

Guidelines of (CM) Confined Masonry Buildings & CM Buildings vs. MRF with URM Infill Walls

Two Seminars at Soran University (SUN)



[By Shwan Jalal Abdullah Bajalan](#)

These two Seminars at is arranged by SUN's
Engineering faculty, Civil Engineering Department (DCVE)

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پوخته

ببنای بیناسازی داخراو له ناوچهی چالاکی بومهلرزه زانی ئەمریکای باشوور (مەکسیک، بەرازیل، شیلی) و ولاتانی دیکەش زۆر باو و ناساییه به هۆی کارێگه‌رییه‌که‌ی له بهرگه‌گرتنی له‌رزینی زهوی له رووی بوومه‌لرزه وه ههندیک لایه‌نی گ‌رنگ تیشک ده‌خ‌ریته سه‌ر بو ناسکرکردنی ورده‌کاری و رینمایی زیاتر له‌سه‌ر چۆنیه‌تی دروستکردنی ئەم بینایانه بو ئەوهی ئەهنده کارێگه‌ر بێت له بهرگه‌گرتنی زهوی له‌رزین له بوومه‌لرزه.

الملخص

المباني الحجرية المحصورة شائعة جدًا في المنطقة النشطة زلزاليًا بأمريكا الجنوبية (المكسيك والبرازيل وتشيلي) وبلدان أخرى أيضًا نظرًا لفعاليتها في تحمل اهتزاز الأرض بسبب الزلازل، وقد تم تسليط الضوء على بعض الجوانب المهمة للكشف عن المزيد من التفاصيل والإرشادات حول كيفية إنشاء هذه المباني لتكون فعالة جدًا في مقاومة اهتزاز الأرض أثناء الزلزال.

Abstract

Confined masonry buildings are very common in seismic active region South America (Mexico, Brazil, Chile) and other countries as well due to its effectiveness in withstanding earthquake ground shaking some important aspects are highlighted to reveal more details and guidelines on how these buildings are constructed to be so effective in withstanding earthquake ground shaking.

پوخته

ببناکانی CM و MRF له‌گه‌ل دیواره‌کانی پرکردنه‌وهی URM هه‌مان پێکهاته‌ی سه‌ر مکییان هه‌یه وه‌کو تیشکی کۆنکریتی به‌هێزکراو، ستوونی کۆنکریتی به‌هێزکراو هه‌روه‌ها دیواری بیناسازی به‌لام هه‌ردوو ئەم بینایانه ره‌فتاریکی جیاوازیان هه‌یه کاتیکی باس له له‌رزینی زهوی بوومه‌لرزه ده‌کریت بۆیه تیروانینیکی پێویسته بو تێگه‌یشتن له‌وهی بۆچی CM بیناکان باشت‌تر نه‌گه‌ر باشت‌تر نه‌بن و سه‌لامه‌ت‌ترن له MRF له به‌رنگار بوونه‌وهی زهوی له‌رزین له بوومه‌لرزه.

الملخص

تحتوي مباني CM و MRF مع جدران الحشو URM على نفس المكونات الرئيسية مثل العوارض الخرسانية المسلحة والأعمدة الخرسانية المسلحة بالإضافة إلى جدران البناء، ومع ذلك فإن كلا هذين المبنى يتصرفان بشكل مختلف عندما يتعلق الأمر باهتزاز الأرض بسبب الزلزال، لذلك هناك حاجة إلى نظرة ثاقبة لفهم سبب CM تعتبر المباني أكثر تفضيلاً إن لم تكن أفضل وأكثر أمناً من MRF في مقاومة اهتزاز الأرض بسبب الزلازل.

Abstract

CM buildings and MRF with URM infill walls have the same main constituents such as reinforced concrete beams, reinforced concrete columns as well as masonry walls yet both of these building behave differently when it comes to earthquake ground shaking therefore an insight is needed to understand why CM buildings are more preferable if not better and safer than MRF in resisting earthquake ground shaking.



Speaker Profile

Mr Shwan Jalal Abdullah Bajalan (B.Sc., M.Sc.) is an assistant lecturer at the [Department of Civil Engineering \(DCVE\)](#). He received a B.Sc. in Civil Engineering from [Baghdad University](#) in 1997, and an M.Sc. in Structural Engineering from [Universiti Sains Malaysia \(USM\)](#) in 2004. In 2005/2006, Mr. Bajalan studied postgraduate engineering at [Sungkyunkwan University](#) in South Korea. He taught engineering courses at [Universiti Sains Malaysia \(U.S.M\)](#) in Malaysia before joining Soran University in 2013. He is now teaching engineering core courses, grading and supervising undergraduate students, and working on numerous DCVE initiatives. His principal scientific interest is on seismic structural safety and integrity.

About Soran University

[Soran University \(SUN\)](#) is located in the city of Soran, which is about a two-hour drive north-east of [Erbil](#) (Arbil, Hewlér), the capital of the [Kurdistan Region](#) of Iraq (KRIQ). The city is flanked by the famous Korek, Zozik, Henderén, and Biradost mountains. The medieval mountain village of [Rewandiz \(Rawanduz, رەواندز\)](#) is a stone-cast away, and the two cities share this lovely, harmonious upland. While waiting for its green, environmentally friendly building to be erected on a hilltop overlooking the cities of Soran and Rewandiz, its existing city campus has been meticulously set out to accommodate the lovely natural landscape. The new campus will be the first of its type, being walkable, balanced, powered by renewable energy, and compliant with all international environmental regulations. There are 5 Faculties in [SUN](#); [Faculty of Arts](#) (FAAR), [Faculty of Science](#) (FSCN), [Faculty of Education](#) (FEDU), [Faculty of Law](#), Political Science, and Management (FLAW/PSM), and [Faculty of Engineering](#) (FENG). Also, there is SUN research centre. Moreover, at SUN, there is a Language Center. SUN signed many Memoranda of Understandings (MoU) with many International Universities.

How to get here

Soran University (SUN) is located in the heart of the city of Soran. The main city campus is easily found on Google Maps for direction.