



WHY PDI CERTIFIED? TWO REASONS:
PERFORMANCE & ENGINEERING INTEGRITY.

ASME A112.14.3 requires a grease interceptor to be tested to its breakdown point (the increment preceding two successive increments in which either the average efficiency is less than 90 percent or the incremental efficiency is less than 80 percent). Retention requirement at breakdown is 2 pounds (0.9 kg) of grease for each 1 gpm (3.8 L/min).

PDI G-101 certified interceptors tested to the breakdown point are certified by flow rate stating, “Maximum Grease Capacity [- - lbs]” at breakdown point with a minimum retention of 2.25 pounds (0.9 kg) of grease for each 1 gpm (3.8 L/min).

PDI G-101 certified interceptors may also be tested to a rated minimum of 13 increments and conform with or exceed the following requirements:

Have an average efficiency of 90 percent or more at the rated grease retention capacity to the flow rate;

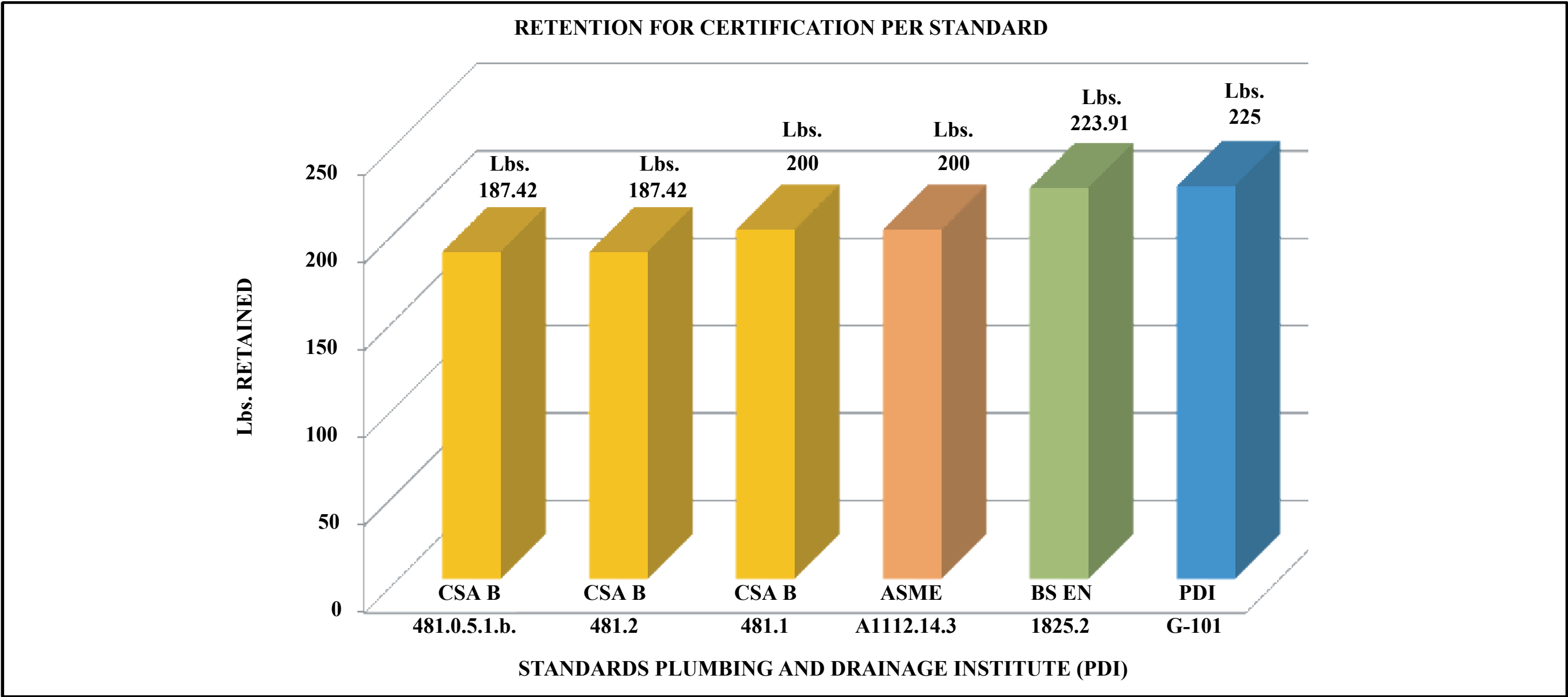
Have an incremental efficiency of 80 percent or more;

Have a minimum grease capacity per the Standard, retaining not less than 2.25 pounds (1 kg) of grease for each 1 gpm (3.8 L/min) as determined during the test.

In 2007, the Canadian Standards Association (CSA Group) published the first edition of CSA B481, which is a derivative of PDI G-101 and ASME A112.14.3. Grease interceptors certified to this Standard are required to be tested and rated in accordance with ASME A112.14.3.

