

		Several reasons why you should give up building a brick house in favor of Solcraft technology	Conclusions
Linear foundations	Masonry technology	brick house is very heavy by nature. This applies to both walls and ceilings. Linear foundations require a foundation strip, heavily reinforced with reinforcing steel, and vertical thermal insulation in a depression below the freezing level. It is not possible to thermally insulate such foundations horizontally, so there will always be a thermal bridge at the connection between the foundation wall and the load-bearing wall of the building. In such a solution, the soil between the foundation walls should be replaced, then compacted, thermally insulated horizontally and filled with a subfloor screed. Due to the thickness of the wall (usually 35 cm), the strip and foundation wall must also be wider.	Traditional technology is much more expensive in terms of materials and time, which also increases the cost of labor. Regardless of the quality of work, there is always a thermal bridge at the connection between the foundation and the wall. The foundation wall itself must be - due to the thickness of the building wall - also much wider.
	Solcraft Technology	house in Solcraft technology is very light. The foundation strip does not have to be heavily reinforced and the foundation walls do not have to be vertically insulated (wooden foundations and then Solcraft walls do not conduct heat like a traditional wall). Due to the thickness of the wall (13, 17 or 23 cm), the strips and foundation walls are thinner. A warm floor made of H-Block panels or simply warm walls made of H-Block panels are laid on the cold foundation walls, which thermally isolate the building from the ground.	
Foundation Slabs	Masonry technology	Due to the weight of a brick building, the foundation slab must be very heavily reinforced and the sub-slab layers thicker and well compacted. The slab must be reinforced with reinforcing steel of larger cross-sections and density and a double mesh and much thicker (18-25 cm). Horizontal and vertical thermal insulation is performed to break thermal bridges between the ground and the floor. There is no possibility of horizontal thermal insulation between the foundation slab and the wall (the building cannot stand on thermal insulation).	In this version of the foundation, the increase in costs in masonry technology results directly from the much greater weight of the building. This requires more steel, concrete, sub-flooring and labor (laying and tying steel).
	Solcraft Technology	The lightness of buildings in Solcraft technology means that the foundation slab is thinner (15-18 cm) and reinforced point-wise. The subfloor layer is also thinner (in slabs with embedded floor heating pipes, there is no subfloor layer). Horizontal and vertical thermal insulation is provided in the same way as in the masonry system, with the difference that the walls are thermally isolated from the foundation slab.	
Point foundations	Masonry technology	Making a point foundation for a brick house is - without special need - almost impossible. It is made only in special cases, i.e. on non-bearing ground (so-called piling) or under a floor slab.	Piling is a very expensive procedure. It is often cheaper to buy a plot of land with load-bearing soil than to use pile foundations. Buildings in Solcraft technology, due to their low weight, are built on concrete piles, steel piles, screws on any soil, because this method significantly reduces the costs of earthworks.
	Solcraft Technology	Point foundations are used in the following versions: screwed (screws), driven (steel pipes or cones), poured (concrete posts), brick (block posts) or free-standing (concrete blocks). On such foundations, a supporting frame is placed under the floor or directly, a self-supporting floor in Solcraft systems. This solution is thermally bridgeless.	
Floating foundation	Masonry technology	There is no technology for foundations for brick floating houses. Such houses are too heavy.	It is rather difficult to draw comparative conclusions.
	Solcraft Technology	Solcraft technology houses can be built on water on floats of any type: concrete, steel or plastic.	
Walls	Masonry technology	Any type of walling material, using mortar or glue, allows you to build a wall at least 35 cm thick. At the top of the wall, it is necessary to pour a reinforced ring beam that holds the walls together and supports the ceiling. All these elements have minimal thermal insulation properties. Obtaining thermal insulation at an energy-saving level (U=0.15) requires covering the wall from the outside with insulation of at least 20-25 cm of polystyrene, which gives a wall thickness of up to 50 cm. In addition, laying any installation requires widening the wall (wall arrangement) or cutting grooves. Lintels above windows and doors with worse thermal insulation than the walls must also be poured. This in turn causes the need to perform, among other things, the so-called warm installation of windows, i.e. extending the windows beyond the outline of the building and fixing them in a specially created window envelope. In the case of long walls, it is necessary to pour pins stiffening the wall. Studs and lintels should be thermally insulated in a special way because they are a potential freezing point.	Lower material and labor costs, larger usable area, significantly better thermal insulation of the building and significantly shorter construction time are the features of Solcraft systems without strong counterarguments. For those who need mobility, it is the possibility of easy transport of so-called mobile and floating houses. The possibility of self-assembly by people with basic technical knowledge is also significant.
	Solcraft Technology	To achieve insulation at an energy-saving level (U=0.15), the Solcraft system "needs" a wall 17 cm thick. And nothing more. The lintels and the ring beam (header beam) are made of wood. The windows are mounted to the wall as standard (beams in the panel lock). So there is no need to use the so-called warm installation and eliminate thermal bridges around the windows. The wall installation widens the wall by approx. 6 cm, which gives a total wall thickness of 23 cm (water) and 20 cm (electric cables). Electric cables can also be hidden in conduits embedded in the walls. Then the wall does not get thicker.	
Hanging ceilings and floors	Masonry technology	The most popular methods of making ceilings are pouring them on ceiling beams (e.g. Klein ceiling) or laying prefabricated ceiling slabs (e.g. so-called Warsaw slabs). Both methods create the main structure of the ceiling without thermal and acoustic insulation layers. Due to the need to rest on the ring of walls, ceilings transfer sounds and the outside temperature of the building.	Concrete ceilings are dedicated to all buildings with masonry walls. Solcraft ceilings can be used in buildings of any technology, including masonry. They are light, easy to install and warm. They are also prepared for easy installation of suspended ceilings and floor finishes, including underfloor heating without screeds.
	Solcraft Technology	Solcraft system ceilings are laid on wall capping beams (wood to wood), which breaks the acoustic "bridge" and does not require structural beams. They are filled with thermal and acoustic insulation. Floor coatings can be laid directly on them and installations and ceilings can be suspended from them.	
Roofs	Masonry technology	Regardless of whether there is a knee wall or not, external walls must be connected with a tie beam and a beam (wall plate). Rafters rest on the wall plate in standard spacing (up to 90 cm), rafters connect purlins or boarding or purlins and boarding. A membrane or roofing felt is laid on the boarding, then battens and counterbattens for the final roof covering (sheet metal, ceramics). Next, the roof is thermally insulated, filling the spaces between the rafters with e.g. mineral wool (standard thickness 25-30 cm for U=15). Then the insulation must be closed from the inside of the building, e.g. with OSB or other boards on a substructure.	Only Solcraft roofing systems have "5 functions in one": (1) roof structure, (2) sheet metal roofing with OSB soffit, (3) insulation, (4) solar, (5) heat source for the heat pump.
	Solcraft Technology	Solcraft roofs do not require a rafter structure and are based almost exclusively on a ridge and two purlins and a wall plate. The Solcraft roof panel has OSB (or sheet metal) on the bottom and sheet metal on the top. To achieve energy efficiency at the level of standard roofs, the covering is 15.5 cm thick. In special applications, Solcraft roof panels have a heat exchanger under the surface of the external sheet metal that supplies the building with air and sun heat (Solvero system with a roof heat pump or only solar).	