

Table 1: Input Soil Parameters

| Symbol | Parameter Description | Value | Unit |
|--------|------------------------------------|-------|-------|
| LL | Liquid Limit | 42 | % |
| PL | Plastic Limit | 32 | % |
| IP | Plastic Index | 10 | % |
| w | Moisture Content | 26.7 | % |
| e | Void Ratio | .75 | |
| Gs | Specific Gravity | 2.72 | |
| gsat | Saturated Unit Weight | 22.5 | kN/m3 |
| gdry | Dry Unit Weight | 17 | kN/m3 |
| F | Percent fine-grained (clay & silt) | 65.3 | % |

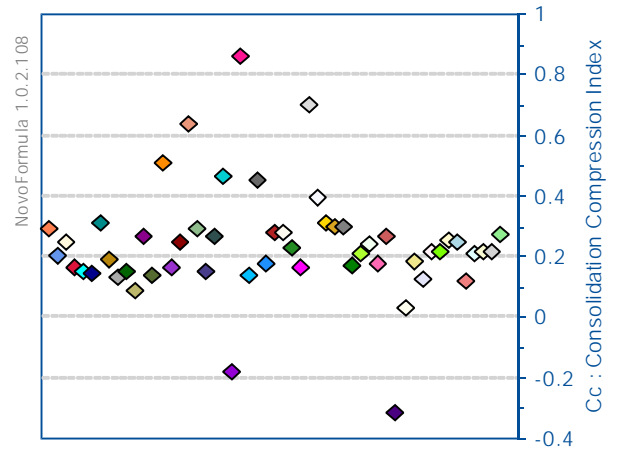


Table 2: Estimated Values For Cc : Consolidation Compression Index

| Formula Source (Comments) | Value | Equation |
|---|-----------|---|
| Terzaghi & Peck, 1967 (Clays of moderate sensitivity (-30% to +30% error)) | 0.288 | $C_c = 0.009 * (LL - 10)$ |
| Azzouz et al., 1976 (678 data points) | 0.2022716 | $C_c = 0.37(e + 0.003LL + 0.0004w - 0.34)$ |
| Azzouz et al., 1976 (Remoulded clays) | 0.245 | $C_c = 0.007(LL - 7)$ |
| Azzouz et al., 1976 (Chicago clays) | 0.1643 | $C_c = 0.208e + 0.0083$ |
| Azzouz et al., 1976 (Chicago clays) | 0.1492274 | $C_c = 17.66 \times 10^{-5} w^2 + 5.93 \times 10^{-3} w - 0.135$ |
| Hough, 1957 (Inorganic cohesive soil (silt, some clay, silty clay, clay)) | 0.144 | $C_c = 0.3(e - 0.27)$ |
| Azzouz et al., 1976 (Organic soils-meadow mats, peats, and organic silt and clay) | 0.30705 | $C_c = 0.0115w$ |
| Azzouz et al., 1976 (Soils of very low plasticity) | 0.1875 | $C_c = 0.75(e - 0.5)$ |
| Azzouz et al., 1976 (All clays) | 0.1277 | $C_c = 0.156e + 0.0107$ |
| Azzouz et al., 1976 (Brazilian clays) | 0.1518 | $C_c = 0.0046(LL - 9)$ |
| Azzouz et al., 1976 (Motley clays from Sao Paulo) | 0.0844 | $C_c = 1.21 + 1.005(e - 1.87)$ |
| Mayne, 1980 (56 data points) | 0.266055 | $C_c = \frac{LL - 13}{109}$ |
| Wroth & Wood, 1978 (Remoulded clays) | 0.136 | $C_c = 0.5 \frac{PI}{100 G_s}$ |
| Rendon & Herrero, 1983 (All clays) | 0.5076 | $C_c = 0.141 G_s \frac{\gamma_{sat}}{\gamma_{dry}}$ |
| Rendon & Herrero, 1983 (94 consolidation tests) | 0.1640055 | $C_c = 0.141 G_s^{1.2} \left(\frac{1+e}{e}\right)^{2.38}$ |
| Koppula, 1981 (109 data points (Chicago clays)) | 0.24831 | $C_c = 0.0093w$ |
| Koppula, 1981 (109 data points) | 0.63837 | $C_c = -0.0997 + 0.009LL + 0.0014IP + 0.0036w + 0.1156e + 0.0025F$ |
| Carrier, 1985 (All inorganic clays) | 0.2925685 | $C_c = 0.329(0.01w.G_s - 0.027PL + 0.0133IP(1.192 + \frac{F}{IP}))$ |
| Nakase et al., 1988 (Best for PI < 50%) | 0.15 | $C_c = 0.046 + 0.0104IP$ |
| Nagaraj & Murty, 1985 (All inorganic clays) | 0.2673216 | $C_c = 0.00234LL.G_s$ |
| Nishida, 1956 (All clays, uniformly packed) | 0.46 | $C_c = 1.15(e - 0.35)$ |

