



Product Update

May 1, 2014

#P459

Revision 01

CONCEALED VERTICAL RODS – SPECIAL INSTRUCTIONS

Minimum Stile Dimensions for Doors With Lites and Concealed Vertical Rods

1. Non-Rated Full-Lite Doors:

a. We can manufacture and warranty full lite doors machined for concealed vertical rods and lites. Doors must be constructed of SCL or Stave core and will include 5" (SCL) pre-channeled blocking, full height, on meeting edges.

b. If the hardware is unknown at time of quoting use a minimum lock stile dimension of is 5-5/8". If hardware and lite location are known the minimum dimensions can be reduced to those shown on the tables below.

2. 20 Minute Full-Lite Doors:

a. We can manufacture, machine, label and warranty full lite doors (SCL or Stave) with concealed vertical rods and lites. 5" (Tectonite) pre-channeled blocking, full height, on meeting edges is required. We will construct these doors using concealed intumescent edge strips.

b. If the hardware is unknown at time of quoting use a minimum lock stile dimension of is 5-5/8". If hardware and lite location are known the minimum dimensions can be reduced to those shown on the tables below.

3. 45 Minute Full-Lite Doors:

a. We can manufacture, machine, label and warranty 45-minute full lite doors with specific concealed vertical rods (Sargent and Adams Rite only) and lites. A 5" (Tectonite) pre-channeled blocking, full height, on meeting edges is required. We will construct these doors using concealed intumescent edge strips regardless of whether the doors are positive pressure or neutral pressure.

b. If the hardware is unknown at time of quoting use a minimum lock stile dimension of is 7-1/8". If hardware and lite location are known the minimum dimensions can be reduced to those shown on the tables below.

4. Standard (20-Min or Non-Rated) Particle Core Doors:

a. We can manufacture, machine, label and warranty Particle core doors with concealed vertical rods and lites. 5" pre-channeled blocking, full height, on meeting edges is required. We will construct rated doors using concealed intumescent edge strips.

b. If the hardware is unknown at time of quoting use a minimum lock stile dimension of is 7-7/16". If hardware and lite location are known the minimum dimensions can be reduced to those shown on the tables below.



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5. 45-90 Minute Standard Mineral Core Doors:

a. We can manufacture, machine, label and warranty 45-90 minute doors with concealed vertical rods and lites. 5" (Tectonite) pre-channeled blocking, full height, on meeting edges is required. We will construct these doors using concealed intumescent edge strips.

b. If the hardware is unknown at time of quoting use a minimum lock stile dimension of is 9-5/8". If hardware and lite location are known the minimum dimensions can be reduced to those shown on the tables below.

6. Non-rated and 20-min Acoustic Doors:

a. We have not conducted acoustic tests with the CVR hardware, however where an acoustic construction is required we can manufacture and warranty Sound Group 3 (SG3) doors machined for concealed vertical rods and lites. Doors will include 5" (SCL) pre-channeled blocking, full height, on meeting edges.

b. If the hardware is unknown at time of quoting use a minimum lock stile dimension of is 9-1/8"". If hardware and lite location are known the minimum dimensions can be reduced to those shown on the tables below.

Minimum stile based on mortise pocket	SCL & Stave	45-Min Full Lite	Particle Core	45-90 Minute Mineral	SG3 Acoustic
Von Duprin	5-1/8"	Not Available	6-15/16"	9-1/8"	8-5/8"
Precision	5"	Not Available	6-13/16"	9"	8-1/2"
Corbin & Yale	No Mortise – See table below				
Dorma F9100	No Mortise – See table below				
Sargent 8600 &	No Mortise – See table below				
Sargent PP/PR	5-5/8"	7-1/8"	7-7/16"	9-5/8"	9-1/8"
Adams Rite 3900	5"	6-1/2"	6-13/16"	8-7/8"	8-3/8"
Falcon 25 series	No Mortise – See table below				

Minimum stile based on CVR channel	SCL & Stave	45-Min Full Lite	Particle Core	45-90 Minute Mineral	SG3 Acoustic
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Von Duprin	5"	Not Available	5-5/16"	7-1/2"	7"
Precision	5"	Not Available	5-5/16"	7-1/2"	7"
Corbin & Yale	5"	Not Available	5-7/8"	8-1/16"	7-9/16"
Sargent 860	5"	6-1/4"	6-9/16"	8-3/4"	8:1/4"
Sargent PP/PR	5"	6-1/4"	6-9/16"	8-3/4"	8"1/4"
Dorma F9100	5"	6-1/2"	6-13/16"	9"	8-1/2"
Adams Rite 3900	5"	6-1/8"	6-7/16"	8-5/8"	8-1/8"
Falcon 25 series	5"	6-1/4"	6-9/16"	8-3/4"	8-1/4"



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Acoustical Doors with CVR's

The use of CVR hardware will void the STC rating regardless of core type.

The only acoustic core door that will be constructed with and be machined for CVR hardware is the 6.5 pound per square foot design (SG3). The special construction of all other designs will not work with CVR stiles.

SG3 doors constructed with fire rated CVR stiles can be labeled for 20-minute applications.

Only top rod only CVR's are permitted if the door will be machined for a door bottom.

Concealed Vertical Rods with Delayed Entry Switches

Von Duprin

Von Duprin CVRs with a CX prefix designate a delayed opening function. When the push pad is depressed, the door will not unlatch for 15 seconds. If the person continues to push on the door the latches may breakout.

