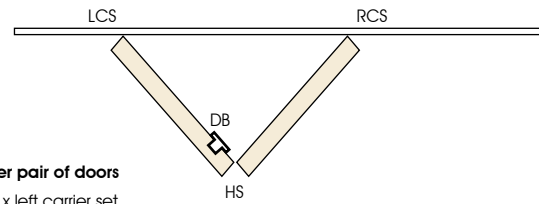
*E3 Header for 2-1/4" (57.2mm) door thickness*



## Common Panel Layouts

Hardware legend	
<b>PS</b>	pivot set
<b>WPS</b>	wall pivot set
<b>ICS</b>	intermediate carrier set
<b>LCS</b>	left carrier set
<b>RCS</b>	right carrier set
<b>HHS</b>	half offset hinge set
<b>HS</b>	hinge set (flat)
<b>DB</b>	dropbolt

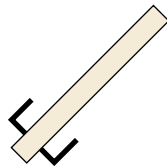
### Floating Door Pairs



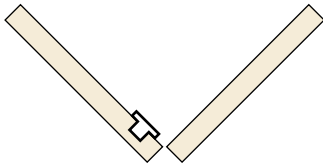
**Per pair of doors**  
 1 x left carrier set  
 1 x right carrier set  
 1 x hinge set  
 2 x dropbolt

### Legend

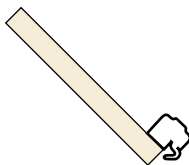
Passage set / lock by other



Dropbolts top and bottom



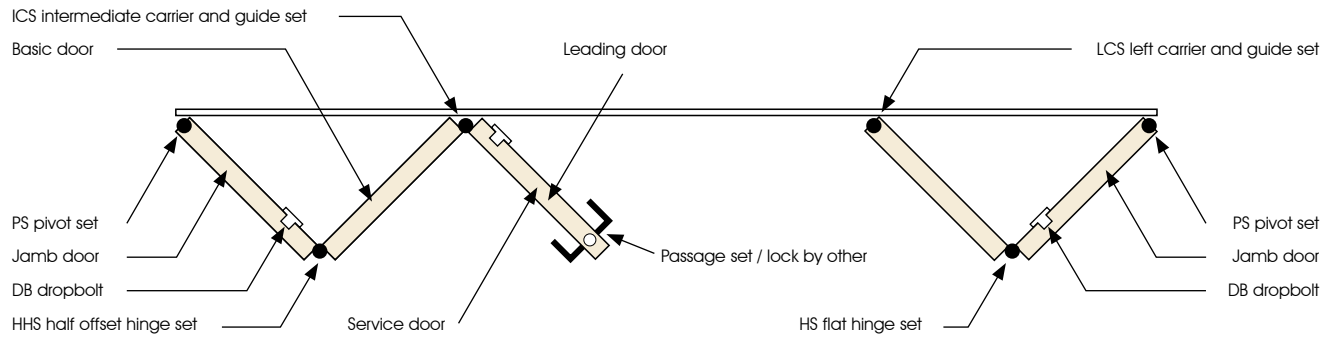
Astragal



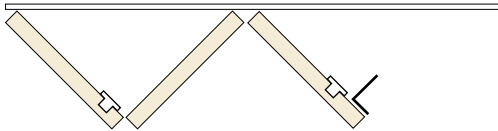
Note> Wall Pivot Set recommended for doors over 7'4" (2250mm) in height.



## Hardware Application (3L2R)



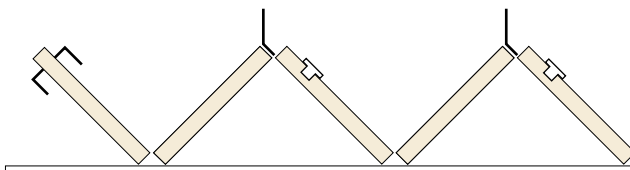
## Outswing Application Exterior Handle Option



Use one exterior handle on exit door (outswing system) where passage set / lock not required. Use dropbolts top and bottom to lock door from the inside only.

