

ROOF PITCH REFERENCE CHART

A complete guide to roof slopes — pitch, angle, multiplier & applications

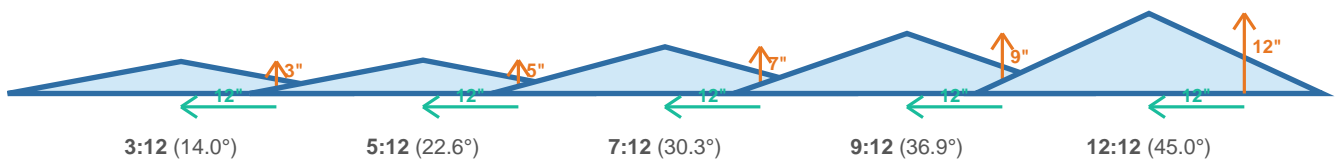
What is Roof Pitch?

Roof pitch (slope) is the ratio of **rise** (vertical height) to **run** (horizontal distance). It is expressed as **X:12** — meaning the roof rises X inches for every 12 inches of horizontal run. Pitch affects drainage, material choice, structural load and aesthetics.

COMPLETE PITCH REFERENCE TABLE

Pitch (Rise:Run)	Ratio	Angle (°)	Multiplier	Category	Typical Uses
1:12	1/12	4.8°	1.003	Flat	Commercial roofs, low-slope membranes
2:12	2/12	9.5°	1.014	Flat	Low-slope commercial, EPDM rubber roofs
3:12	3/12	14.0°	1.031	Low	Ranch homes, sheds, garages
4:12	4/12	18.4°	1.054	Low	Common residential; asphalt shingles OK
5:12	5/12	22.6°	1.083	Moderate	Standard homes, good drainage
6:12	6/12	26.6°	1.118	Moderate	Very common residential; most materials
7:12	7/12	30.3°	1.158	Moderate	Dormers, Cape Cod style homes
8:12	8/12	33.7°	1.202	Steep	Traditional homes, cedar shakes
9:12	9/12	36.9°	1.250	Steep	Victorian, Tudor, historic styles
10:12	10/12	39.8°	1.302	Steep	Dramatic look, wood shake, slate
12:12	12/12	45.0°	1.414	Very Steep	A-frame cabins, chalet style
16:12	16/12	53.1°	1.667	Very Steep	Gothic, high-pitch decorative roofs
18:12	18/12	56.3°	1.803	Extra Steep	Specialty / ornamental, steep gables

VISUAL ROOF PROFILES



PITCH CATEGORIES AT A GLANCE

<p>■ FLAT (1:12 – 2:12)</p>	<ul style="list-style-type: none"> • Angle: 0°–10° • Needs special waterproofing • Common on commercial buildings • TPO, EPDM, modified bitumen
<p>■ LOW (3:12 – 4:12)</p>	<ul style="list-style-type: none"> • Angle: 10°–20° • Adequate drainage • Asphalt shingles minimum • Ranch / bungalow styles
<p>■ MODERATE (5:12 – 7:12)</p>	<ul style="list-style-type: none"> • Angle: 20°–32° • Ideal for most climates • All standard materials • Most popular residential range
<p>■ STEEP (8:12 – 11:12)</p>	<ul style="list-style-type: none"> • Angle: 32°–47° • Excellent drainage & snow shed • Cedar shake, slate, tile • Victorian / Tudor designs
<p>■ VERY/EXTRA STEEP (12:12 +)</p>	<ul style="list-style-type: none"> • Angle: 45°+ • Dramatic architectural look • Challenging installation • A-frame, Gothic, chalet

■ USEFUL FORMULAS & QUICK TIPS

Pitch → Angle	$Angle = \arctan(Rise / 12)$
Multiplier	$Mult = \sqrt{(Rise^2 + 12^2)} / 12$
Roof Area	$Flat Area \times Multiplier$
Rise from Span	$Rise = (Span / 2) \times (Pitch / 12)$

- ■ **Rain-heavy regions:** Use 4:12 or steeper for quick water runoff.
- ❄ ■ **Snow-heavy regions:** 6:12 or steeper helps snow slide off; avoid flat roofs.
- ■ **Hot/dry climates:** Lower pitches (3:12–4:12) are acceptable.
- **Material minimums:** Asphalt shingles need ≥ 2:12; wood shakes need ≥ 3:12; clay tiles ≥ 4:12.
- **Multiplier use:** Multiply the footprint area by the pitch multiplier to get actual roof surface area.
- ■ **Safety:** Pitches above 7:12 require extra safety equipment for roofers.