



# Grease Trap Sizing Guide

## A. NON-COOKING INTENSIVE FOOD ESTABLISHMENTS

Examples include ice cream shops, candy shops, deli in grocery or convenience store without cooking facilities, bagel shops, etc.

### Formula

$$\begin{aligned} &\text{Minimum Trap Capacity} \\ &= \frac{(\# \text{ of compartments} \times \text{L in.} \times \text{W in.} \times \text{D in.}) \times 7.48 \times 0.80}{1,728} \end{aligned}$$

### Example

$$\begin{aligned} &3 \text{ compartment sink} \\ &= \frac{(3 \text{ compartments} \times 17'' \times 17'' \times 11'') \times 7.48 \times 0.80}{1,728} \\ &= 33.02 \text{ gallon capacity (4.4 cu. ft.)} \end{aligned}$$

## B. COOKING INTENSIVE FOOD ESTABLISHMENTS

Examples include restaurants, drive-in restaurants, deli's with cooking capacity, carry out restaurants, etc.

### Formula

$$\begin{aligned} &\text{Minimum Interceptor Volume} \\ &= \text{Number of Seats} \times \text{FR} \times (\text{Hours of Operation}/18) \end{aligned}$$

### FR = Flow Rate

- Full Service Restaurant = 25 gallons
- Non-Washable, Paper, or Plastic Utensils = 12.5 gallons

## C. OTHER TYPES OF ESTABLISHMENTS

Examples include hotels, nursing homes, schools, office or factory cafeteria, etc.

### Formula

$$\text{Total Volume} = \# \text{ of person meals} \times 5 \text{ gal.} \times \text{DW}$$

**# of Person Meals** = number of meals served during either breakfast, lunch, or supper, whichever is greatest

### DW = Dishwashing

With Dishwasher = 1.0      Without Dishwasher = 0.75

### Examples

1. A cafeteria with a dishwasher serves 300 meals a day:  
= 300 meals x 5 gal. x 1.0  
= 1,500 gal.
2. 200 unit motel with efficiency kitchens:  
= 200 rooms x 4 people/room x 5 gal./meal x 0.75  
= 3,000 gal.

## D. FIXTURE UNIT CALCULATION METHOD

When using the fixture unit calculation method, the Owner must submit calculations signed and sealed by a registered professional engineer in the state of South Carolina to the City for review.

### Formula

Total Volume =  $Q \times T \times SF$

#### Q = Flow in GPM

Flow derived from total Drainage Fixture Units (DFU) or Fixture Units (FU) connected to the interceptor as determined using the International Plumbing Code (2000 or higher edition) or AWWA Manual of Water Supply Practices M22.

#### T = Retention Time

= 30 Minutes

#### SF = Storage Factor

= 1.25 based on fully loaded interceptor with 25% grease/solids

**Contact Candace Henderson at (803) 545-0193 for Final Approval**

### NOTES

1. Non-Cooking Intensive Food Service Establishments as determined by the City may utilize grease traps (must have provisions for sampling at outlet of trap). All others must utilize grease interceptors unless approved by City staff. Refer to *Specifications for Grease Traps and Interceptors – Part 30* of the City of Columbia Standard Specifications for requirements.
2. Regardless of minimum size required, underground grease interceptors are required to have a minimum 1,000 gallon capacity. When greater than 1,500 gallon capacity is required, multiple units may be furnished and installed in series, see standard details in *Specifications for Grease Traps and Interceptors – Part 30* of the City of Columbia Standard Specifications. Larger sized interceptors may be approved on a case by case basis.
3. Refer to *Fats, Oils, and Grease Management Regulation – Part 29* for additional information.
4. The foregoing is a recommended minimum guideline only. It does not in any way relieve the owner of ordinance mandated requirements that discharged waste have a maximum grease content of 100 mg/l, see *Sewer Use Ordinance Sec. 23-102*.
5. Contact Candace Henderson at 803-545-0193 for more information.

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