Inform customers that these CVRs are not meant for wood doors.
(This restriction does not apply to surface vertical rods, mortised exit or rim exit devices having the CX prefix)

Yale

Yale also has a delayed opening device. It is called Secure X. This device can not be used with CVRs.

Top Caps for Concealed Vertical Rods

A 20 gauge Stainless Steel top cap will be required on all doors (1-3/4" & 2-1/4") machined for Von Duprin 33, 55, and 99 series top rod only concealed vertical rod hardware, rated and non-rated.

- The cap will have to be installed for the warranty to apply.
- Caps should be used on fire-rated as well as non-fire-rated doors, and Stile & Rail as well as Flush doors.
- In the Friedman system the cap is pulled into the order as an accessory, with the cost already built into the machining price for the door. Caps will ship loose in a bag, and will not be shipped on the doors
- Caps are friction fit on the door and can be pinched in to tighten the fit. Additionally, they can be permanently held in place using a 2-part epoxy.
- Caps may be installed on bottom latches of full rod CVR hardware, but would have to be permanently attached with epoxy.
- The caps are furnished in stainless steel only. They can be field painted.
- The cap designs are shown on the following page.



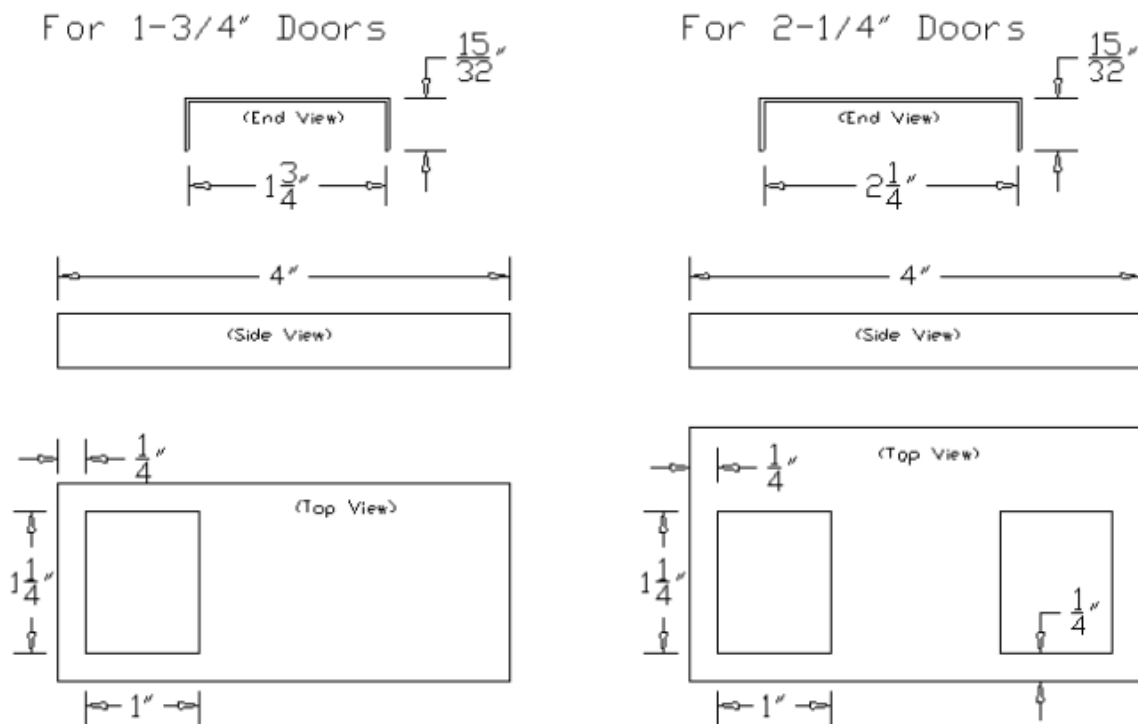
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Special Concealed Vertical Rod Hardware

Von Duprin InPact hardware: This hardware uses a pushbar design that is recessed into the core of the door so that when depressed it is essentially flush with the face of the door. The machining for this hardware is almost the full core thickness and is not available on rated or non-rated doors of any core type.

Concealed Vertical Cable Hardware

Von Duprin 9949 and 9849 series: This design uses a cable in lieu of a rod, but requires a larger latch case mortise and a bored access hole. Eggers is able to provide this hardware in pairs rated through 90-minutes when furnished with pre-channeled noncombustible blocking and an All Metal Stamping 251A metal edge.



5" Metal Edge Requirements for Concealed Vertical Rods

VT has approval to provide most models of CVR hardware on fire rated doors (20-90 min) without the typical 5" metal edges. Where the hardware template requires excessive removal of face or blocking material, such as the Falcon F-25 series, metal edges will still be required.

Concealed Vertical Rods with 5" Channels

When using a 5" full height metal edge on doors with CVR's the system will deduct 1/32" from prefit door width and the backset.

On the All Metal Stamping machining sheets there is a box for Latch Brackets, check "No" or "None", also check "No" if the sheet ask for Cover Plate Tabs. You will need to provide device and trim templates with machining sheets to All Metal Stamping.



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If the doors are Positive Pressure category "A or B" they will require an additional intumescent edge seal field applied to the outside meeting edge of the 5" channel. This essentially makes all pairs with a 5" edge into category B even if they were constructed with intumescent edges. Less Bottom Rod (LBR) devices will require additional machining for the Auxiliary Fire Latches 30" up (or 28" in cases of trim conflict) from the bottom of the channel on all 45 thru 90-minute doors.

The machining sheets for the 5" channel can be found at www.allmetalstamping.com/2010/AMS5inchChannels410.pdf