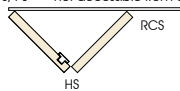
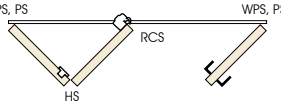
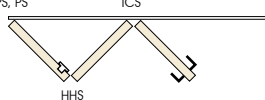
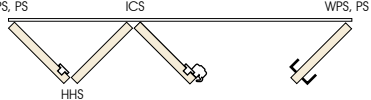
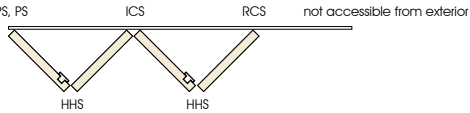
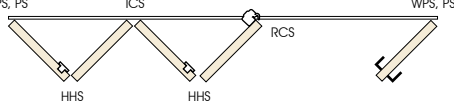
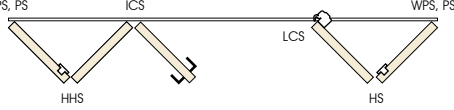
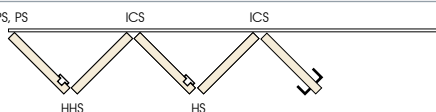
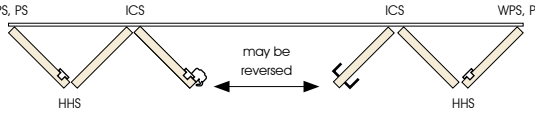
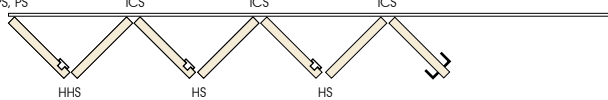
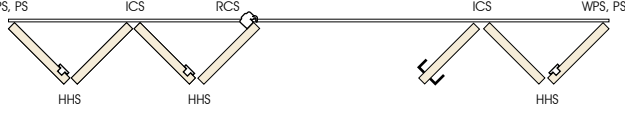
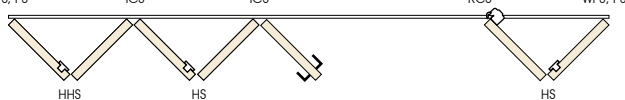
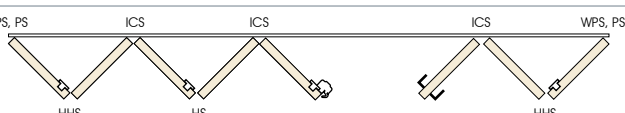
Note> Exit door not accessible from exterior in this application.

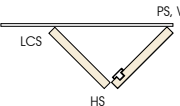
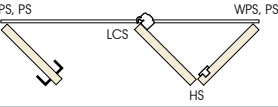
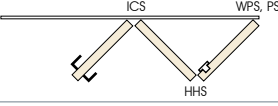
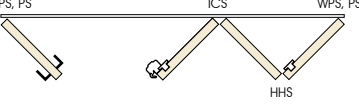
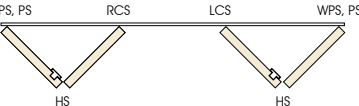
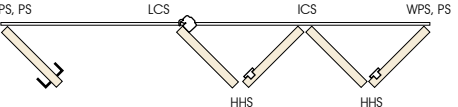
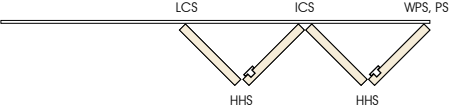
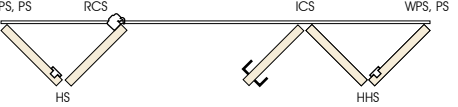
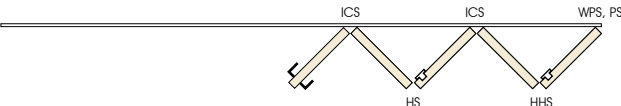
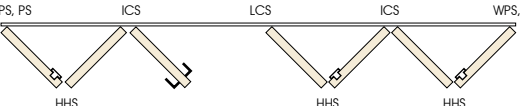
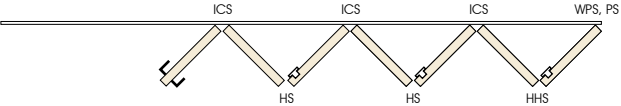
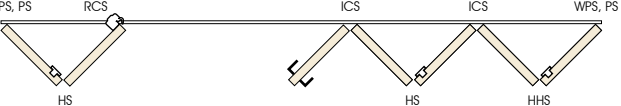
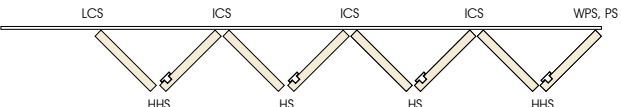
## Inswing Application Exterior Handle Option



Use one exterior handle on each pair of doors (inswing system) to pull open and close doors.

