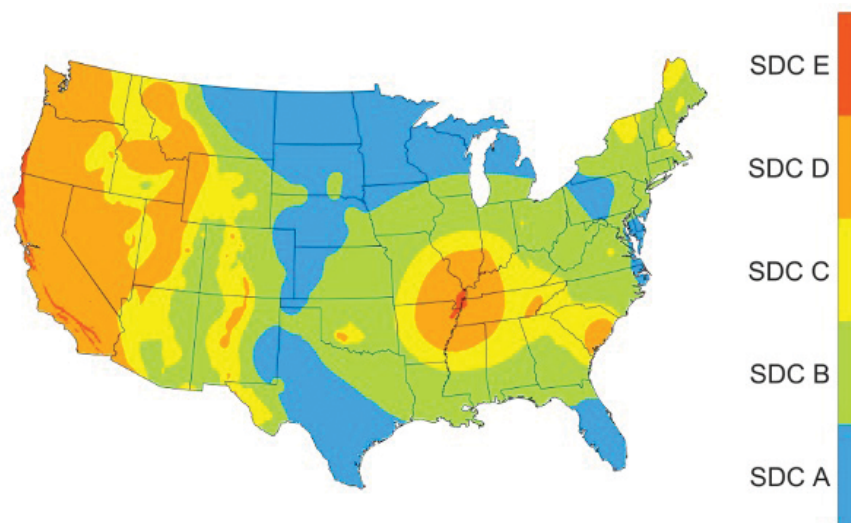




SEISMIC SEPARATION

Between Storage Rack & the Building Structure

In Seismic Design Category D or higher, clearance around building components (columns, bracing, walls, etc.) shall be maintained. In the map below that would pertain to the areas in orange and red.



If the theoretical calculated displacement of the storage rack and other building components is not known, the two components must be separated by a total distance of not less than 5% of the height of the top loaded shelf level in the unbraced (down-aisle) direction and 2% in the braced (cross-aisle) direction. For example, with a top loaded shelf level at 240" the minimum down-aisle separation would be 12" and the minimum cross-aisle separation would be 4.8". Independent rack structures only need to comply with the separation requirement for the top loaded shelf level for the shorter upright.

If the theoretical displacement of the storage rack and the building components are known, the two components must be separated from one another in the direction under consideration by at least the square root of the sum of the two deflections squared. For example, if the rack deflection is 0.25 inches and the building columns deflect 0.75 inches, the separation, Δ , must be

$$\Delta = \sqrt{0.25^2 + 0.75^2} = 0.79 \text{ inches}$$