

FIVE COMMON SIGN OF FOUNDATION PROBLEMS OF A BUILDING

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Building foundation is a critical structural component for a building. It supports the building self-weight along with the applied loadings. The strength of foundation determines the building's structural integrity and stability. Hence, the health of the building foundation must be maintained to ensure the stability of the building.

Foundation defects would not happen in a single day. It will be generally happened slowly over time, start from a small sign, and gradually propagate to the serious one. Thus it is crucial for us to identify the common signs of foundation defects as early as possible so that necessary rectification could be performed. The most common signs of foundation problems of a building include:

1) Cracking

Most of the cracks caused by foundation problems are structural cracks. Shifting foundation will lead to building structure cracking. Soil shrinkage, soil expansion, and foundation settlement are 3 common foundation defects that caused building cracking. These structural cracks are usually more than 3 mm in width and they may be vertical, horizontal, and have zig-zag patterns (stair-step cracks). The moderate wall and floor cracks are typically 5 mm to 15 mm in width while more severe cracks are generally above 15 mm ^[1].



Image 1: Cracking

2) Sticking Doors

Sticking and crooked doors is another potential indication of the foundation defects. As unstable or damaged foundation shifts, settles or cracks, it can distort the shape of the door frames and making the doors unable to latch and could not be opened or closed properly. This foundation problem may occur due to the moisture issues in the basement or the soil movement below the foundation.

3) Sagging and Uneven Floors

Sagging and uneven floors can be directly related to the foundation problems. Since flooring sits directly on top of the foundation, so any sign that the floor is suffering should be seen as a sign of a possible foundation problem. If the floors appear to be out of level, sagging, dipping, or bowing, this could indicate troubles to the building stability caused by foundation problems. Humidity from the water seepage, inadequate foundation waterproofing, and shifting soil are the common culprits of the flooring issues.

4) Uneven Road

The uneven road inside the building compound may indicate that the foundation is having problems as the uneven road is caused by the severe soil movement under the ground. Therefore, the foundation may subject to distortion and shifting which is a very critical issue that may weaken the building's structural integrity.

5) Broken Drainage

Broken drainage around the building may also be a sign of a foundation problem. This is because when there is foundation shifting due to soil movement, the ground below the drainage will experience movement as well, thereby causing the distortion along the drainage. Hence, the distortion will break the drainage structure since the drainage structure is stiff and inflexible.

All of the above-mentioned signs could indicate some sort of foundation problems. No matter the problem is serious or not, as long as something unusual is observed, the situation warrants further investigation. The first thing to do after identifying those signs is to engage a qualified contractor to perform a thorough inspection to the building. The next step is to have the foundation fixed and restored as close to its original position as possible. By dealing with these foundation issues, the building will be safe to stay and stable.

References:

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