## Common Panel Layouts (outswing)

CODE	OPENING CONFIGURATION	HARDWARE
2L	<p>inside WPS, PS not accessible from exterior</p> <p>outside </p>	<p>1 x pivot set 1 x wall pivot set 1 x right carrier set 1 x hinge set 2 x dropbolt</p>
2L1R	<p>inside WPS, PS</p> <p>outside </p>	<p>2 x pivot set 2 x wall pivot set 1 x right carrier set 1 x hinge set 2 x dropbolt</p>
3L	<p>inside WPS, PS</p> <p>outside </p>	<p>1 x pivot set 1 x wall pivot set 1 x intermediate carrier set 1 x half offset hinge set 2 x dropbolt</p>
3L1R	<p>inside WPS, PS</p> <p>outside </p>	<p>2 x pivot set 2 x wall pivot set 1 x intermediate carrier set 1 x half offset hinge set 4 x dropbolt</p>
4L	<p>inside WPS, PS</p> <p>outside </p>	<p>1 x pivot set 1 x wall pivot set 1 x intermediate carrier set 1 x right carrier set 2 x half offset hinge set 4 x dropbolt</p>
4L1R	<p>inside WPS, PS</p> <p>outside </p>	<p>2 x pivot set 2 x wall pivot set 1 x intermediate carrier set 1 x right carrier set 2 x half offset hinge set 4 x dropbolt</p>
3L2R	<p>inside WPS, PS</p> <p>outside </p>	<p>2 x pivot set 2 x wall pivot set 1 x intermediate carrier set 1 x left carrier set 1 x hinge set 1 x half offset hinge set 4 x dropbolt</p>
5L	<p>inside WPS, PS</p> <p>outside </p>	<p>1 x pivot set 1 x wall pivot set 2 x intermediate carrier set 1 x hinge set 1 x half offset hinge set 4 x dropbolt</p>
3L3R	<p>inside WPS, PS</p> <p>outside </p>	<p>2 x pivot set 2 x wall pivot set 2 x intermediate carrier set 2 x half offset hinge set 6 x dropbolt</p>
7L	<p>inside WPS, PS</p> <p>outside </p>	<p>1 x pivot set 1 x wall pivot set 3 x intermediate carrier set 2 x hinge set 1 x half offset hinge set 6 x dropbolt</p>
4L3R	<p>inside WPS, PS</p> <p>outside </p>	<p>2 x pivot set 2 x wall pivot set 2 x intermediate carrier set 1 x right carrier set 3 x half offset hinge set 6 x dropbolt</p>
5L2R	<p>inside WPS, PS</p> <p>outside </p>	<p>2 x pivot set 2 x wall pivot set 2 x intermediate carrier set 1 x left carrier set 2 x hinge set 1 x half offset hinge set 6 x dropbolt</p>
5L3R	<p>inside WPS, PS</p> <p>outside </p>	<p>2 x pivot set 2 x wall pivot set 3 x intermediate carrier set 1 x hinge set 2 x half offset hinge set 8 x dropbolt</p>

