NSF/ANSI STANDARD 40
RESIDENTIAL WASTEWATER SYSTEMS

PERFORMANCE TESTING AND EVALUATION

The system shall be assembled, installed, and filled in accordance with the manufacturer's instructions.

The performance of the system shall be evaluated for 26 consecutive weeks. During the testing and evaluation period, the system shall be subjected to 16 weeks of design loading, followed by 7.5 weeks (52 days) of stress loading, and then an additional 2.5 weeks (18 days) of design loading.

The system shall be closed 7 days a week with a wastewater volume equivalent to the daily hydraulic capacity of the system. The following schedule shall be adhered to for dosing:

Time frame	% rated daily hydraulic capacity
6:00 a.m. to 9:00 a.m.	approximately 35
11:00 a.m. to 2:00 p.m.	approximately 25
5:00 p.m. to 8:00 p.m.	approximately 40

Stress loading is designed to evaluate a system's performance under four non-ideal conditions.

1) Wash Day Stress
2) Working Parent Stress
3) Power/Equipment Failure Stress
4) Vacation Stress

A minimum of 96 data days shall be required during system performance testing and evaluation. No routine service or maintenance shall be performed on the system to achieve the 96 data days.

		Sample Location	
Parameter	**Sample Type**	**Raw Influent**	**Treated Effluent**
BOD5	24 h composite	X	
CBOD5	24 h composite		X
Total Suspended Solids	24 h composite	X	X
pH	Grab	X	X
Temperature ^{o}C	Grab	X	X
Dissolved Oxygen	Grab		X

During the 6-month testing and evaluation, a total of 3 effluent samples shall be assessed for color, odor, foam, and oily film.

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CRITERIA FOR PASSING

Class I Systems

$CBOD_5$

The 30-d average of $CBOD_5$ concentrations of effluent samples shall not exceed 25 mg/L.

The 7-d average of $CBOD_5$ concentrations of effluent samples shall not exceed 40 mg/L.

System performance shall not be considered outside the limits established for Class I systems if, during the first calendar month of performance testing and evaluation, 7-d average and 30-d average effluent $CBOD_5$ concentrations do not equal or exceed 1.4 times the above referenced limits.

TSS

The 30-d average of TSS concentrations of effluent samples shall not exceed 30 mg/L.

The 7-d average of TSS concentrations of effluent samples shall not exceed 45 mg/L.

System performance shall not be considered outside the limits established for Class I systems if, during the first calendar month of performance testing and evaluation, 7-d average and 30-d average effluent TSS concentrations do not equal or exceed 1.4 times the above referenced limits.

pH

The pH of individual effluent samples shall be between 6.0 and 9.0

Class II Systems

The following criteria shall be met in order for a system to be classified as a Class II residential wastewater treatment system.

$CBOD_5$

Not more than 10% of the effluent $CBOD_5$ values shall exceed 60 mg/L.

TSS

Not more than 10% of the effluent TSS values shall exceed 100 mg/L.