

Details of architects' CPD activity based on Architectural Design for Earthquake

This activity consists of individual participants undertaking readings and exercises based upon the free down-loadable publication [Architectural Design for Earthquake: a guide to the design of non-structural elements](#) (PDF, 5Mb).

The activity is divided into the introductory Part 1, and then three additional Parts, each consisting of three hours of learning and worth 15 points each. Although the successful completion of all four parts yields 60 CPD points, a participant might choose to complete two parts per year for two years. There is an assessment and handling fee of \$30 for each part. Each part can only be completed once.

Part 1 : Introduction

Read Sections 1 – 4 of "Architectural Design for Earthquake" and answer the following questions.

1. What are four reasons the seismic design of non-structural elements is important?
2. Explain in your own words the tectonic mechanism responsible for most New Zealand earthquakes.
3. For the last design project you were involved with, what is the 500 year return period peak ground acceleration at that location, and how does it compare with the highest in New Zealand?
4. How does soft ground affect earthquake shaking?
5. What do you consider to be the most significant paragraph in Section 2 and how should it affect your approach to configuration?
6. If earthquake damage to gypsum plaster walls is to be avoided, what is the maximum interstorey drift for a 3.5 m high wall?
7. What non-structural elements usually require separation for drift, and why?
8. In your own words, what are the advantages and disadvantages of a ductile structural system compared to one that is less ductile?
9. What are the advantages and disadvantages of a flexible structure from a seismic perspective?
10. Choose any building you are familiar with and suggest, with explanation, what are the likely levels of participation of the cladding in the seismic resistance of the building.

Part 2 : Read Section 5 and answer the following questions:

1. Why should infill panels be separated from structural elements?
2. With reference to a building you are familiar with, describe with a sketch how face panels are separated yet supported for earthquake and gravity forces.
3. Sketch the panel arrangement and identify where and how relative movement between panels will occur.
4. Sketch a detail from your practice showing brittle sheets abutting structure and comment on it in the light of the reading.
5. What steps should be taken to ensure adequate seismic performance of brick veneer?

Part 3 : Read Sections 6 – 7 and answer the following questions:

1. With reference to a building you are familiar with, describe the amount of interstorey drift to be accommodated.
2. Using sketches, describe how drift is accommodated and note any discrepancies between those details and the approaches of Section 6.
3. How might any of your details be improved upon?
4. How have its internal elements been designed to perform well in an earthquake.
5. How could the design concept and detailed design be improved upon to provide enhanced seismic performance?

Part 4 : Read Sections 8 - 10 and answer the following questions:

1. With reference to a building you are familiar with, describe how rigid and light weight partitions are separated from the structure yet structurally stable. Sketch key details.
2. Describe how suspended ceilings are separated from the structure yet structurally stable. Sketch key details.
3. Sketch five miscellaneous seismic details that are intended to function as discussed in Section 10. Comment upon any differences in intent and detail from the published examples.

After a participant has completed one or more parts, the material is to be sent to the Secretary of the NZSEE who will arrange for exercises to be assessed by an experienced seismic design practitioner. The material will then be returned with some feedback noted. If the work meets the required standard, the participant will be credited the appropriate number of CPD points.

To have the work for one or more parts assessed, enclose the following in an envelope:

1. The parts that are to be assessed;
2. A cheque made out to "NZSEE Inc." for the assessment and handling fee (\$30 for **each** enclosed Part); and
3. A stamped and self addressed envelope for your material and feedback to be returned.

Post the work to Architecture CPD Assessment, NZSEE Inc., PO Box 2193, Wellington."