Sheetrock Estimator - Calculation Considerations & Formulas
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1. Adjusted Surface Area

Wall Area = 2 × height × (length + width)
Ceiling Area = length × width
Door Area = #doors × 21 (avg door ~3x7 ft)
Window Area = #windows × 12 (avg window ~3x4 ft)

Total Adjusted Area:
    total_area = wall_area + ceiling_area - (door_area + window_area)
    Ensure total_area >= 0

2. Sheet Estimate

Standard Sheet Area = 32 sq ft (4x8)
Raw Sheet Count:
    raw_sheets = total_area / 32

Include waste and buffer:
    sheets_needed = ceil(raw_sheets * (1 + waste_factor)) + 1
    Suggested waste_factor = 0.12

3. Joint and Tape Estimation

Each sheet contributes approximately:
    - 2 vertical joints (8 ft total)
    - 1 horizontal seam (~4 ft average)

Estimated linear feet of joints:
    linear_ft_of_joints = sheets_needed * 12

Tape requirement:
    tape_coverage = 500 ft per roll
    tape_units = ceil(linear_ft_of_joints / tape_coverage)

4. Corner Bead / Trim Estimation

Assume:
    - Each outside corner = ~8 ft
    - User can specify number of corners or use defaults

Corner Bead length:
    corner_bead_length = num_outside_corners * 8

Bundle size:
    corner_bead_units = ceil(corner_bead_length / 100)

Defaults (rectangular room):
    - num_outside_corners = 4
    - num_inside_corners = 4

5. Joint Compound & Screws Adjustment

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Joint compound:
    compound_multiplier = 1 + (linear_ft_of_joints / 1000) * 0.1

Screws:
    screws_multiplier = 1 + (sheets_needed / 10) * 0.05

Use these multipliers when calculating:
    total_compound = base_amount * compound_multiplier
    total_screws = base_amount * screws_multiplier

These scale material needs based on complexity.
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