Collapsible soils are primarily clayey soils that lack adequate overlying support. Under the wrong conditions, they may lose capillary tension, which causes them to lose water, shrink, and collapse. This can occur in several ways:

1. When the soil is dry, the water content decreases, causing the soil particles to separate and the soil to lose its structure.
2. When the soil is wet, the water content increases, causing the soil particles to stick together and the soil to become more compact.
3. When the soil is subjected to alternating wet and dry conditions, the soil particles can swell and shrink, causing the soil to become unstable.
4. When the soil is subjected to high temperatures, the soil particles can release their water and the soil becomes dry and compact.

Collapsible soils can be found in many parts of the world, including the United States, Canada, and Australia. They are most common in areas with wet, clayey soils and a history of flooding or groundwater. Collapsible soils can cause problems in construction and landscaping, and they can also affect the stability of buildings and other structures.

To prevent problems with collapsible soils, building codes and engineering guidelines recommend the use of special construction techniques, such as the use of underpinnings or the use of lightweight fill to support the buildings. In addition, the use of engineering geology data and soil testing can help to identify areas with collapsible soils and to determine the appropriate design and construction methods.

REFERENCES