

桁落ち防止のためのコンポーネント、Adjust

Units の中身

Handwritten notes showing unit conversions and calculations for material properties:

- $E \times 10^{10} \text{ N/m}^2$
- $D \times 10^{10} \text{ kg/m}^3$
- $A \times 10^{10} \text{ m}^2$
- $I \times 10^{10} \text{ m}^4$
- $V \times 10^{10} \text{ m}^3$
- $L \times 10^{10} \text{ m}$
- $g \times 10^{10} \text{ m/s}^2$

Conversion factors and intermediate results:

- $E \times 10^{10} \text{ N/m}^2 = 10^{10} \text{ N/m}^2$
- $D \times 10^{10} \text{ kg/m}^3 = 10^{10} \text{ kg/m}^3$
- $A \times 10^{10} \text{ m}^2 = 10^{10} \text{ m}^2$
- $I \times 10^{10} \text{ m}^4 = 10^{10} \text{ m}^4$
- $V \times 10^{10} \text{ m}^3 = 10^{10} \text{ m}^3$
- $L \times 10^{10} \text{ m} = 10^{10} \text{ m}$
- $g \times 10^{10} \text{ m/s}^2 = 10^{10} \text{ m/s}^2$

Final calculation:

$$g \times 10^{10} \text{ m/s}^2 \times 10^{10} \text{ m}^2 \times 10^{10} \text{ kg/m}^3 = 10^{10} \text{ N}$$

globalK の並び替えについて

Handwritten notes showing matrix operations and calculations for global stiffness matrix (globalK):

Matrix K_{FS} is defined as:

$$\begin{pmatrix} K_{FF} & K_{FS} \\ K_{SF} & K_{SS} \end{pmatrix} \begin{pmatrix} U_F \\ U_S \end{pmatrix} = \begin{pmatrix} F_F \\ F_S \end{pmatrix}$$

Matrix K_{FS} is calculated as:

$$K_{FS} = \begin{pmatrix} 1 & 2 & 3 & 4 \\ 2 & 3 & 4 & 5 \\ 3 & 4 & 5 & 6 \\ 4 & 5 & 6 & 7 \end{pmatrix}$$

Matrix K_{SS} is calculated as:

$$K_{SS} = \begin{pmatrix} 1 & 2 & 3 & 4 \\ 2 & 3 & 4 & 5 \\ 3 & 4 & 5 & 6 \\ 4 & 5 & 6 & 7 \end{pmatrix}$$

Matrix K_{FF} is calculated as:

$$K_{FF} = \begin{pmatrix} 1 & 2 & 3 & 4 \\ 2 & 3 & 4 & 5 \\ 3 & 4 & 5 & 6 \\ 4 & 5 & 6 & 7 \end{pmatrix}$$

Matrix K_{SS} is calculated as:

$$K_{SS} = \begin{pmatrix} 1 & 2 & 3 & 4 \\ 2 & 3 & 4 & 5 \\ 3 & 4 & 5 & 6 \\ 4 & 5 & 6 & 7 \end{pmatrix}$$

Matrix K_{FF} is calculated as:

$$K_{FF} = \begin{pmatrix} 1 & 2 & 3 & 4 \\ 2 & 3 & 4 & 5 \\ 3 & 4 & 5 & 6 \\ 4 & 5 & 6 & 7 \end{pmatrix}$$