



THIRD PARTY VERIFICATION
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SIM/TECH FILTER

**NEW STF-110 DISPOSABLE SEPTIC TANK FILTER
 THIRD PARTY VERIFICATION**

The Disposable Septic Tank Filter is constructed as a twisted-in-wire brush with 26" long brush body, 1/4" tip and 2 3/4" long handle end with 90 degree bend. Brush body will have a major diameter of 4.313" for a length of 9 1/2" starting 1/2" from the 90 degree handle bend, then will transition down to 3 1/2" diameter over the next 2 1/2" and held at 3 1/2" diameter for the next 14".

There will be a scallop cut into the O.D. in the major diameter beginning 2 1/2" from the top, transitioning down to 3 1/2" over the next 2", and then transitioning up to the major diameter over the next 2".

The stem will be 11-gauge stainless steel and the fill material will be .012 yellow polypropylene.

The filter has a total of 2,962 lineal feet of bristle equaling 35,544 lineal inches of bristle. By calculating the total length x the total perimeter of Sim/Tech's uniquely shaped bristle, it gives us a **filtering surface of 2,215 square inches.**

Volume of a 4"x26" Septic Tee	326.7 cubic inches
Volume of the STF-110 Filter	4.265 cubic inches
Volume as open for fluid	322.435 cubic inches





THIRD PARTY VERIFICATION OF FILTRATION ON THE STF-110 AND THREE OTHER GRAVITY SEPTIC TANK FILTERS

- Test was checking for filtering qualities with particulate that could be found in septic tank effluent
- This test used five types of particulate added to a clean tank
- The five types of particulate were hair, seeds, tissue paper, lint, and chain saw chips (see table A below)
- Test tank was riled manually every five minutes while performing tests to represent a large influx of water
- Water was introduced into the test tank at 210 gallons per hour
- Test was run to a 2" head height above outlet flow
- Recorded length of time to achieve a 2" head height (see table B below)
- Recorded what was caught in a 1500 micron sieve during the total run time (see table B below)
- Recorded what was caught in a 600 micron sieve below the 1500 micron sieve during total run time (see table B below)
- Recorded particulate caught while changing filters 15 minutes after ending test using manufacturers recommended instructions (see table B below)
- Recorded particulate removed with filters themselves (all filters were removed slowly) (see table B below)
- All particulate was recorded in grams using a OHAUS Scout II Scale (Serial #BJ380398) with capacity 400 times 0.1g (purchased scale 11/17/01)

TABLE A	Grams
Human hair	2
Horse hair	2
Dog hair	1
Cat hair	1
Tomato seeds	2
Pepper seeds	2
Cucumber seeds	2
Dill seeds	2
Charmin tissue paper	2
Scott tissue paper	2
Northern tissue paper	2
Lint	2
Chainsaw chips	4

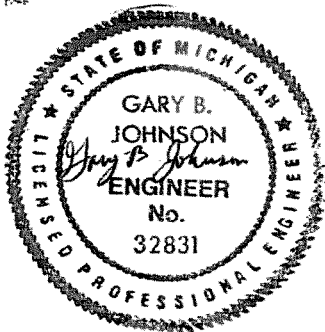


TABLE B	Sim/Tech	Tuff-Tite	Zabel	Zoeller
Time to achieve 2" head height	1 hr. 40 min.	7 min.	6 min.	* 2 hrs.
Particulate caught in 1500 micron sieve	0	0	0	0
Particulate caught in 600 micron sieve	0	0.2	0.3	1.2
Particulate caught while changing filter	0	0.3	0	0
Particulate contained within or on filter itself	15.0	6.3	2.2	2.3

*Ended test at 2 hours, total head height was at 1 3/4"

Note: All filters except Sim/Tech caught seeds in 1500 micron sieve but was not recordable in 1/10g scale

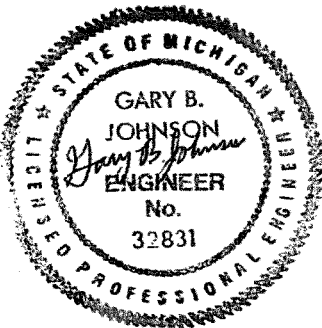


THIRD PARTY VERIFICATION OF FLOW RATES ON THE STF-110 AND THREE OTHER GRAVITY SEPTIC TANK FILTERS

- Test done with clean water and no particulate
- Filters placed in a standard outlet tee of S & D type with a 17" tailpiece to outlet level
- Test tank was a plastic 55 gallon drum
- There was an accurate method to measure head height above outlet level
- Test was done for a 1/2" and 1" head height above outlet level
- All filters tested using the above conditions

FILTER FLOW RATES

	Sim/Tech	Tuff-Tite	Zabel	Zoeller
1/2" head height above outlet flow	1, 800 GPD	1, 440 GPD	1, 195 GPD	900 GPD
1" head height above outlet flow	5, 040 GPD	4, 680 GPD	4, 858 GPD	1, 800 GPD



It is my opinion that the Sim/Tech filter will prove to be a superior septic tank filter because of its basic design; bristles to catch any "paper like" debris on the outside surface (guided there because of the bristle's bending at the ends under pressure of the flow). A dead zone near the center to collect small particles as they fall out of the flow. Plus the incalculable water paths through, and around, the filter fibers.

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