CODE	OPENING CONFIGURATION	HARDWARE
2R	inside  PS, WPS not accessible from exterior outside LCS HS	1 x pivot set 1 x wall pivot set 1 x left carrier set 1 x hinge set 2 x dropbolt
1L2R	inside  WPS, PS WPS, PS outside LCS HS	2 x pivot set 2 x wall pivot set 1 x left carrier set 1 x hinge set 2 x dropbolt
3R	inside  ICS WPS, PS outside HHS	1 x pivot set 1 x wall pivot set 1 x intermediate carrier set 1 x half offset hinge set 2 x dropbolt
1L3R	inside  WPS, PS ICS WPS, PS outside HHS	2 x pivot set 2 x wall pivot set 1 x intermediate carrier set 1 x half offset hinge set 4 x dropbolt
2L2R	inside  WPS, PS RCS LCS WPS, PS outside HS HS	2 x pivot set 2 x wall pivot set 1 x right carrier set 1 x left carrier set 2 x hinge set 4 x dropbolt
1L4R	inside  WPS, PS LCS ICS WPS, PS outside HHS HHS	2 x pivot set 2 x wall pivot set 1 x intermediate carrier set 1 x left carrier set 2 x half offset hinge set 4 x dropbolt
4R	inside  LCS ICS WPS, PS outside HHS HHS	1 x pivot set 1 x wall pivot set 1 x intermediate carrier set 1 x left carrier set 2 x half offset hinge set 4 x dropbolt
2L3R	inside  WPS, PS RCS ICS WPS, PS outside HS HHS	2 x pivot set 2 x wall pivot set 2 x intermediate carrier set 1 x right carrier set 1 x hinge set 1 x half offset hinge set 4 x dropbolt
5R	inside  ICS ICS WPS, PS outside HS HHS	1 x pivot set 1 x wall pivot set 2 x intermediate carrier set 1 x hinge set 1 x half offset hinge set 4 x dropbolt
3L4R	inside  WPS, PS ICS LCS ICS WPS, PS outside HHS HHS HHS	2 x pivot set 2 x wall pivot set 2 x intermediate carrier set 1 x left carrier set 3 x half offset hinge set 6 x dropbolt
7R	inside  ICS ICS ICS WPS, PS outside HS HS HHS	1 x pivot set 1 x wall pivot set 3 x intermediate carrier set 2 x hinge set 1 x half offset hinge set 6 x dropbolt
2L5R	inside  WPS, PS RCS ICS ICS WPS, PS outside HS HS HHS	2 x pivot set 2 x wall pivot set 2 x intermediate carrier set 1 x right carrier set 2 x hinge set 1 x half offset hinge set 6 x dropbolt
8R	inside  LCS ICS ICS ICS WPS, PS outside HHS HS HS HHS	1 x pivot set 1 x wall pivot set 3 x intermediate carrier set 1 x left carrier set 2 x hinge set 2 x half offset hinge set 8 x dropbolt

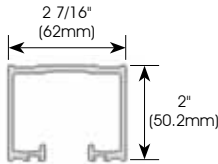
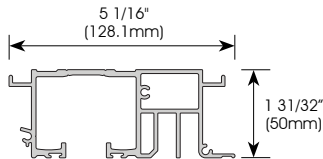
## Component selection

E3 is specified with 5 separate groups:

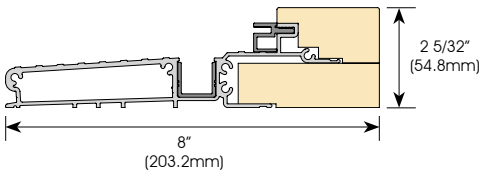
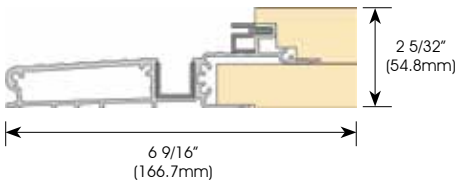
- 1 track
- 2 sill with channel
- 3 hardware
- 4 weathersealing
- 5 dropbolts

Components are required from all 5 groups to build an E3 bifolding door system.

### Track

PART	PRODUCT CODE	DESCRIPTION
	E3TAM	Aluminium head track, machined Extruded aluminum, clear or bronze anodized Lengths up to 24'
	E3TA For 1 3/4" and 2 1/4" doors	Aluminium head track with flushbolt channel Extruded aluminum, clear or bronze anodized Lengths up to 24'

### Sill

PART	PRODUCT CODE	DESCRIPTION
	For E2 and E3 #781 for 1 3/4" doors #791 for 2 1/4" doors	8" wide outswing sill Fir top water return Extruded aluminum, clear or bronze anodized Lengths up to 24' 6"
	For E2 and E3 #761 for 1 3/4" doors #771 for 2 1/4" doors	6 9/16" wide outswing sill Fir top water return Extruded aluminium, clear or bronze anodized Lengths up to 24' 6"