®Plumbing and Drainage Institute 081920

BOTH ASME AND CSA HAVE RETENTION REQUIREMENTS 12.5% LOWER THAN PDI G-101. (SEE ATTACHED CHART). PDI G-101 IS THE SENIOR AND CLEARLY THE MOST SENIOR GREASE INTERCEPTOR STANDARD IN THE WORLD.



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TITLE: GREASE INTERCEPTOR SIZING DATA		REV:	 WWW.TANDCPLASTICS.COM 732-780-5300
	SHEET 1 OF 5	SIZE:	
	SCALE: 1:2		

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GRAVITY GREASE INTERCEPTOR (GGI) SIZING
GUIDELINES TO THE IAPMO Z1001 DESIGN STANDARD

The flow rate of the GGI is calculated to figure the possible highest flow produced by the drainage fixtures and equipment in the food prep area and then multiplied by retention time (usually determined by the local municipality) to produce the liquid volume (in gallons of water) needed for the grease interceptor. Gravity grease interceptors are typically required by IAPMO to have a 30 minute retention time, baffle(s), not less than two compartments, a total volume of not less than 300 gallons of liquid holding capacity and gravity separation.

IAPMO requires that the volume of the gravity grease interceptor shall be determined by using Table 1014.3.6. Where drainage fixture units (DFUs) are not known, the interceptor shall be sized based on the maximum DFUs allowed for the pipe size connected to the inlet of the interceptor. (Refer to Table on next page) for DFU guide).

Table 1014.3.6

Gravity Grease Interceptor Sizing	
Drainage Fixture Units	Interceptor Volume
(DFUs)	(U.S. gallons of liquid holding capacity)
8	500
21	750
35	1,000
90	1,250
172	1,500
216	2,000
307	2,500
342	3,000
428	4,000
576	5,000
720	7,500
2,112	10,000
2,640	15,000

GRAVITY GREASE INTERCEPTOR (GGI) SIZING EXAMPLE:

A restaurant has the following fixtures and equipment: one food preparation sink, three floor drains – one in the food preparation area, one in the grill area and one receiving the indirect waste from the ice machine and a mop sink.

Kitchen Drain Line DFU Count (from Table on next page):

3 floor drains at 2 DFUs each	= 6 DFUs
Mop sink at 3 DFUs each Food	= 3 DFUs
prep sink at 3 DFUs each	= 3 DFUs
Total	= 12 DFUs

Therefore, using Table 1014.3.6, the grease interceptor will be sized at 750 gallons
(T&C GI-SS-750)

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DRAINAGE FIXTURE UNIT VALUES (DFU)

PLUMBING APPLIANCES, APPURTENANCES, OR FIXTURES	MINIMUM SIZE TRAP & TRAP ARM ⁷ (inches)	PRIVATE	PUBLIC	ASSEMBLY ⁸
Bathtub or Combination Bath/Shower	1 1/2	2.0	2.0	-
Bidet	1 1/4	1.0	-	-
Bidet	1 1/2	2.0	-	-
Clothes Washer domestic standpipe ⁵	2	3.0	3.0	3.0
Dental Unit, cuspidor	1 1/4	-	1.0	1.0
Dishwasher domestic, with independent drain ²	1 1/2	2.0	2.0	2.0
Drinking Fountain or Water Cooler	1 1/4	0.5	0.5	1.0
Food Waste Grinder commercial	2	-	3.0	3.0
Floor Drain emergency	2	-	-	0.0
Floor Drain (for additional sizes see Section 702.0)	2	2.0	2.0	2.0
Shower single-head trap	2	2.0	2.0	2.0
Multi-head each additional	2	1.0	1.0	1.0
Lavatory, single	1 1/4	1.0	1.0	1.0
Lavatory, in sets of two or three	1 1/2	2.0	2.0	2.0
Wash fountain	1 1/2	-	2.0	2.0
Wash fountain	2	-	3.0	3.0
Mobile Home trap ⁹	3	12.0	-	-
Receptor indirect waste ^{1,3}	1 1/2	See footnote ^{1,3}		
Receptor indirect waste ^{1,4}	2	See footnote ^{1,4}		
Receptor indirect waste ¹	3	See footnote ¹		
Sinks	-	-	-	-
Bar	1 1/2	1.0	-	-
Bar ²	1 1/2	-	2.0	2.0
Clinical	3	-	6.0	6.0
Commercial with food waste ²	1 1/2	-	3.0	3.0
Special Purpose ²	1 1/2	2.0	3.0	3.0
Special Purpose	2	3.0	4.0	4.0
Special Purpose	3	-	6.0	6.0
Kitchen, domestic ² (with or without food waste grinder, dishwasher, or both)	1 1/2	2.0	2.0	-
Laundry ² (with or without discharge from a clothes washer)	1 1/2	2.0	2.0	2.0
Service or Mop Basin	2	-	3.0	3.0
Service or Mop Basin	3	-	3.0	3.0
Service flushing rim	3	-	6.0	6.0
Wash each set of faucets	-	-	2.0	2.0
Urinal integral trap 1.0 GPF ²	2	2.0	2.0	5.0
Urinal, integral trap greater than 1.0 GPF	2	2.0	2.0	6.0
Urinal. exposed trap ²	1 1/2	2.0	2.0	5.0
Water Closet 1.6 GPF Gravity Tank ⁶	3	3.0	4.0	6.0
Water Closet 1.6 GPF Flushometer Tank ⁶	3	3.0	4.0	6.0
Water Closet 1.6 GPF Flushometer Valve ⁶	3	3.0	4.0	6.0
Water Closet greater than 1.6 GPF Gravity Tank ⁶	3	4.0	6.0	8.0
Water Closet greater than 1.6 GPF Flushometer Valve ⁶	3	4.0	6.0	8.0

