

## Fill and layers: *Compaction*

**Compaction means how hard or soft a fill / layer is**, and it indicates how it has been formed and what has happened to it after it was laid down. You will begin to recognise **degrees of compaction** as you are excavating the fill / layer, and also when you feel it between your fingers. The following terms will help you to recognise and describe the compaction of a deposit. **They are split into coarse and fine grained soils.**

<b>Coarse-grained</b> Sand and gravel compaction terms	<b>How to identify the compaction of a fill or layer</b>
<b><i>Loose</i></b>	Particles of sand or gravel fall easily away from each other and can be excavated with no effort at all.
<b><i>Compact</i></b>	Particles of sand or gravel are held together and need some force to excavate them with small digging tools.
<b><i>Weakly cemented</i></b>	Particles of sand or gravel are bonded together and need a lot of force to excavate them with large hand tools. <b>When excavated, the lumps can be broken with the hand.</b>
<b><i>Strongly cemented</i></b>	Particles of sand or gravel are bonded together and need a lot of force to excavate them with large hand tools. <b>The lumps cannot be broken with the hand.</b>
<b><i>Indurated</i></b>	Particles of sand and gravel are very strongly bonded together and need power tools and excavators to remove them.

<b>Fine grained</b> Silt and clay compaction terms	<b>How to identify the compaction of a fill or layer</b>
<b><i>Friable</i></b>	A small ball cannot be formed from this fill/layer as the particles fall away from each other.
<b><i>Soft</i></b>	A small ball can easily be made and can and moulded into shapes.
<b><i>Firm</i></b>	A small ball can be formed with a bit of pressure but shapes can be made only with difficulty and often fall apart.
<b><i>Hard</i></b>	A ball cannot be formed as the deposit cannot be moulded in any way.

# Fill and layers: Composition

