Sizing of Grease Interceptors

The grease interceptor is generally sized according to the local plumbing code. The different variables include; number of meals per hour or seats, wastewater flow rate, wastewater detention time, and storage factor.

Uniform Plumbing Code Method:
As recommended by the Uniform Plumbing Code - Appendix H, the following sizing method is as follows:

Uniform Plumbing Code Sizing Method
1. Restaurants

(D) x (MF) x (GL) x (RT) x (ST) = Size of Grease Interceptor (gallons)

Where:

D	=	Total number of seats
MF	=	Meal factor, based on establishment type & average time per meal; 1.33 Fast Food/Cafeteria (45 min) 1.00 Restaurant (60 min) 0.67 Leisure Dining (90 min) 0.50 Dinner Club (120 min)
GL	=	Gallons of wastewater per meal; 6 With dishwashing machine 5 Without dishwashing machine 2 Single service kitchen 1 Food Waste Disposal
RT	=	Retention time; 2.5 Commercial kitchen waste 1.5 Single service kitchen
ST	=	Storage factor, based on hours of operation; 1.0 Operation of 8 hours 1.5 Operation of 12 hours 2.0 Operation of 16 hours 3.0 Operation of 24 hours 1.5 Single service kitchen

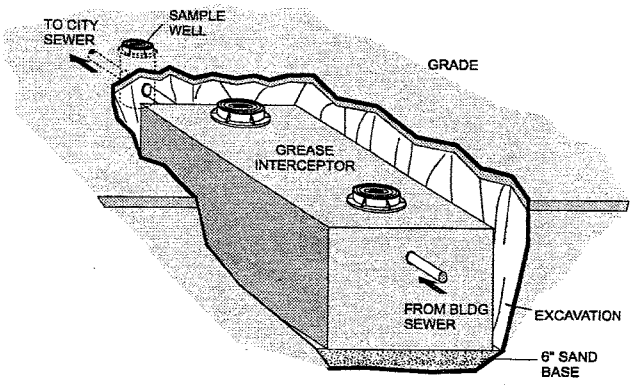

Fig. 3 - Typical Grease Interceptor Installation

Environmental Protection Agency Method:
As published in the EPA Design Manual - *Onsite Wastewater Treatment & Disposal Systems*, the recommended method for sizing a grease interceptor is as follows:

1. Restaurants

(D) x (GL) x (ST) x (HR/2) x (LF) = Size of Grease Interceptor (gallons)

Where:

D	=	Number of seats in dining area
GL	=	Gallons of wastewater per meal, normally 5 gallons
ST	=	Storage capacity factor, min. of 1.7, for onsite disposal 2.5
HR	=	Number of hours open
LF	=	Loading Factor; 1.25 Interstate Freeways 1.0 Other Freeways 1.0 Recreational Areas 0.8 Main Highways 0.5 Other Highways

2. Hospitals, Nursing Homes, other type Commercial Kitchens with varied seating capacity

(M) x (GL) x (ST) x (2.5) x (LF) = Size of Grease Interceptor (gallons)[a]

Where:

M	=	Meals per day
GL	=	Gallons of wastewater per meal, normally 4.5 gallons
ST	=	Storage capacity factor, min. of 1.7, for onsite disposal 2.5
LF	=	Loading Factor; 1.25 Garbage disposal & dishwasher 1.0 Without Garbage disposal 1.0 Without dishwashing 0.8 Without dishwashing & garbage disposal
a	=	Min. size grease interceptor of 750 gallons

For larger sizes and other commercial or industrial applications, contact our engineering department.

Grease Interceptor Sizing Worksheet

PRECON PRECAST,LLC

Project:	Calculated By:	Date:
Address:	Company:	Ref. No:

Instructions:
The following formula is the Grease Interceptor Sizing Formula as defined by per the Uniform Plumbing Code - Appendix H
Follow the steps to determine grease interceptor size.

Number of Meals Per Peak Hours		Waste Flow Rate		Retention Time		Storage Factor		Interceptor Size (calculated)
	X		X		X		=	
Step #1		Step #2		Step #3		Step #4		Step #5

Recommended Minimum Size Grease Interceptor Based on Park Environmental Model or Equal

GT- Step #6

1 Number of Meals Per Peak Hour

Recommended Formula:

Seating Capacity	X	Meal Factor	=	Number of Meals Per Peak Hour
	X		=	

Enter Seating Capacity

Establishment Type	Meal Factor	Meal Factor
○ Fast Food	45	1.33
○ Restaurant	60	1.00
○ Leisure Dining	90	0.67
○ Dinner Club	120	0.50

Notes:

2 Waste Flow Rate

Condition:	Flow Rate	
○ a. With a Dishwashing Machine	6	Gallon Flow
○ b. Without Dishwashing Machine	5	Gallon Flow
○ c. Single Service Kitchen	2	Gallon Flow
○ d. Food Waste Disposer Only	1	Gallon Flow

Notes:

3 Retention Time

○ Commercial Kitchen Waste	Dishwasher	2.5	Hours
○ Single Service Kitchen	Single Serving	1.5	Hours

Notes:

4 Storage Factor

Kitchen Type		Storage Factor
a. Fully Equipped Commercial Kitchen		
Hours of Operation		
○ 8	Hours	1
○ 12	Hours	1.5
○ 16	Hours	2
○ 24	Hours	3
○ b. Single Service Kitchen		1.5

Notes:

5 Calculate Liquid Capacity

Multiply the values obtained from step #1, #2, #3, and #4.
The result is the approximate grease interceptor for this application

Notes:

6 Select Grease Interceptor

Using the approximate required liquid capacity from step #5, select an appropriate size as recommended by the manufacturer.

Notes: