

NA

4.3

Reduction factor for the design load level in the fire situation  $\eta_{fi}$  as a function of the ratio between the permanent load  $G_k$  and the variable load  $Q_k$  for different occupancies and load factors  $\gamma_G = 1,2$  and  $\gamma_Q = 1,5$ , according to equation (2.3) of *Fire 2* (Calculation of the fire resistance). Every member state specifies in its National Annex whether  $\Psi_1$  or  $\Psi_2$  has to be applied.

| $G_k/Q_k$ | $\Psi_1 = 0,0$<br>(roofs)                  | $\Psi_1 = 0,2$<br>(wind actions) | $\Psi_1 = 0,5$<br>(office,<br>residential) |       | $\Psi_1 = 0,7$<br>(shopping,<br>congregations) |       | $\Psi_1 = 0,9$<br>(storage) |       |
|-----------|--------------------------------------------|----------------------------------|--------------------------------------------|-------|------------------------------------------------|-------|-----------------------------|-------|
|           | $\Psi_2 = 0,0$<br>(roofs,<br>wind actions) |                                  | $\Psi_2 = 0,3$<br>(office,<br>residential) |       | $\Psi_2 = 0,6$<br>(shopping,<br>congregations) |       | $\Psi_2 = 0,8$<br>(storage) |       |
| 0,00      | 0,000                                      | 0,133                            | 0,200                                      | 0,333 | 0,400                                          | 0,467 | 0,533                       | 0,600 |
| 0,05      | 0,032                                      | 0,160                            | 0,224                                      | 0,353 | 0,417                                          | 0,481 | 0,545                       | 0,609 |
| 0,10      | 0,062                                      | 0,185                            | 0,247                                      | 0,370 | 0,432                                          | 0,494 | 0,556                       | 0,617 |
| 0,15      | 0,089                                      | 0,208                            | 0,268                                      | 0,387 | 0,446                                          | 0,506 | 0,565                       | 0,625 |
| 0,20      | 0,115                                      | 0,230                            | 0,287                                      | 0,402 | 0,460                                          | 0,517 | 0,575                       | 0,632 |
| 0,25      | 0,139                                      | 0,250                            | 0,306                                      | 0,417 | 0,472                                          | 0,528 | 0,583                       | 0,639 |
| 0,30      | 0,161                                      | 0,269                            | 0,323                                      | 0,430 | 0,484                                          | 0,538 | 0,591                       | 0,645 |
| 0,35      | 0,182                                      | 0,286                            | 0,339                                      | 0,443 | 0,495                                          | 0,547 | 0,599                       | 0,651 |
| 0,40      | 0,202                                      | 0,303                            | 0,354                                      | 0,455 | 0,505                                          | 0,556 | 0,606                       | 0,657 |
| 0,45      | 0,221                                      | 0,319                            | 0,368                                      | 0,466 | 0,515                                          | 0,564 | 0,613                       | 0,662 |
| 0,50      | 0,238                                      | 0,333                            | 0,381                                      | 0,476 | 0,524                                          | 0,571 | 0,619                       | 0,667 |
| 0,55      | 0,255                                      | 0,347                            | 0,394                                      | 0,486 | 0,532                                          | 0,579 | 0,625                       | 0,671 |
| 0,60      | 0,270                                      | 0,360                            | 0,405                                      | 0,495 | 0,541                                          | 0,586 | 0,631                       | 0,676 |
| 0,65      | 0,285                                      | 0,373                            | 0,417                                      | 0,504 | 0,548                                          | 0,592 | 0,636                       | 0,680 |
| 0,70      | 0,299                                      | 0,385                            | 0,427                                      | 0,513 | 0,556                                          | 0,598 | 0,641                       | 0,684 |
| 0,75      | 0,313                                      | 0,396                            | 0,438                                      | 0,521 | 0,563                                          | 0,604 | 0,646                       | 0,688 |
| 0,80      | 0,325                                      | 0,407                            | 0,447                                      | 0,528 | 0,569                                          | 0,610 | 0,650                       | 0,691 |
| 0,85      | 0,337                                      | 0,417                            | 0,456                                      | 0,536 | 0,575                                          | 0,615 | 0,655                       | 0,694 |
| 0,90      | 0,349                                      | 0,426                            | 0,465                                      | 0,543 | 0,581                                          | 0,620 | 0,659                       | 0,698 |
| 0,95      | 0,360                                      | 0,436                            | 0,473                                      | 0,549 | 0,587                                          | 0,625 | 0,663                       | 0,701 |
| 1,00      | 0,370                                      | 0,444                            | 0,481                                      | 0,556 | 0,593                                          | 0,630 | 0,667                       | 0,704 |
| 1,05      | 0,380                                      | 0,453                            | 0,489                                      | 0,562 | 0,598                                          | 0,634 | 0,670                       | 0,707 |
| 1,10      | 0,390                                      | 0,461                            | 0,496                                      | 0,567 | 0,603                                          | 0,638 | 0,674                       | 0,709 |
| 1,15      | 0,399                                      | 0,469                            | 0,503                                      | 0,573 | 0,608                                          | 0,642 | 0,677                       | 0,712 |
| 1,20      | 0,408                                      | 0,476                            | 0,510                                      | 0,578 | 0,612                                          | 0,646 | 0,680                       | 0,714 |
| 1,25      | 0,417                                      | 0,483                            | 0,517                                      | 0,583 | 0,617                                          | 0,650 | 0,683                       | 0,717 |
| 1,30      | 0,425                                      | 0,490                            | 0,523                                      | 0,588 | 0,621                                          | 0,654 | 0,686                       | 0,719 |

NA

### 4.3 (continued)

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| $G_k/Q_k$ | $\Psi_1 = 0,0$<br>(roofs)                  | $\Psi_1 = 0,2$<br>(wind actions) | $\Psi_1 = 0,5$<br>(office,<br>residential) |       | $\Psi_1 = 0,7$<br>(shopping,<br>congregations) |       | $\Psi_1 = 0,9$<br>(storage) |       |
|-----------|--------------------------------------------|----------------------------------|--------------------------------------------|-------|------------------------------------------------|-------|-----------------------------|-------|
|           | $\Psi_2 = 0,0$<br>(roofs,<br>wind actions) |                                  | $\Psi_2 = 0,3$<br>(office,<br>residential) |       | $\Psi_2 = 0,6$<br>(shopping,<br>congregations) |       | $\Psi_2 = 0,8$<br>(storage) |       |
| 1,35      | 0,433                                      | 0,497                            | 0,529                                      | 0,593 | 0,625                                          | 0,657 | 0,689                       | 0,721 |
| 1,40      | 0,440                                      | 0,503                            | 0,535                                      | 0,597 | 0,629                                          | 0,660 | 0,692                       | 0,723 |
| 1,45      | 0,448                                      | 0,509                            | 0,540                                      | 0,602 | 0,633                                          | 0,664 | 0,694                       | 0,725 |
| 1,50      | 0,455                                      | 0,515                            | 0,545                                      | 0,606 | 0,636                                          | 0,667 | 0,697                       | 0,727 |
| 1,55      | 0,461                                      | 0,521                            | 0,551                                      | 0,610 | 0,640                                          | 0,670 | 0,699                       | 0,729 |
| 1,60      | 0,468                                      | 0,526                            | 0,556                                      | 0,614 | 0,643                                          | 0,673 | 0,702                       | 0,731 |
| 1,65      | 0,474                                      | 0,532                            | 0,560                                      | 0,618 | 0,647                                          | 0,675 | 0,704                       | 0,733 |
| 1,70      | 0,480                                      | 0,537                            | 0,565                                      | 0,621 | 0,650                                          | 0,678 | 0,706                       | 0,734 |
| 1,75      | 0,486                                      | 0,542                            | 0,569                                      | 0,625 | 0,653                                          | 0,681 | 0,708                       | 0,736 |
| 1,80      | 0,492                                      | 0,546                            | 0,574                                      | 0,628 | 0,656                                          | 0,683 | 0,710                       | 0,738 |
| 1,85      | 0,497                                      | 0,551                            | 0,578                                      | 0,632 | 0,659                                          | 0,685 | 0,712                       | 0,739 |
| 1,90      | 0,503                                      | 0,556                            | 0,582                                      | 0,635 | 0,661                                          | 0,688 | 0,714                       | 0,741 |
| 1,95      | 0,508                                      | 0,560                            | 0,586                                      | 0,638 | 0,664                                          | 0,690 | 0,716                       | 0,742 |
| 2,00      | 0,513                                      | 0,564                            | 0,590                                      | 0,641 | 0,667                                          | 0,692 | 0,718                       | 0,744 |