



# ProVent™ PVC Single Stack System with Whisper-Quiet Shell Pipe

(US Patent Pending)



## Proven benefits of single stack system in 3" and 4" stack sizes

Significant reduction in pipe and fittings  
Savings in materials and labor  
Improved performance  
Simplifies job - easier to stay on or ahead of schedule  
Same design rules as cast iron Sovent® systems

## Easier to install

Light weight (7.5 pounds)  
Easier to handle  
Self-supporting<sup>ü</sup>  
Facilitates Fixed Point Fabrication<sup>ë</sup>

## Allows for pipe expansion and contraction<sup>ü</sup>

## Whisper-Quiet PVC Shell Pipe (US Patent Pending)

Noise-absorbing ribs on the StackVent ProVent™ Whisper Quiet Shell Pipe

- Noise level 3 Times Less Than Cast Iron<sup>±</sup>
- Noise level 8 Times Less Than PVC<sup>±</sup>

## Can a PVC Stack really be Quieter than a Cast Iron Stack? (check inside)

<sup>ü</sup> When used with ProSet Systems penetrations  
<sup>ë</sup> In comparative tests as described on inside pages  
<sup>±</sup> See our brochure "ProVent Systems: Fixed Point Fabrication for Plumbing Contractors"

## Comparative Sound Testing of Cast Iron and PVC Pipes

Noise from DWV pipes in wall cavities adjacent to living rooms, dining rooms and bedrooms can be annoying when waste water is discharged into the drain pipe from upper floors. In the past, the only sensible option to reduce sound was to use cast iron in place of PVC plastic pipe.

We developed a different solution; a variation on standard PVC piping which will also fit inside a plumbing wall. We performed comparative sound tests with cast iron and standard PVC piping, keeping everything constant except the type of pipe. As sound engineers know, it is difficult to reliably test the soundproofing qualities of different types of piping because a small change in the environment or in attaching or securing the pipe can change the test results.

In order to evaluate the soundproofing capabilities of ProVent Whisper Quiet Shell Pipe, we tested each type of pipe by flushing the same 1.6GPF bottom outlet water closet within the same mounting frame and using the same attachment method for each type of pipe. *See the photographs and tables, below, for surprising results.*

Sound tests were performed in order to detect the actual sound difference between:

- ProVent Whisper Quiet Shell Pipe snapped around regular, approved PVC pipe;
- Regular, approved PVC pipe without Shell Pipe; and
- Regular, approved Cast Iron No-Hub Soil Pipe.

The noise levels recorded were:

- Using Shell Pipe around the bare PVC pipe recorded a high of 67 dB
- Using bare PVC pipe without the Shell Pipe recorded a high of 76 dB
- Using Cast Iron No-Hub vertical stack pipe recorded a high of 72 dB

These results are not as close as they appear.

A level of 70 dB has **10 times** the noise intensity of a level of 60 dB. These results indicate that the **bare PVC pipe** registered **8 times the noise level** of the ProVent "Whisper Quiet" Shell Pipe and that the **cast iron pipe** registered **over 3 times the noise level** of the ProVent "Whisper Quiet" Shell Pipe.

While we expected the Shell Pipe to outperform the PVC pipe, the fact that it outperformed the cast iron was a complete surprise since cast iron has always been known and advertised as the "quiet" pipe.

### Whisper Quiet Shell Pipe (US Patent Pending)

The Shell Pipe is available in 5 foot lengths, will fit into regular wall cavities and can be cut to accommodate any length of regular PVC pipe where water noise could be an issue.

Spacer rings are used to separate the PVC pipe from the Shell Pipe. Once the Spacer Rings are installed, the Shell Pipe is glued to them, enclosing the PVC pipe.

There is a large space between the ceiling and the PVC pipe and fittings installed inside the drop ceiling area and, therefore, they shouldn't contribute significantly to water noise.

## ProVent Whisper Quiet Shell Pipe (US Patent Pending)



Base Meter setting	70 dB
Meter Reading	-3 dB
<b>Sound Level</b>	<b>67 dB</b>

"Whisper Quiet" Shell Pipe registered the lowest noise level

## Cast Iron Pipe



Base Meter setting	70 dB
Meter Reading	+2 dB
<b>Sound Level</b>	<b>72 dB</b>

Difference = 5dB  
(Cast Iron pipe has **3.2 times greater noise level** than "Whisper Quiet" Shell Pipe)

## Standard, Bare PVC Pipe



Base Meter setting	70 dB
Meter Reading	+6 dB
<b>Sound Level</b>	<b>76 dB</b>

Difference = 9dB  
(Bare PVC pipe has **8 times greater noise level** than "Whisper Quiet" Shell Pipe)

## ProVent Whisper Quiet Shell Pipe (US Patent Pending)

Shown here is a 20 inch sample of the Shell Pipe prior to completing installation around the PVC pipe.

The air gap between pipe walls acts as a baffle for the sound being transmitted from the inner PVC pipe wall.



## ProVent System™ Approvals

Plumbing approvals for using the ProVent System are granted under the Alternate Materials & Methods or the Alternate Professional Engineers Design criteria in Plumbing Codes based on ASSE 1043, ASTM D-2665 & IAPMO IGC 67-2006 Test & Design Standards.

ProVent Stack and Base Fittings made of Type I, PVC resin permanently marked with the UPC Shield in accordance with ASTM 2665 and IGC 67-2007 Standards.

ProVent 3" PVC Double Wye Fitting in accordance with ASTM D-2665 Standard, permanently marked with the UPC Shield, fits in between the stack and a 12" rough water closet opening. The two side openings discharge above the centerline of the wye.

E-Z Flex PVC Couplings in accordance with CSA B-602 Standard permanently marked with Warnock Hersey logo for elastomeric couplings for allowance of vertical pipe expansion and contraction.

