



SIKA AT WORK

61 THORNDON QUAY, WELLINGTON.

QUAKE STRENGTHENING A HERITAGE BUILDING USING SikaWrap®

BUILDING TRUST



61 THORNDON QUAY, WELLINGTON



BBR Contech's structural upgrading manager Marc Stewart with SikaWrap® strengthened columns in 61 Thorndon Quay

Like many Wellington buildings, 61 Thorndon Quay was below what is considered safe in a quake, meeting about 50 per cent of the new government building standard. In 2013, the company that owns the building, began converting it into a new apartment hotel complex, with the aim of getting it up to 70 per cent of the standard.

A key challenge was that the building's columns didn't have enough ductility, which means they could crack in a quake. Marc Stewart from BBR Contech, Sika's New Zealand installation experts for FRP, says steel is what provides the flexibility for columns to survive a quake. "The ones at 61 Thorndon Quay didn't have enough of it. In a quake they would stay rigid, and seismic force would shake and crack them".

Until the 1990s, the most common way to strengthen columns such as these was by adding more steel and concrete to them. "You lose some of your inside space, and you're adding mass to the building" Mr Stewart says.

Now, steel is often replaced with a carbon-fibre weave called SikaWrap which is wrapped around columns and held in place with epoxy glue. SikaWrap works in the same way as steel, by allowing the column to move with the quake, absorb its energy and dissipate it.

BBR Contech, installed SikaWrap on four floors of 61 Thorndon Quay. It will also be used on some of the ceiling beams, which need work after the interior is remodelled. The wrap can also be inserted into unreinforced masonry, or used on the exterior of a building and covered with facade – enabling building owners to add strengthening while still keeping the heritage.

If you would like more information on Sika's seismic strengthening solutions, phone Paul Tanner at Sika NZ on 021 607 894.



Scan QR Code for further system information



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