

2010 Chile Earthquake: Masonry and Historic Buildings

Joe Maffei
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RUTHERFORD & CHEKENE



Chilean colleagues:

- Patricio Bonelli, Professor University Frederico Santa Maria, Valparaíso
- Augusto Holmberg, Concrete and Cement Institute of Chile
- Osvaldo Maturana, Constructora Lagies, Concepción
- Arturo Millan, graduate student at University Frederico Santa Maria, Valparaíso
- Patricio Quintana Gallo, Engineer at Bonelli & Asociados, Viña del Mar
- Claudio Frings, graduate student at Pontificia Universidad Católica, Santiago
- Juan Pablo Herrar Ronda, graduate student at Pontificia Universidad Católica, Santiago
- Juan Carlos de la Llera, Professor Pontificia Universidad Católica, Santiago
- Ruben Boroschek, Professor University of Chile, Santiago
- Rudolfo Saragoni, Professor University of Chile, Santiago
- Gilberto Leiva Henríquez, Director of Civil Engineering, University Frederico Santa Maria, Valparaíso
- Carlos Aguirre Ahumada, Professor University Frederico Santa Maria, Valparaíso

Masonry

Viña del Mar.
Lower levels of
building still in use.



Other side of
building





Timber framing
with adobe brick
infill. Damaged
by loss of brick,
being repaired.

Viña del Mar

Viña del Mar



Typcial older clay
brick

Concepción



Adobe brick

Concepción



Cracks through
brick units,
rather than
along mortar
joints

Concepción



Concrete moment
frame with brick
infill, which
contains an
additional vertical
“confining”
concrete section

Viña del Mar







Foreground: collapsed older building with reinforced concrete beams and columns “confining” the masonry



Unreinforced masonry
with reinforced concrete
bond beam – *photo SEAW*

Architectural heritage



Valparaíso, UNESCO
Heritage City







Timber/adobe out-of-plane failure

Timber framing
with adobe brick
infill.

Valparaíso





Masonry covered by plaster
or corrugated metal

FERRARI IO3-A GALERIA Y TALLER... GALLERY AND

Historic
preservation
of exterior
façade only

Valparaíso





CLARO VICUÑA VALENZUELA

CONTRALORIA REGIONAL DE VALPARAISO

UBICACION: EL TIO AGUADO

FECHA PROYECTO: 2 de Septiembre 2010

PLAZO EJECUCION: 360 dias

Interpretado: Claro Vicuña Valenzuela S.R.L.

+calidad de vida

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VALPARAISO, CHILE



Historic *acensore*
in Valparaiso. All
were reported as
being fully
operational.







ASCENSOR
ESPIRITU
SANTO

Older masonry
buildings with
moderate
damage are
likely to be
demolished

Concepción