NOTES:

1. Indirect waste receptors shall be sized based on the tota drainage capacity of the fixtures that drain therein to, in accordance with Table 702.2(b).
2. Provide a 2 inch (50 mm) minimum drain.
3. For refrigerators, coffee urns, water stations, and similar low demands.
4. For commercial sinks, dishwashers, and similar moderate or heavy demands.
5. Buildings having a clothes-washing area with clothes washers in a battery of three or more clothes washers shall be rated at 6 fixture units each for purposes of sizing common horizontal and vertical drainage piping.
6. Water closets shall be computed as 6 fixture units where determining septic tank sizes based on Appendix H of this code.

7. Trap sizes shall not be increased to the point where the fixture discharge is capable of being inadequate to maintain their self-scouring properties.
8. Assembly Public Use.
9. [HCD 2] For drainage fixture unit values related to mobile home parks in all parts of the State of California, –Christopher T. Ramos, Plumbing see California Code of Designer, Kraemer Consulting Regulations, Title 25, Engineers, Phoenix, AZ
- Division I, Chapter 2, Article 5, Section 1268. For drainage fixture unit values related to special occupancy parks in all parts of the State of California, see California Code of Regulations, Title 25, Division I, Chapter 2.2, Article 5, Section 2268.

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TITLE:

GREASE INTERCEPTOR SIZING DATA

REV:

SHEET 3 OF 5

SCALE: 1:2

SIZE:

T&C PLASTICS

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732-780-5300

GREASE PRODUCTION SIZING METHOD

Some industry people believe that sizing grease interceptors based on the amount of grease that is produced in a restaurant or kitchen makes a lot more sense than sizing based on flow rate of water and / or drainage fixture units going into the grease interceptor. This can be done first by flow rate and then by grease capacity for pump-out cycle. Note that local codes and ordinances should be followed for compliance. For example, a Chines restaurant with a 4" drain line can also be sized to require a grease interceptor with a 50 GPM flow rate. Therefore, two restaurants with very different meal types and production of grease can end up having the same code compliant grease interceptor sized.

The following information and sizing chart can be used to size grease interceptors based on the grease produced in a variety of different restaurants. Note that local codes and ordinances should be followed for compliance.

1 **SIZE BY PIPE DIAMETER/FLOW RATE**

Hydromechanical grease interceptor sizing using gravity flow rates
(Per Chapter 10 of the Uniform Plumbing Code)

DIAMETER OF GREASE WASTE PIPE	MAX. FULL PIPE FLOW	ONE MINUTE DRAINAGE PERIOD	TWO MINUTE DRAINAGE PERIOD
2"	20 GPM	20 GPM	10 GPM
3"	60 GPM	75 GPM	35 GPM
4"	125 GPM	150 GPM	75 GPM
5"	230 GPM	250 GPM	125 GPM
6"	375 GPM	500 GPM	250 GPM

**1/4" slope per foot (20.8 mm/m) based on Manning's formula with friction factor of N=0.012

2 **FIND GREASE PRODUCTION VALUE**

RESTAURANT TYPE	GREASE PRODUCTION VALUES	GREASE PRODUCTION SIZING METHOD
Low Grease Production	.005 lbs / meal no flatware .0065 lbs / meal with flatware	Frozen yogurt, hotel breakfast bar, sub shop, sushi, deli, bar convenience store, residential
Medium Grease Production	.025 lbs / meal no flatware .0325 lbs / meal with flatware	Cafes, low grease output restaurant, pizza restaurant, grocery stores (with no fryer), ice cream parlor
High Grease Production	.035 lbs / meal no flatware .0455 lbs / meal with flatware	Full fare family, German, Italian, fast food Mexican, hamburger bar and grill and fast food restaurant, medium level restaurants with fryer
Very High Grease Production	.058 lbs / meal no flatware .075 lbs / meal with flatware	Full fare BBQ, fast food fried chicken, full fare Mexican, Steak and Seafood, Hawaiian and Chinese