## Component selection

### Sill

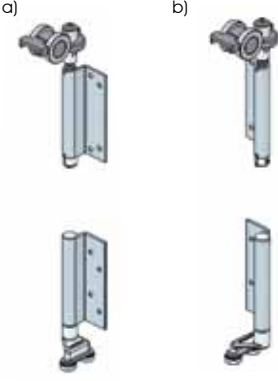


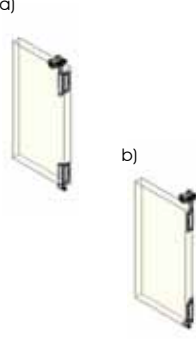


PART	PRODUCT CODE	DESCRIPTION
	For E2 and E3 #762 for 1 3/4" doors #772 for 2 1/4" doors	6 9/16" wide flushbolt channel outswing sill Fir top water return Extruded aluminium, clear or bronze anodized Lengths up to 24' 6"
	For E2 and E3 #788 for both 1 3/4" and 2 1/4" doors	6 9/16" thermally broken ADA sill Inswing or outswing No fir top Extruded aluminium, clear or bronze anodized Lengths up to 24' 6"
	For E2 and E3 #6562 for 1 3/4" doors #6916 for 2 1/4" doors	6 9/16" thermally broken inswing sill No fir top Extruded aluminium, clear or bronze anodized Lengths up to 24' 6"

### Channel

PARTS	PRODUCT CODE	DESCRIPTION
	E22FCP	Concealed polypropylene channel 13/16" (21mm) Lengths up to 19' 8"
Replacement polypropylene channel fits inside aluminum channel		
	E22FCR	Concealed channel retainer Extruded aluminium, clear or bronze anodized Lengths up to 19' 8"

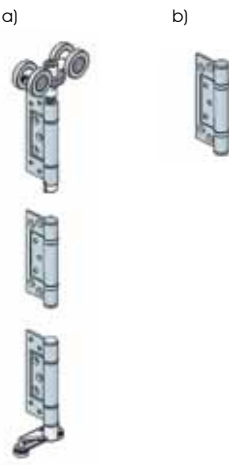


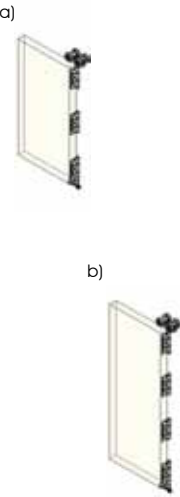


## Hardware selection

### Left / Right Carrier Set

PARTS	PARTS ON PANELS	PRODUCT CODE	DESCRIPTION
 <p>a) </p> <p>b) </p>	 <p>a) </p> <p>b) </p>	E3CLCSS	concealed left hand carrier set, stainless steel
		E3CLCSOL	concealed left hand carrier set, PVD bronze
		E3CLCSTG	concealed left hand carrier set, PVD brass
		E3CRCSS	concealed right hand carrier set, stainless steel
		E3CRC SOL	concealed right hand carrier set, PVD bronze
		E3CRCSTG	concealed right hand carrier set, PVD brass

a) left hand carrier set with concealed bottom guide  
b) right hand carrier set with concealed bottom guide










### Intermediate Carrier Set (fourth hinge recommended for doors over 7'4" (2250mm))

PARTS	PARTS ON PANELS	PRODUCT CODE	DESCRIPTION
 <p>a) </p> <p>b) </p>	 <p>a) </p> <p>b) </p>	E3CICSS	concealed intermediate set, stainless steel
		E3CICSOL	concealed intermediate set, PVD bronze
		E3CICSTG	concealed intermediate set, PVD brass
		E3HNHS	single straight hinge, stainless steel
		E3HNHOL	single straight hinge, PVD bronze
		E3HNHTG	single straight hinge, PVD brass

a) intermediate carrier set with concealed bottom guide  
b) fourth hinge recommended for doors over 7'4" (2250mm)

## Hardware selection

### Hinge Set










PARTS	PARTS ON PANELS	PRODUCT CODE	DESCRIPTION
a)    b)    c) 	a)  b) 	E3HSS E3HSQOL E3HSTG  E3HNHSS E3HNHSOL E3HNHSTG  E3HNHS E3HNHOL E3HNHTG	hinge set with handle, stainless steel hinge set with handle, PVD bronze hinge set with handle, PVD brass  hinge set with no handle, stainless steel hinge set with no handle, PVD bronze hinge set with no handle, PVD brass  single straight hinge, stainless steel single straight hinge, PVD bronze single straight hinge, PVD brass

a) hinge set with handle for outswing doors

b) hinge set with no handle for inswing doors

c) fourth hinge recommended for doors over over 7'4" (2250mm)

