$$\int_{r_0^e}^{r_1^e} \frac{d\chi^{(e)}(r)}{dr} \frac{d\chi^{(e)}(r)}{dr} dr$$

$$\chi_1^e(r) = \frac{r_2^e - r}{l^e}$$

$$\chi_2^e(r) = \frac{r - r_1^e}{l^e}$$

$$A_{11}^{(e)} = \int_{r_0^e}^{r_1^e} \frac{d\chi_1^e(r)}{dr} \frac{d\chi_1^e(r)}{dr} dr = \left. \frac{r}{(l^e)^2} \right|_{r_0^e}^{r_1^e} = \frac{1}{l^e}$$

$$A_{12}^{(e)} = A_{21}^{(e)} = \int_{r_0^e}^{r_1^e} \frac{d\chi_1^e(r)}{dr} \frac{d\chi_2^e(r)}{dr} dr = \left. -\frac{r}{(l^e)^2} \right|_{r_0^e}^{r_1^e} = -\frac{1}{l^e}$$

$$A_{22}^{(e)} = \int_{r_0^e}^{r_1^e} \frac{d\chi_2^e(r)}{dr} \frac{d\chi_2^e(r)}{dr} dr = \left. \frac{r}{(l^e)^2} \right|_{r_0^e}^{r_1^e} = \frac{1}{l^e}$$

$$A_{ij}^{(e)} = \frac{(-1)^i (-1)^j}{l^e}$$

$$B_i^{(e)} = \int_{r_0^e}^{r_1^e} rn(r)\chi_i^e(r) dr$$