

Appendix: Insulated Precast Concrete Sandwich Panels under Punching and Bending

J. Daniel Ronald Joseph, J. Prabakar, and P. Alagusundaramoorthy

This appendix contains additional figures for “Insulated Precast Concrete Sandwich Panels under Punching and Pending,” by J. Daniel Ronald Joseph, J. Prabakar, and P. Alagusundaramoorthy, which appears on pages 68–79 in the March–April 2019 issue of *PCI Journal*.

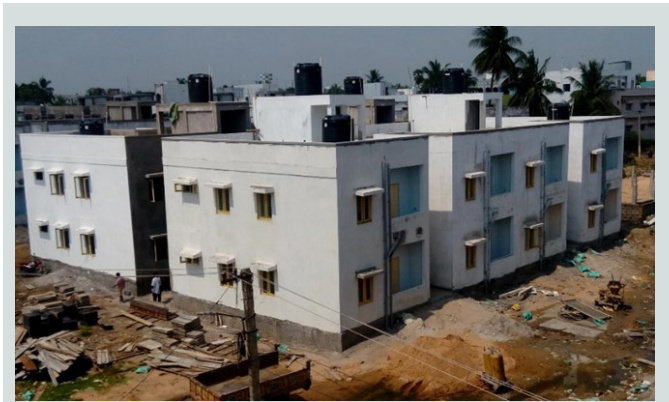


Figure A1. Housing systems using precast concrete sandwich panels with thin wythes.



Figure A2. Tested mesh wire after failure.

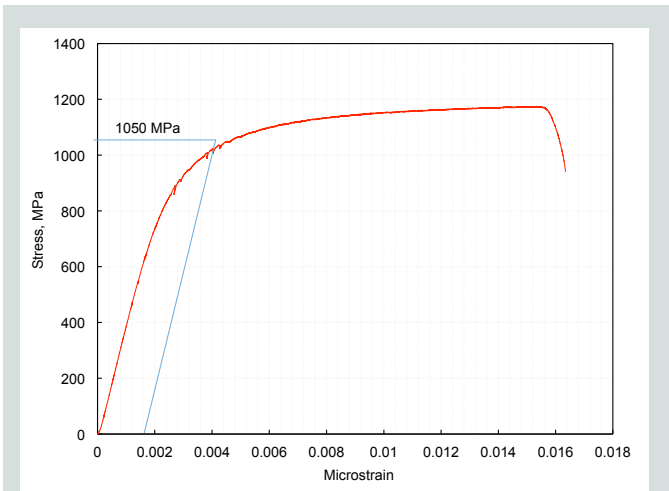


Figure A3. Stress-strain curve of the tested wires. Note: 1 MPa = 0.145 ksi.

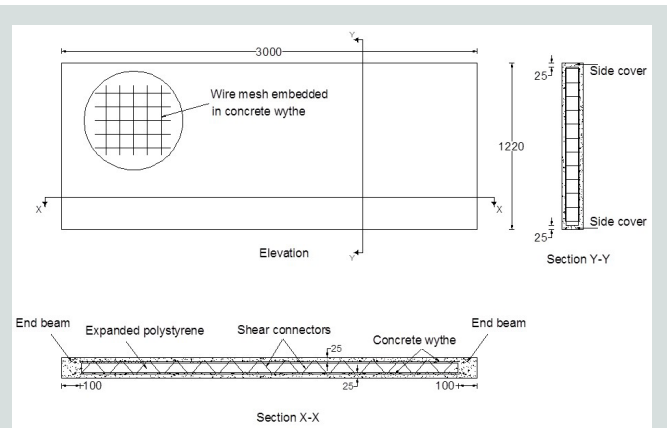


Figure A4. Schematic diagram of precast concrete sandwich panel. Note: All dimensions are in millimeters. 1 mm = 0.039 in.

