

Note: this is an English translation of chapter 7 of the text “Flemish EPr-comparison_synthesis report in Dutch_20080923”. Otherwise, the synthesis report contains no new information compared to the information already contained in the subreports (which are written in English).

Conclusion

The strictness of an EP-regulation is determined by several aspects:

- the numerical requirements
- the level of compliance (if necessary imposed through a strike enforcement)
- the learning process in the building sector (and by extension to the whole society)

The mission of this study was confined to the comparison of the numerical requirements of three concrete buildings. The historical evolution of the EP requirements in neighbouring countries is nevertheless shortly reported (see §.2.1.2), but the level of (systematic, rigorous) compliance was not studied and is difficult to assess.

Concerning the numerical requirements, it remains an open question to what extent these 3 buildings, with their specific installations, are representative of the average of all buildings. It is therefore also unclear to what extent general conclusions can be drawn from this study. During the study, it has indeed been shown that very small differences in the equipments of the building and in the way by which the different calculators in the countries interpret and apply specific aspects, can sometimes lead to totally different results. On the basis of this experience, it must be concluded that the results of such comparisons on a few individual buildings should be considered with utmost caution.

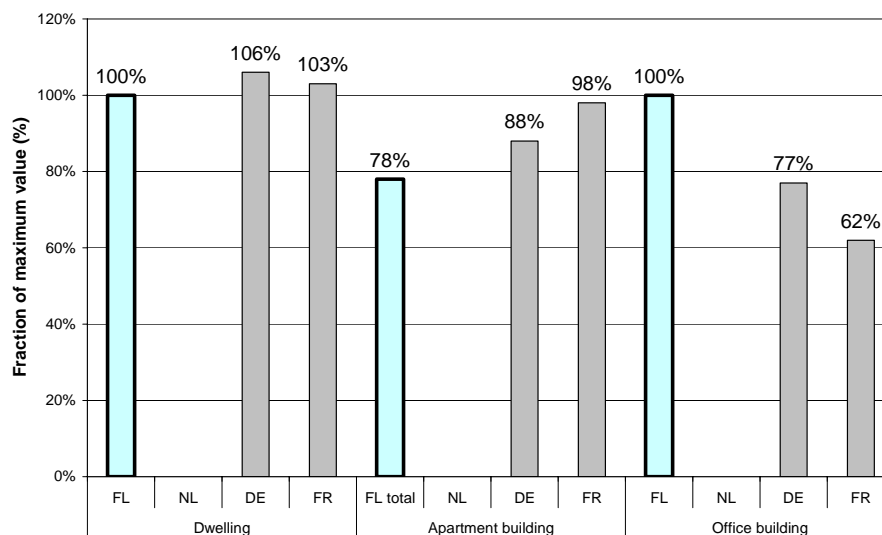


Figure 1: global insulation value relative to the requirement

The fraction of the calculated global insulation value relative to the requirement is shown in Figure 1 for each building and each country. In the Netherlands, there is no such requirement (but there are severe requirements on each part of the building fabric by itself + a severe global energy performance requirement). In Germany and France the requirement for the residential buildings is similar to the one in Flanders, but the fact that thermal bridges must be taken into account renders the requirement somewhat stricter. For offices with a lot of glazing, the requirements in Germany and

France are less severe than for residential buildings, while the requirement remains the same in Flanders.

The energy performance levels are shown in Figure 2 for all buildings and variants which have been studied.

For residential buildings, the requirement is always more severe in the other countries than in Flanders for all the examples studied. The difference for the dwelling is between 9 and 89%, while it varies between 45 and 108% for the apartment building.

For the non-residential example it is more difficult to draw a sharp conclusion. For the case studied, the German regulation appears 11% less strict, while the Dutch requirement and the French one are respectively 11% and 14% stricter.

The graph also illustrates how small variations with respect to the hypotheses adopted for the calculations can lead to large differences: for example the divergence between 136 and 188% for the single family dwelling in the Netherlands (depending on whether or not information on the test efficiency of the domestic hot water boiler is available or not), or from 108 to 122 to 134% in France (only function of the type and the size of the adjustable ventilation supply openings). The influence of the domestic hot water boiler in the Netherlands is also of great importance in the case of the apartment building (from 154 to 193%). For the apartment building, the impact of the adjustable ventilation supply openings in the French method was not studied anymore, but it can be expected that the impact would be of the same order of magnitude as for the single family dwelling.

While it is impossible to draw a general conclusion from the comparison of the three concrete buildings, the results certainly don't constitute an argument against a possible future stepwise strengthening of the requirements for residential buildings in Flanders. In the neighbouring countries, the residential buildings considered should already at present perform (significantly) better in order to respect the requirements in force today in each of these countries.

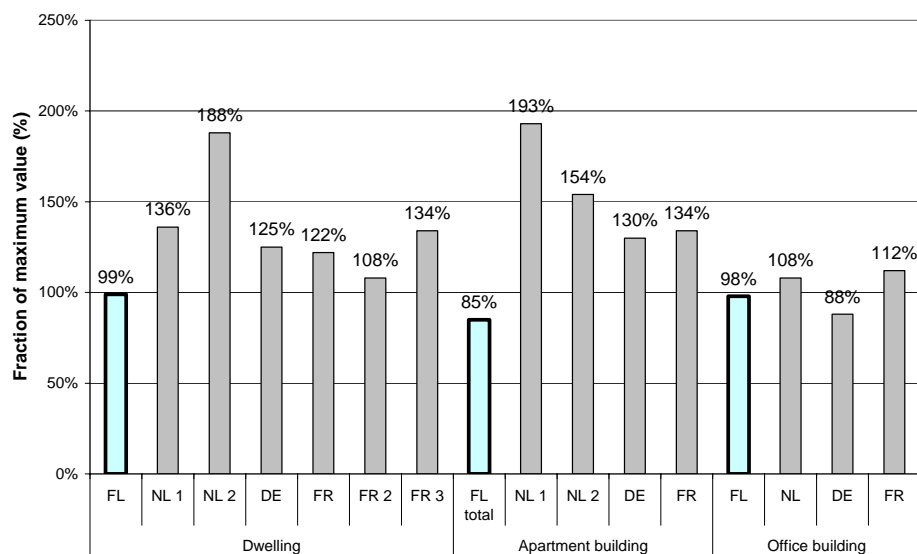


Figure 2: energy performance levels