

ROBUST DETAILS FOR MIXED USE

Colin Potter, Technical and Development Manager at Robust Details Ltd explains how the Part E Robust Details Scheme works in mixed use developments – and that its use can be mixed with PCT.

Most in the construction industry will by now, know that the Robust Details (RD) scheme can be used instead of pre-completion sound testing (PCT) for adjoined dwellings, as a means of demonstrating that separating walls between adjoined houses, and walls and floors between flats, comply with Requirement E1 of the Building Regulations.

What isn't so well understood is that the benefits of using the scheme can also be applied to mixed use developments.

When it comes to flats built over retail units, the main issue relates to the separating walls between flats on the first storey. Often in a building of this kind, the commercial level would be open plan – or at least, walls would not align with the layout of the flats above. The immediate reaction is that, as the floor is continuous between dwellings, RD walls would be out of the question. But this is not necessarily the case.

There are a number of ways to construct this type of building, and in many instances there will be an insitu poured concrete podium slab separating flats from retail units. The construction of light-steel stud or timber frame separating walls directly off a slab having minimum mass of 365kg/m^2 , is covered in the RD Handbook and provided all other relevant requirements are met, first floor plots can be registered for the walls. More recently, the innovative Icopal-MONARFLOOR® BRIDGESTOP® system has also made it possible to construct certain robust details cavity masonry walls directly off the podium slab. Full descriptions and specifications of this system are given in Appendix A2 of the Handbook.

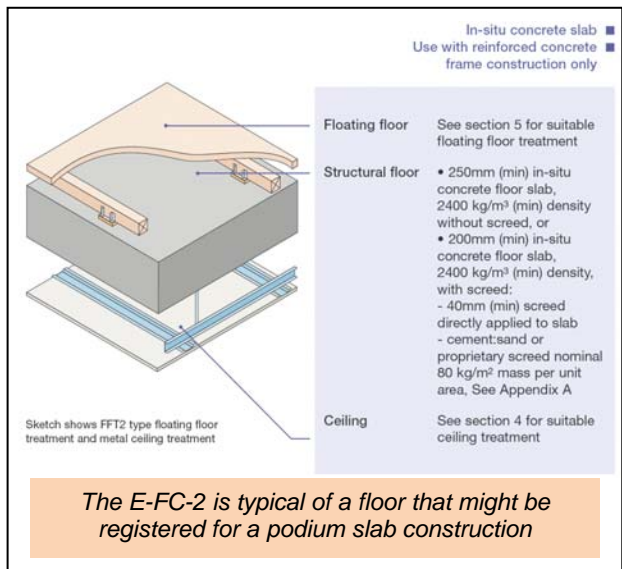
As sometimes happens, there may be occasions where, for technical or logistical reasons it is not possible to meet the RD specifications for the walls: a typical scenario might be a precast concrete floor between flats and retail, incorporating steel beams to support the walls above. Currently, robust details separating walls cannot be built off steel beams; and indeed it may not be straightforward for such a wall to comply with Requirement E1 via PCT. If this does happen and the separating walls directly above the retail unit cannot be robust details, the walls of higher storeys can still be, provided they are in vertical alignment, and follow all the other RD specifications, allowing the plots on both sides of those to be registered.

Separating floors between flats of mixed use buildings are dealt with in the same way as in single use flatted accommodation blocks. So as with these other building types, if the design and construction of the separating floor follow the RD requirements, the plots above it and below it can be registered for that floor.

So in principle, it is entirely possible to register all flats in a mixed use development and not have to commission any PCT between dwellings. But if any of the separating elements cannot be robust details, this in no way prevents registration of those that are – even within the same plot. So for example, if the walls of a flat are not RD, the flat could still be registered for the floor. It is often worth mixing the use of RDs in with PCT, as registering valid plots could result in one or more sub-groups being removed from the testing regime.

The acoustic performance of the floor structure separating the flats from the 'other use' parts of the building also needs to be considered. It is down to Building Control Bodies (BCBs) as to how the adequacy of this separation is demonstrated, but in a lot of cases, factors such as

variation in test room sizes mean it's not always possible to conduct meaningful sound tests between the flats and the 'other use' areas below.



Where appropriate, and where the floor structure has met RD requirements, BCBs may accept robust details registration as a means of demonstrating compliance with Requirement E1, based on the performance the floor type is known to achieve.

However, it must be remembered that in order to use the RD route, the floor must fully comply with the RD specification. This means that an appropriate floating floor treatment must be included – even though impact noise resistance may not necessarily be required; and the ceiling treatment should be fully boarded. A secondary exposed-grid tiled ceiling can be added to provide access to services, if this is required.

So the key points are that the Robust Details scheme can be used in mixed use developments; and it is possible to mix use of the RD scheme with PCT where, for any reason, certain separating elements cannot comply with the RD specifications. This minimises the amount of PCT necessary, which could just be limited to elements immediately above the non-residential storey.