### Half Offset Hinge Set

PARTS	PARTS ON PANELS	PRODUCT CODE	DESCRIPTION
a)    b)    c) 	a)  b) 	E3HHSS E3HHSOL E3HHSTG  E3HHNHSS E3HHNHSOL E3HHNHSTG  E3HHNHSS E3HHNHOL E3HHNHTG	half offset hinge set with handle, stainless steel half offset hinge set with handle, PVD bronze half offset hinge set with handle, PVD brass  half offset hinge set with no handle, stainless steel half offset hinge set with no handle, PVD bronze half offset hinge set with no handle, PVD brass  single half offset hinge, stainless steel single half offset hinge, PVD bronze single half offset hinge, PVD brass

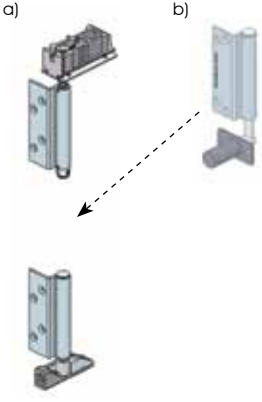
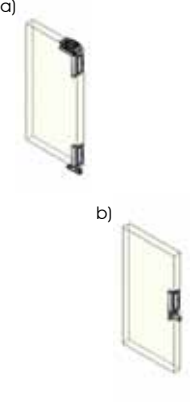
a) half offset hinge set with handle for outswing doors

b) half offset hinge set with no handle for inswing doors

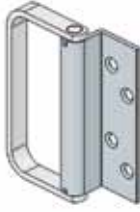

c) fourth hinge recommended for doors over over 7'4" (2250mm)

## Hardware selection

### Pivot Set / Wall Pivot



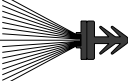

PARTS	PARTS ON PANELS	PRODUCT CODE	DESCRIPTION
		E3CPSS	concealed pivot set, stainless steel
		E3CPSOL	concealed pivot set, PVD bronze
		E3CPSTG	concealed pivot set, PVD brass
		E3WPSS	wall pivot set, stainless steel
		E3WPSOL	wall pivot set, PVD bronze
		E3WPSTG	wall pivot set, PVD brass
<p>a) pivot set</p> <p>b) jamb mounted middle wall pivot recommended for doors over 7'4" (2250mm) to central deflection and bowing</p>			

### External Handle

PARTS	PARTS ON PANELS	PRODUCT CODE	DESCRIPTION
		E3EHS	external handle, stainless steel
		E3EHOL	external handle, PVD bronze
		E3EHTG	external handle, PVD brass
<p>single hinge with handle for outswing and inswing application (please refer to Common Panel Layouts page 15 fore more details)</p>			

Weatherseal selection

Weatherseals

PARTS	PRODUCT CODE	DESCRIPTION
	426	White or brown weatherseal for between doors.
	427	White or brown weatherseal for sill, jamb and header (perimeter).
	P108-35	For entry door
	P108-50	Doorsweep

available in a  
range of lengths  
and finishes



### Dropbolts

Centor's stylish, flush-mounting dropbolts are the ideal solution for fastening or securing bifold doors based on the E3 system. Easily installed with a dedicated router bit available from Centor, DF and DO dropbolts are available in a range of lengths and finishes to suit many applications.

#### Centor DF

Rated to resist the most extreme wind conditions (up to 990lb force in certain timbers) DF dropbolts feature rounded styling and are suited to use with outward opening bifold doors. Available in 8" (200mm), 16" (400mm), 24" (600mm) and 39" (1000mm) lengths with a 3/4" (20mm) throw, they come in natural and gold anodised, chrome, brushed metallic and custom powdercoated finishes.

#### Centor DO

Offering all the style, security and choice of DF, but with varying degrees of offset in the bolt shaft, DO dropbolts suit inward opening doors based on the E3 Concealed system. DO is installed at the top of the door panel while DO Concealed locks into the floor channel of the bifold system, meaning no extra holes or slots to drill or machine in the floor surface or door-sill.