3 **CALCULATE GREASE CAPACITY:**

MEALS PER DAY X GREASE PRODUCTION VALUE (STEP 2) X DAYS PER PUMP OUT CYCLE = GREASE CAPACITY NEEDED

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GREASE INTERCEPTOR CAPACITY DATA

Model No.	Flow Rate (GPM)	Liquid Cap (Gal)	Grease Design Cap. (Lbs)	Sediment Cap. (Gal)
GI-PL-7	7	5.8	37	2.0
GI-PL-10	10	8.5	42	2.0
GI-PL-15	15	13	50	3.1
GI-PL-20	20	16	73	3.9
GI-PL-25	25	23	79	5.6
GI-PL-35	35	39	86	10.6
GI-XL-50	50	55	250	28
GI-XL-75	75	140	501	42
GI-XL-100	100	300	1,556	115
GI-SS-500	250	539	3,492	53
GI-SS-750	250	772	5,002	77
GI-SS-1000	250	1,015	6,577	102
GI-SS-1250	250	1,262	8,177	126
GI-SS-1300	250	1,312	8,501	131
GI-SS-1500	250	1,522	9,862	152
GI-SS-2000	250	2,022	13,102	202

Capacities listed are for reference. Many external circumstances can have an effect on the data provided.

PUMP OUT CYCLE	MEALS PER DAY	GREASE PRODUCTION VALUES							
		1	2	3	4	5	6	7	8
		0.005 lbs/meal	0.0065 lbs/meal	0.025 lbs/meal	0.0325 lbs/meal	0.0325 lbs/meal	0.0455 lbs/meal	0.058 lbs/meal	0.075 lbs/meal
30	250	GI-PL-7	GI-PL-15	GI-XL-50	GI-XL-50	GI-XL-75	GI-XL-75	GI-XL-75	GI-XL-75
	500	GI-PL-20	GI-XL-50	GI-XL-75	GI-XL-75	GI-XL-75	GI-XL-100	GI-XL-100	GI-XL-100
	750	GI-XL-50	GI-XL-50	GI-XL-100	GI-XL-100	GI-XL-100	GI-XL-100	GI-XL-100	GI-XL-100
	1,000	GI-XL-50	GI-XL-50	GI-XL-100	GI-XL-100	GI-XL-100	GI-XL-100	GI-SS-500	GI-SS-500

PUMP OUT CYCLE	MEALS PER DAY	GREASE PRODUCTION VALUES							
		1	2	3	4	5	6	7	8
		0.005 lbs/meal	0.0065 lbs/meal	0.025 lbs/meal	0.0325 lbs/meal	0.0325 lbs/meal	0.0455 lbs/meal	0.058 lbs/meal	0.075 lbs/meal
60	250	GI-PL-25	GI-XL-50	GI-XL-75	GI-XL-75	GI-XL-75	GI-XL-100	GI-XL-100	GI-XL-100
	500	GI-XL-50	GI-XL-50	GI-XL-100	GI-XL-100	GI-XL-100	GI-XL-100	GI-XL-100	GI-SS-500
	750	GI-XL-50	GI-XL-75	GI-XL-100	GI-XL-100	GI-XL-100	GI-SS-500	GI-SS-500	GI-SS-500
	1,000	GI-XL-75	GI-XL-75	GI-XL-100	GI-SS-500	GI-SS-500	GI-SS-500	GI-SS-500	GI-SS-750

PUMP OUT CYCLE	MEALS PER DAY	GREASE PRODUCTION VALUES							
		1	2	3	4	5	6	7	8
		0.005 lbs/meal	0.0065 lbs/meal	0.025 lbs/meal	0.0325 lbs/meal	0.0325 lbs/meal	0.0455 lbs/meal	0.058 lbs/meal	0.075 lbs/meal
90	250	GI-XL-50	GI-XL-50	GI-XL-75	GI-XL-100	GI-XL-100	GI-XL-100	GI-XL-100	GI-SS-500
	500	GI-XL-50	GI-XL-75	GI-XL-100	GI-XL-100	GI-XL-100	GI-SS-500	GI-SS-500	GI-SS-500
	750	GI-XL-75	GI-XL-75	GI-SS-500	GI-SS-500	GI-SS-500	GI-SS-500	GI-SS-750	GI-SS-750
	1,000	GI-XL-75	GI-XL-75	GI-SS-500	GI-SS-500	GI-SS-500	GI-SS-750	GI-SS-1000	GI-SS-1000

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