

TOWN OF ROSS - BUILDING DIVISION

31 Sir Francis Drake Blvd., CA 94957 TEL. (415) 453-1453

RESIDENTIAL WINDOWS

(Light, Ventilation, and Emergency Escape & Rescue Openings)

There are certain minimum standards contained in the California Building & Residential Codes which govern the size and openable area of windows in a residence. These regulations are applied differently to "habitable space" and "other rooms." "Other rooms" are not considered "habitable space", so we must look at the definitions of these terms:

A habitable space is: "a space in a building for living, sleeping, eating or cooking".

Other rooms or areas are: "bathrooms, toilet rooms, closets, halls, storage or utility spaces".

<u>Light:</u> Every space intended for human occupancy must be provided with natural light by means of exterior glazed openings which have a minimum net area of not less than 8% of the floor area of the room served. All other rooms may be provided with artificial light only. Artificial light shall be adequate to provide an average illumination of 10 foot-candles over the area of the room at a height of 30 inches above the floor level. All new windows must be dual glazed.

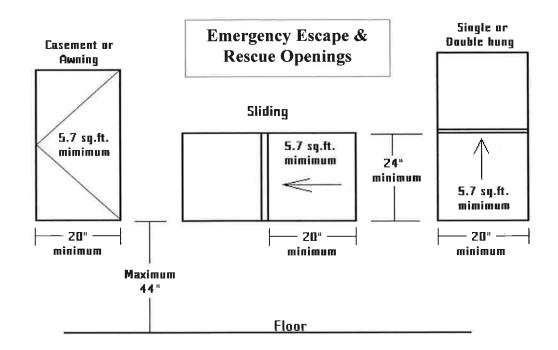
<u>Ventilation</u>: Natural ventilation of an occupied space shall be provided through windows, doors, louvers or other openings to the outdoors. The minimum openable area to the outdoors shall be 4% of the floor area being ventilated.

Note: Any room may be considered as a portion of an adjoining room for purposes of calculating light and ventilation. The opening to the adjoining room shall be unobstructed and shall have an area of not less than 8% of the floor area of the interior room or space, but not less than 25 square feet. The minimum openable area to the outdoors shall be based on the total floor area being ventilated.

Bathrooms containing a bathtub or shower, spas and similar bathing fixtures, the minimum exhaust rate to the exterior are 50 cfm per CMC Table 4-4. In toilet rooms without bathing facilities, a recirculation fan that filters odors may be used.

Emergency Escape & Rescue Openings: Basements and sleeping rooms below the 4th story above grade plane shall have at least one (1) emergency escape and rescue opening. Such openings shall open directly into a public way or to a yard. The emergency window or door must be operable from the inside without the use of tools. If security bars are to be installed, they must be (a) equipped with approved release mechanisms, openable from the inside without the use of a key or special knowledge or effort; and (b) the building must be equipped with smoke alarms.

Emergency escape and rescue openings must have a minimum <u>net clear</u> opening of 5.7 square feet. For windows located a maximum 44 inches above or below exterior grade, the minimum net clear opening may be reduced to 5.0 square feet. Additionally, the minimum net clear openable width is 20" and the minimum <u>net clear</u> openable height is 24". The <u>net clear</u> opening dimensions shall be the result of normal operation of the window. Emergency escape and rescue openings shall have the bottom of the <u>clear</u> opening not greater than 44 inches measured from the floor.



When choosing window sizes for a given space, the actual glazed areas, and actual clear opening sizes of the window will only be *approximately* 85% of the "call-out" size of the window. Always check the manufacturer's specifications before purchasing.

For example:

For an average, 3'0" x 4'0" sliding window:

In order to estimate the actual glazed area, take the call-out size of the window and multiply it by 85%:

$$3' \times 4' \times 85\% = 10.2 \text{ sq.ft.}$$

This window would meet the lighting requirement for a 127.5 sq.ft. bedroom (127.5 x 8% = 10.2)

In order to estimate the area for both ventilation and emergency opening, take ½ of the call-out size of the window, and multiply by 85%:

$$\frac{3' \times 4'}{2} \times 85\% = 5.1 \text{ sq.ft.}$$

This window would likely not meet the minimum 5.7 sq.ft. requirement for egress.

This opening size would provide adequate ventilation for a 127 sqft. room. (127 x 4% = 5.08 required/ 5.1 provided)

Examples of Minimum Width/Height Requirements for Emergency Escape and Rescue Openings to achieve a 5.7 square foot opening (dimensions are in inches)

Width	20	20.5	21	21.5	22	22.5	23	23.5	24	24.5	25	. 25.5	26	26.5	27
Height	41	40	39.1	38.2	37.3	36.5	35.7	34.9	34.2	33.5	32.8	32.2	31.6	31	30.4
Width	27.5	28	28.5	29	29.5	30	30.5	31	31.5	32	32.5	33	33.5	34	34.2

GRADE FLOOR ONLY - Examples of Minimum Width/Height Requirements for Emergency Escape and Rescue Openings to achieve a 5 square foot opening (dimensions are in inches)

													V		4.4
Width	20	20.5	21	21.5	22	22.5	23	23.5	24	24.5	25	25.5	26	26.5	27
Height	36	35.1	34.3	33.5	32.8	32	31.3	30.7	30	29.4	28.8	28.3	27.7	27.2	26.7
,															
Width	27.5	28	28.5	29	29.5	30	30.5	31	31.5	32	32.5	33	33.5	34	34.2
Height	26.2	25.7	25.3	24.8	24.4	24	24	24	24	24	24	24	24	24	24