Centor DF dropbolt



Centor DO dropbolt



Dropbolts / outward opening

DY Specifications	
maximum wind load	990lb (450kg) force
minimum door thickness	1 3/4" (44.45mm)
bolt lengths	8" (200mm), 16" (400mm), 24" (600mm), 39" (1000mm)
throw length	1" (25mm)
finishes	Brushed metallic, oil rubbed bronze powdercoat and PVD brass.

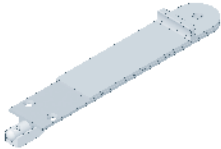
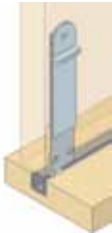


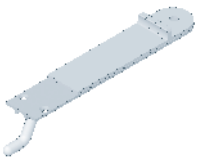
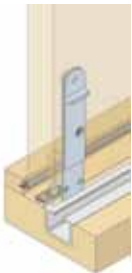
PART	ARCHITECTURAL DETAIL	PRODUCT CODE	DESCRIPTION
		DBSY200NRTG	8" (200mm), PVD brass
		DBSY200NRQ	8" (200mm), oil rubbed bronze powdercoat
		DBSY200NRX	8" (200mm), brushed metallic
		DBSY400NRTG	16" (400mm), PVD brass
		DBSY400NRQ	16" (400mm), oil rubbed bronze powdercoat
		DBSY400NRX	39" (1000mm), brushed metallic
		DBSY600NRTG	24" (600mm), PVD brass
		DBSY600NRQ	24" (600mm), oil rubbed bronze powdercoat
		DBSY600NRX	24" (600mm), brushed metallic
		DBSY1000NRQ	39" (1000mm), oil rubbed bronze powdercoat
		DBSY1000NRX	39" (1000mm), brushed metallic

## Dropbolts / inward opening

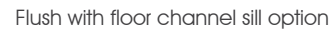
DO Specifications	
<b>minimum door thickness</b>	1 3/4" (44.45mm)
<b>bolt lengths</b>	8" (200mm), 16" (400mm), 24" (600mm), 39" (1000mm)
<b>throw length</b>	3/4" (20mm)
<b>finishes</b>	Brushed metallic, oil rubbed bronze powdercoat and PVD brass.



PART	ARCHITECTURAL DETAIL	PRODUCT CODE	DESCRIPTION
		DBOC200NRTG	8" (200mm) concealed dropbolt, PVD brass
		DBOC200NRX	8" (200mm) concealed dropbolt, brushed metallic
		DBOC200NRQ	8" (200mm) concealed dropbolt, oil rubbed bronze powdercoat
		DBOC400NRTG	16" (400mm) concealed dropbolt, PVD brass
		DBOC400NRX	16" (400mm) concealed dropbolt, brushed metallic
		DBOC400NRQ	16" (400mm) concealed dropbolt, oil rubbed bronze powdercoat

PART	ARCHITECTURAL DETAIL	PRODUCT CODE	DESCRIPTION
		DBOC200NRTG	8" (200mm) concealed dropbolt, PVD brass
		DBOC200NRX	8" (200mm) concealed dropbolt, brushed metallic
		DBOC200NRQ	8" (200mm) concealed dropbolt, oil rubbed bronze powdercoat
		DBOE200NRTG	8" (200mm) dropbolt, PVD brass
		DBOE200NRX	8" (200mm) dropbolt, brushed metallic
		DBOE200NRQ	8" (200mm) dropbolt, oil rubbed bronze powdercoat
		DBOE400NRTG	16" (400mm) dropbolt, PVD brass
		DBOE400NRX	16" (400mm) dropbolt, brushed metallic
		DBOE400NRQ	16" (400mm) dropbolt, oil rubbed bronze powdercoat
		DBOE600NRTG	24" (600mm) dropbolt, PVD brass
		DBOE600NRX	24" (600mm) dropbolt, brushed metallic
		DBOE600NRQ	24" (600mm) dropbolt, oil rubbed bronze powdercoat
		DBOE1000NRTG	39" (1000mm) dropbolt, PVD brass
		DBOE1000NRX	39" (1000mm) dropbolt, brushed metallic
		DBOE1000NRQ	39" (1000mm) dropbolt, oil rubbed bronze powdercoat

Full opening with self drain sill option







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