Most soft grounds are naturally deposited soils. Therefore, the width, depth stratification and properties of each layer vary greatly, complexity depending on the condition of formation, geology and environmental conditions. Strength and other property of Soft Bangkok clay treated chemically with Portland cement, salt solution (NaCl), organic matter and pH value (Acid or Base) investigated through a series of unconfined compression, flexural strength and slake durability tests in which portland cement contents, salt contents, organic matter content, pH value and curing time were considered. Cement content were varied from 150 to 400 kg (kg:wet soil, m³), salt content were 0.5 percent to 2 percent, organic matter content were 4 percent to 22 percent and pH value 3 to 7 considering 3 7 14 28 90 curing period. Water-cement ratio of 2 : 1

From this study we found that the unconfined compressive strength, flexural strength and slake durability of treated clay increased with increasing cement content and salt content, directly opposite that reduced with increasing organic matter content and acid (pH<7).