### DATA FILES

**Evaluation of seismic bearing capacity by**

**the upper-bound method of inclined slices**

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# Introduction

This handout illustrates the data files contained in this repository implemented by the computer programs EMU and Bearing-IWHR respectively. EMU is a commercial program which can be made available by contacting the authors. Bearing-IWHR is an Excel-based spread sheet which is open and downloadable at this web.

# Examples in Section 2.2

1. Examples in Section 2.2

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| --- | --- |
| **Data file** | **Remarks** |
| Table2\_CaseA\_emu.dat | Emu calculation file |
| Table2\_CaseA\_emul\_analytical\_solution.xls | By closed-form solution |
| Table2\_CaseB\_emu.dat | Emu calculation file |
| Table2\_CaseB\_emul\_analytical\_solution.xls | By closed-form solution |
| Table2\_CaseB\_ Bearing\_IWHR.xls | Recalculate against Table2\_CaseB\_emu.dat |
| Table2\_CaseC\_emu.dat | Emu calculation file |
| Table2\_CaseC\_emul\_analytical\_solution.xls | By closed-form solution |
| Table2\_CaseC\_ Bearing\_IWHR.xls | Recalculate against Table2\_CaseC\_emu.dat |
| OnlyC\_emu.dat | Emu calculation file |
| OnlyC\_ Bearing\_IWHR.xls | Recalculate against OnlyC\_emu.dat |

# Examples in Section 2.3

1. Examples in Section 2. 3

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| **Data file** | **Remarks** |
| Data\_For\_Fig6.xls | Raw data for Figure 6 |
| c=7.5\_delta=5.dat | The cohesive strength is 7.5/10/15/20 kPa, and the load is inclined at an angle of 5 degrees. The data in Figure 6 is obtained by varying the friction angle  from 0 to 30 degrees using an EMU calculation. |
| c=10\_delta=5.dat |
| c=15\_delta=5.dat |
| c=20\_delta=5.dat |
| Data\_for\_Fig7.xls | Raw data for Figure 7 |
| c=7.5\_delta=10.dat | The cohesive strength is 7.5/10/15/20 kPa, and the load is inclined at an angle of 10 degrees. The data in Figure 7 is obtained by varying the friction angle  from 0 to 30 degrees using an EMU calculation. |
| c=10\_delta=10.dat |
| c=15\_delta=10.dat |
| c=20\_delta=10.dat |

# Examples in Section 4

1. Examples in Section 4

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| **Data file** | **Remarks** |
| CaseA\_static\_emu.dat | EMU calculation file, without seismic. |
| CaseA\_static \_ Bearing\_IWHR.xls | Recalculate against CaseA\_static\_emu.dat |
| CaseA\_0.1\_emu.dat | EMU calculation file, 7-degree earthquake. |
| CaseA\_0.1 \_ Bearing\_IWHR.xls | Recalculate against CaseA\_0.1\_emu.dat |
| CaseA\_0.2\_emu.dat | EMU calculation file, 8-degree earthquake. |
| CaseA\_0.2 \_ Bearing\_IWHR.xls | Recalculate against CaseA\_0.2\_emu.dat |
| CaseB\_static\_emu.dat | EMU calculation file, without seismic. |
| CaseB\_static \_ Bearing\_IWHR.xls | Recalculate against CaseB\_static\_emu.dat |
| CaseB\_0.1\_emu.dat | EMU calculation file, 7-degree earthquake. |
| CaseB\_0.1 \_ Bearing\_IWHR.xls | Recalculate against CaseB\_0.1\_emu.dat |
| CaseB\_0.2\_emu.dat | EMU calculation file, 8-degree earthquake. |
| CaseB\_0.2 \_ Bearing\_IWHR.xls | Recalculate against CaseB\_0.2\_emu.dat |