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| | | |
|---|----------|---|
| Nishida, 1956 (All clays, loosely packed $e > 0.91$) | -0.184 | $C_c = 1.15(e - 0.91)$ |
| Nishida, 1956 (Assuming deformable but incompressible soil) | 0.8625 | $C_c = 1.15e$ |
| Worth & Wood, 1978 () | 0.136 | $C_c = 0.005G_s.IP$ |
| Koppula, 1986 (All clays) | 0.4503 | $C_c = 0.009w + 0.005LL$ |
| Al-khafaji & Andersland, 1992 (72 data points) | 0.17661 | $C_c = -0.156 + 0.411e + 0.00058LL$ |
| Moh, Chin, Lin & Woo, 1989 (For Soils in Taipei) | 0.2805 | $C_c = 0.015(w - 8)$ |
| Moh, Chin, Lin & Woo, 1989 (For Soils in Taipei) | 0.2808 | $C_c = 0.54(e - 0.23)$ |
| Skempton, 1944 (Remoulded clays) | 0.224 | $C_c = 0.007(LL - 10)$ |
| Nacci et al., 1975 (For North Atlantic clay) | 0.16 | $C_c = 0.02 + 0.014PI$ |
| Yoon et al., 2004 (For south coast of Korea) | 0.7008 | $C_c = 0.012(LL + 16.4)$ |
| Yoon et al., 2004 (For east coast of Korea) | 0.39204 | $C_c = 0.011(LL - 6.36)$ |
| Yoon et al., 2004 (For west coast of Korea) | 0.311 | $C_c = 0.01(LL - 10.9)$ |
| Yoon et al., 2004 (For south coast of Korea) | 0.29705 | $C_c = 0.013(w - 3.85)$ |
| Yoon et al., 2004 (For east coast of Korea) | 0.2953 | $C_c = 0.01(w + 2.83)$ |
| Yoon et al., 2004 (For west coast of Korea) | 0.17028 | $C_c = 0.011(w - 11.22)$ |
| Yoon et al., 2004 (For south coast of Korea) | 0.2052 | $C_c = 0.54(e - 0.37)$ |
| Yoon et al., 2004 (For east coast of Korea) | 0.2418 | $C_c = 0.39(e - 0.13)$ |
| Yoon et al., 2004 (For west coast of Korea) | 0.1739 | $C_c = 0.37(e - 0.28)$ |
| Yoon et al., 2004 (For east coast of Korea) | 0.265 | $C_c = 0.165 + \frac{PI}{100}$ |
| Yoon et al., 2004 (For south coast of Korea) | -0.32 | $C_c = -0.16\gamma_{dry} + 2.4$ |
| Yoon et al., 2004 (For west coast of Korea) | 0.028 | $C_c = -0.066\gamma_{dry} + 1.15$ |
| Yoon et al., 2004 (For south coast of Korea) | 0.17949 | $C_c = -0.0003w + 0.538e + 0.002LL - 0.3$ |
| Yoon et al., 2004 (For east coast of Korea) | 0.12616 | $C_c = 0.0098w + 0.194e - 0.0025PI - 0.256$ |
| Yoon et al., 2004 (For west coast of Korea) | 0.21646 | $C_c = 0.0038w + 0.12e + 0.0065LL - 0.248$ |
| Nishant Dayal et al., 2006 | 0.2162 | $C_c = 0.46(e - 0.28)$ |
| Nishant Dayal et al., 2006 (For Cincinnati and Northern Kentucky) | 0.24975 | $C_c = 0.0037(LL + 25.5)$ |
| Nishant Dayal et al., 2006 (For Cincinnati and Northern Kentucky) | 0.24355 | $C_c = 0.0135w - 0.1169$ |
| Nishant Dayal et al., 2006 (For Cincinnati and Northern Kentucky) | 0.11659 | $C_c = -0.05793\gamma_{dry} + 1.1014$ |
| Nishant Dayal et al., 2006 (For Cincinnati and Northern Kentucky) | 0.207 | $C_c = 0.0042PI + 0.165$ |
| Nishant Dayal et al., 2006 (For Cincinnati and Northern Kentucky) | 0.21402 | $C_c = 0.46e - 0.049G_s + 0.0023$ |
| Nishant Dayal et al., 2006 (For Cincinnati and Northern Kentucky) | 0.211995 | $C_c = 0.4965e - 0.0014w - 0.123$ |
| Nishant Dayal et al., 2006 (For Cincinnati and Northern Kentucky) | 0.27075 | $C_c = -0.247e + 0.004LL + 0.01w + 0.021$ |

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Nishant Dayal et al., 2006 (For Cincinnati and Northern Kentucky)

0.27075

$$C_c = -0.247e + 0.004LL + 0.01w + 0.021$$

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