

**Solution - Design Example 2Fa - Autoclaved Aerated Concrete Block (Separating and Loadbearing Function)**

Using Table NA.4.2 of UK National Annex to Eurocode 6 Part 1.2 :-

Wall thickness - 120 mm unplastered finish

Masonry unit type - Group 1 autoclaved aerated concrete

Mortar type - Thin layer

Gross dry density,  $\rho = 650 \text{ kg/m}^3$  - within 500 - 1000  $\text{kg/m}^3$  compliance category

Design load ratio = 180 kN/m / 187 kN/m (see Design Example 2 for EC6 Part 1.1)  
= 96% (greater than 60%, but less than 100%)

Therefore  $\alpha \leq 1,0$  category

Therefore standard fire resistance period for an unplastered wall is 120 minutes REI  
(100mm wall thickness is limiting tabulated thickness)

***Autoclaved aerated concrete blockwork wall will provide 120 minutes REI standard fire resistance as an unplastered construction***

*(Note: this fire resistance period is directly comparable with UK building regulations requirements in respect of the separating and loadbearing function)*

**Solution - Design Example 2Fb - Autoclaved Aerated Concrete Block (Separating and Non-Loadbearing Function)**

Using Table NA.4.1 of UK National Annex to Eurocode 6 Part 1.2 :-

Wall thickness - 120 mm unplastered finish

Masonry unit type - Group 1 autoclaved aerated concrete

Mortar type - Thin layer

Gross dry density,  $\rho = 650 \text{ kg/m}^3$  - within 500 - 1000  $\text{kg/m}^3$  compliance category  
Non-loadbearing alternative situation

Therefore standard fire resistance period for an unplastered wall is 240 minutes EI  
(100 mm wall thickness is highest tabulated thickness)

***Autoclaved aerated concrete blockwork wall will provide 240 minutes EI standard fire resistance as an unplastered construction***

*(Note: this fire resistance period is directly comparable with UK building regulations requirements in respect of the separating and non-loadbearing function)*