Case Study
Progressive Farmer Residence
Lake City, Minnesota

The Progressive Farmer Residence was a very unique project that used Structural Insulated Panel System (SIPS) for the roof and wall framing. These panels, which consist of rigid insulation bonded to OSB facing, are the load bearing elements and to create a very tightly insulated building envelope. The foundation system is constructed of Thermal Mass (T-Mass) concrete walls that are poured concrete with an internal layer of insulation. These walls are an innovative technology for building envelopes. Rehkamp Larson Architects, Inc. developed a progressive architectural design using the newest building technology while creating the appearance of a classic Midwestern rural residence. The tight building envelope resulted in many structural challenges, especially at the exterior walls that needed connections with minimal penetrations so as to minimize thermal transfers through the walls.

Multiple Systems and Materials

Thermal efficiency and cost effectiveness were paramount for the design of the Progressive Farmer Residence. We used SIPS roof and wall panels, T-Mass poured concrete foundations, efficient engineered glue laminated beams, and economical pre-engineered floor and roof trusses. We also designed exposed steel beams and columns per Rehkamp Larson Architects request in order to create a strong visual appearance at the building exterior.