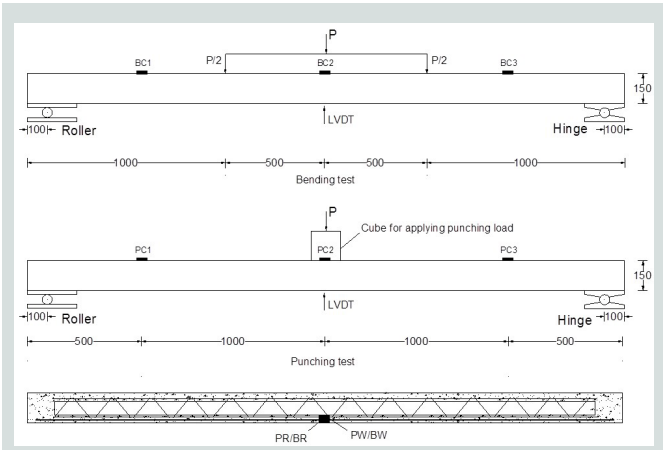


Figure A5. Test setup and instrumentation. Note: All dimensions are in millimeters. BR = strain measured in the reinforcement of panel PB; BW = strain measured in the wire mesh of panel PB; LVDT = linear variable displacement transducer; PB = panel tested in bending; PP = panel tested in punching; PR = strain measured in the reinforcement of panel PP; PW = strain measured in the wire mesh of panel PP. 1 mm = 0.039 in.



Figure A6. Four-point bending test setup.



Figure A7. Punching test setup.

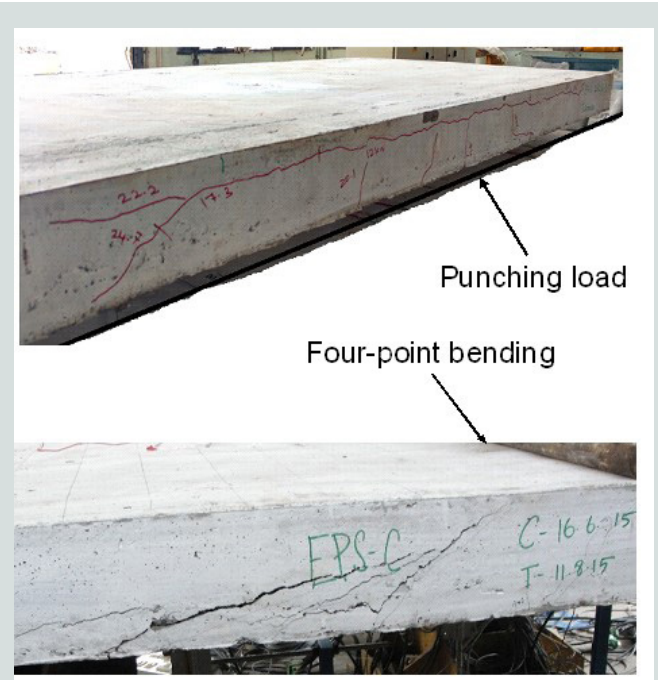


Figure A8. Cracks in side webs of the panels.

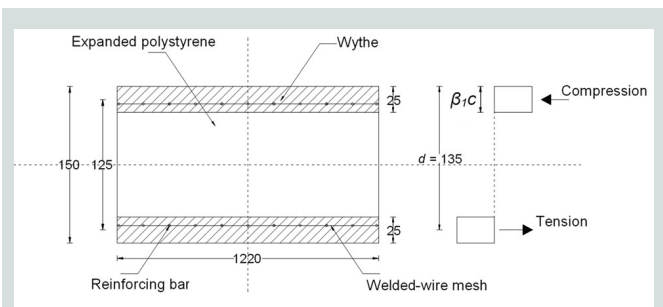


Figure A9. Stress block diagram. Note: All dimensions are in millimeters. d = distance between extreme fiber in compression and tensile reinforcement; $\beta_1 c$ = depth of neutral axis 1 mm = 0.039 in.