

---

Subject: Re: paradigm shift

Posted by [Leland Crooks](#) on Mon, 24 Oct 2005 23:19:24 GMT

[View Forum Message](#) <> [Reply to Message](#)

---

Didn't finish and somehow hit post. Here goes again. Being an old hardware store owner I got to wondering about the screen used in the vent. It's just a piece of screen wire. When you design HVAC systems you have to account for the grate blockage on your vents. So I decided to calculate it. The screen has 29 strands. Eliminate 2 due to being so close to the sides. Diameter of screen wire strand is .011. As the screen wire plug is also .75, calculate avg length of strand to be .5". Calculate the surface area of a cylinder .5" long, .011 in diameter. Divide by 2 as only half the area is seen by the vent. Gives surface area of .00873 per strand. Multiply by 27. Gives blockage of .235". Subtract from area of 3/4 vent, .44179 - .235 = .20679" effective vent size. The holes in my sinks are 1/2". Area of .1963. Difference of 1/100th. You probably increased instead of decreased the area available in the bigger vent on the labs. Losses to grates are considerable when you design hvac systems for back pressure in the system. I'm still going to do some tests. But mathematically the only change in vent volume is negligible. I may get out the dremel and thin it a tad. Increase the size I told you for these by about 1-2/100. Mine are just a little looser than I anticipated.

---