

The structural principles of the timeless forms of arches, domes, vaults, and apses are built with the materials of earth, sandbags and barbed wire using the engineering of single and double curvature compression shell structures, to reach the ultimate in strength, self-help, and aesthetics. In Superadobe, the ancient earth architecture of the Middle East using sun-dried mud bricks is fused with its portable nomadic culture of fabrics and tensile elements, not just through design and pattern, but through the structure itself. Structural design uses modern engineering concepts like base-isolation and post-tensioning. The innovation of barbed wire adds the tensile element to the traditional earthen structures, creating earthquake resistance despite the earth's low shear strength. The aerodynamic forms resist hurricanes. The innovation of sandbags adds flood resistance, and easy construction, while the earth itself provides insulation and fire-proofing.

The Superadobe can be coiled into vaults and domes, the way a potter coils a pot, with barbed wire reinforcement, to build structures which pass California's earthquake codes. These structures can last for one season before returning to earth, or they can be stabilized, waterproofed, and finished as permanent houses. The system can be used for structural arches, domes and vaults, or conventional rectilinear shapes. The same method can build silos, clinics, schools, landscaping elements, or infrastructure like dams, cisterns, roads, bridges, and for stabilizing shorelines and watercourses.

