Drain pipe size chart by fixture

A shower needs a 1-1/2 inch drain under the IPC. The minimum trap and drain size of each plumbing fixture and its drainage fixture units (DFU), as the International Plumbing Code (IPC) and the Uniform Plumbing Code (UPC) set them, from published state and local government documents; check the code your state and city use.

Minimum trap size in inches and drainage fixture units of household fixtures under the IPC and the UPC, as printed in the documents below

FIXTURE	IPC TRAP, IN	IPC DFU	UPC TRAP, IN	UPC DFU
Shower	1-1/2	2	2	2
Bathtub	1-1/2	2	1-1/2	2
Toilet	—	3	3	3
Bathroom sink	1-1/4	1	1-1/4	1
Kitchen sink	1-1/2	2	1-1/2	2
Washing machine	2	2	2	3
Laundry or utility sink	1-1/2	2	1-1/2	2
Dishwasher	1-1/2	2	1-1/2	2
Floor drain	2	2	2	2

Shower, IPC: North Carolina's 2024 plumbing code requires a 2 inch shower trap instead.

Minimum slope of a horizontal drain by size

Minimum slope of horizontal drainage pipe in inches per foot by pipe diameter under the IPC and the UPC, as printed

CODE	PIPE DIAMETER	MINIMUM SLOPE, IN/FT	PERCENT
IPC	Up to 2-1/2 in	1/4	2.08%

CODE	PIPE DIAMETER	MINIMUM SLOPE, IN/FT	PERCENT
IPC	3 to 6 in	1/8	1.04%
IPC	8 in and larger	1/16	0.52%
UPC	Any size 1/8 in per foot for 4 in and larger pipe when approved	1/4	2.08%

For the fall over a run, or to check a measured slope, use the drain slope calculator.

Which states use the IPC and which the UPC

UPC: AK, CA, HI, IA, ID, MN, MT, NM, OR, WA. IPC: CO, FL, GA, IN, LA, MD, MI, NC, NY, OH, PA, TN, UT, VA. Cities and counties can adopt their own code or amendments; ask the local building department.

SOURCES

▶ 31 published documents, checked on 2026-11-15

Methodology. Values are the published figures of the documents above.