Gutter and Downspout Sizing: A Simple Field Guide

A Maine-focused cheat sheet to estimate capacity and reduce bottlenecks for your Maine gutter system.

Note: This guide is educational. Local code and site conditions can change requirements. We will confirm final sizing during a free, on-site estimate.

The 5-Step Method

1. Measure roof plan area: Use horizontal (plan) area for each roof plane feeding the run.

2. Adjust for roof pitch: Multiply plan area by the pitch factor below.

3. Pick a local drainage factor: Use a 10-year or 100-year factor, depending on code and risk tolerance.

4. Calculate downspout area: Area needed (sq in) = design area per downspout (sq ft) ÷ factor (sq ft per sq in).

5. Choose size and place outlets: Pick a standard downspout size that meets or exceeds the result, then place outlets so water exits quickly.

Roof pitch multipliers

Multiply plan area by the factor that matches your roof pitch.

Roof pitch	Multiplier
Level to 3 in/ft	1.00
4 to 5 in/ft	1.05
6 to 8 in/ft	1.10
9 to 11 in/ft	1.20
12 in/ft	1.30

Drainage factors

These factors estimate how many sq ft of roof 1 sq in of downspout can drain during a short, intense storm.

City	10-year intensity (in/hr)	10-year factor (sq ft per sq in)	100-year intensity (in/hr)	100-year factor (sq ft per sq in)
Portland, ME	1.51	220	2.35	160
Biddeford, ME	1.52	220	2.36	160
Westbrook, ME	1.51	220	2.34	160
Brunswick, ME	1.52	220	2.37	160
Lewiston, ME	1.52	220	2.36	160
Auburn, ME	1.52	220	2.36	160

Augusta, ME	1.51	220	2.38	160
Cape Elizabeth, ME	1.51	220	2.35	160
Bangor, ME*	1.43	230	2.26	170

*Outside our usual service area.

Rainfall Averages Source: https://hdsc.nws.noaa.gov/pfds/pfds_map_cont.html?bkmrk=me

Quick example (Portland, ME, 10-year): 1,800 sq ft plan area, pitch 6-8 in/ft, two downspouts.

Design area: 1,800 × 1.10 = 1,980 sq ft. Area per downspout: 1,980 ÷ 2 = 990 sq ft. Downspout area: 990 ÷ 220 = 4.5 sq in.

Common downspout sizes (area)

Style	Nominal size	Area (sq in)
Round (plain)	3"	7.07
Round (plain)	4"	12.57
Rectangular (plain)	2×3	6.00
Rectangular (plain)	3×4	12.00
Rectangular (plain)	4×6	24.00

Capacity note: Many homes benefit from sizing up to reduce winter icing and debris bottlenecks, especially at valleys and long runs.

Layout rules that keep systems flowing

- Keep downspout size consistent from top to bottom.
- Avoid long offsets where possible; bends trap ice and debris.
- Do not make runs longer than they need to be between outlets. More outlets can beat bigger gutters.
- Plan discharge first. Move water away from foundations, walkways, and driveways.

What we verify during an estimate

What we check	Why it matters
Roof geometry	Valleys and long runs that concentrate flow.
Outlet locations	Nearby exits at high-flow areas so water does not back up.
Pitch and support	Stable lines that drain cleanly and hold pitch under snow load.
Downspout path	Clean transitions and safe discharge away from the home.

Next steps

Schedule a free estimate at mainegutterworks.com.