

③muri Project



**Multithreading
Module**

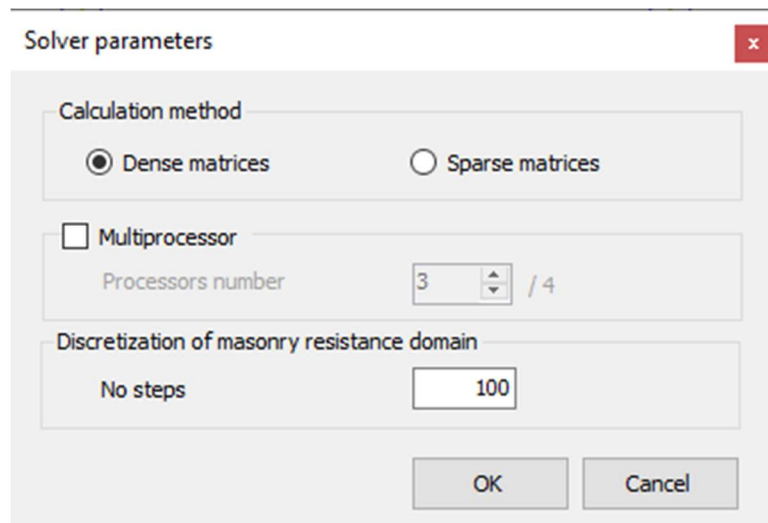
1 Multithreading Module

The optional module allows to speed up the calculation by selecting the calculation method and using the multiprocessor.

Two different solver parameters are now available.

Calculation method

- Dense matrices
- Sparse matrices



3Muri Project software performs the calculation using the FEM (finite element method), that needs to know the stiffness matrix K . Classical engineering applications lead to stiffness matrices characterised by a significant amount of zeros inside them. In numerical analysis, a sparse matrix is a matrix with many of its values equal to zero.

When a software deals with sparse matrices, it is better, and often even necessary, to use specialised algorithms and data structures that take into account the sparse nature of the matrix. Performing operations using the usual structures and algorithms (dense method) can take a long time and a large amount of memory. The sparse matrices can be easily compressed, achieving faster calculations and more efficient memory use.

Multiprocessor:

By activating this option, the user can perform different calculations simultaneously on multiple processors. When the user performs multiple analyses (24 pushover analysis), it can perform the analysis using every available processor, thus saving time.



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