

SchwörerHaus

Company Portrait





**Company Headquarters and
Main Plant in
Hohenstein-Oberstetten**





Experts in Wood, Concrete and Steel



SchwörerHaus was founded in 1950 in Sigmaringen/Germany and today the company is represented in 9 different locations in Germany.

60 model houses throughout Germany display the variety of our high-tech prefabrication systems. All our activities in development, production and distribution have only one aim - to satisfy our customers. Qualified specialists guarantee constant quality in construction, production and assembly and provide customers with sound advice and service.

We have secured our leading role in the prefabrication industry through continuous innovation. We have already been fulfilling government regulations for the construction industry for years now with the low energy house for the future - The Schwörer Recycled Energy House.



We want to secure our lead

In a low-energy house, controlling ventilation is just as important as having good insulation. This technology, which we have developed to perfection, can be combined with a recycled energy system and on request also with solar technology and a thermal heat exchanger. With our fresh air and recycled energy technology we have the competitive edge. In fact, it has

been standardized and integrated to every Schwörer recycled energy house since 1980.

The human requirements of a beautiful home in a clean environment for now and for the future, along with our striving to improve the quality of life of our customers and their families is the driving force behind our forward-looking developments in housing technology. Since 1995, the sun collector system is standard in every recycled energy house.

A synergy of thermal heat exchanger, photovoltaic cell panels, rainwater utility system, BUS and safety technology all compliment each other in a holistic concept for innovative building and energy saving. The basis for our appropriate ideas for the future, new discoveries, the building on our knowledge and the success of our product, thanks to our ecologically-minded expert engineers, is the result of almost 50 years experience in the field of building and construction.



From the Basement to the Roof by the same Hand



Our Schwörer recycled energy house concept encompasses the entire spectrum of the building industry. Our products are also delivered to Switzerland, Luxemburg, Austria and Italy. Using the most modern of production methods, we manufacture single, duplex and row houses, as well as buildings for pro-

fessional use, from the basement to the roof. In our own sawmill we only use healthy wood which is processed to make timber, laminated timber, solid wood panels, triple-layer furniture board, and shuttering board.

All wood offcuts are used to produce environmentally-friendly



energy in our high-tech power plant. The plant generates heat and electricity for an entire plant and an additional 40% is transferred to the national network.

Our concrete prefabricated units for the office and industry sector and also for basements and garages are accurate in their measurements.

The prestressed hollow concrete walls, which are manufactured in fully automatic plants using economical amounts of resources, are also particularly environmentally-friendly.



Houses for every Landscape, for every Location and for you Personally



Certificate

for

the Miller Family

The SchwörerHaus KG, on the basic construction of this house,
commission no. _____ hereby warrants a

A 30 Year Guarantee

The period of guarantee begins on the date of inspection.

The basic construction consists of those elements required for the foundational safety of the house according to the government specifications of the required parts.

The SchwörerHaus KG with this guarantee warrants that the basic construction, at the time of inspection, possesses the specifications agreed on in the contract according to the current applicable technology regulations, is free of flaws and is suitable for the purpose stated in the contract.

On the grounds of this contract, SchwörerHaus KG is obliged to put in order any flaws in the basic construction which are the result of an unfulfilled condition in the contractual agreement. Any such flaws shall be rectified within the guarantee period at the expense of SchwörerHaus KG and as soon as the company has received written notification by the owner.

Date:
Hohenstein

SchwörerHaus KG

Hans Schwörer



Whether a rustic Schwörer house with clinker brick facings, a Schwörer country house with a lot of visible wood and long roof overhangs or houses of stylish modern architecture, we build houses for all regions and all properties. Each of the different designs are in harmony with the building tradition of the region and at the same time reflect expectations in modern building styles. Schwörer houses help save valuable energy through modern housing technology. Moreover, they set the trend in 'Healthy Building and Living' today.

Careful planning by architects on site ensures that your personal housing requirements and wishes are fulfilled; stylish right up to the finest details and built with perfect workmanship. The visible quality of the house matches the high quality of its interior which you begin to discover when you live in it.

The Low-Energy House as a Standard



An example of expertise: Every house can also be made with clinker brick facings.

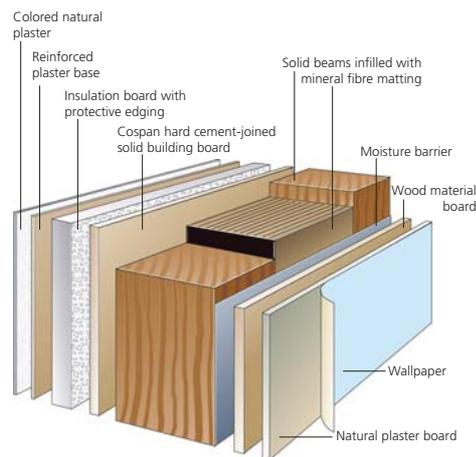
Typically northern: the steep pitch of the roof and the clinker brick facings. Typically Schwörer: the close combination of regional features with modern building styles. All design elements match perfectly and make for an architecture that is truly impressive. The masterful clinker brick technique results in a lively and impressive facade which is appreciated by many. On request you can also have your house made with a Dutch clinker brick front and choose colors from a wide ranging palette.



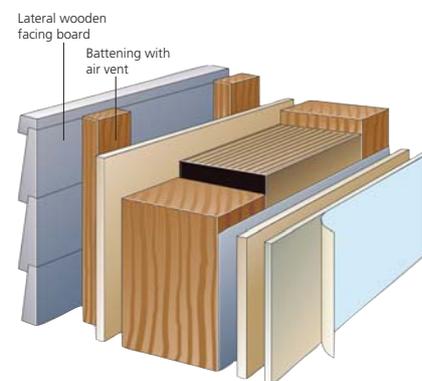
Low-Energy House

You want to build on solid foundations - that's natural! But you should be demanding more for your well-earned money: our low-energy house is in accordance with the insulation regulations laid down by the German government for the year 2000. The heart of our low-energy houses is the recycled energy technology and the Schwörer exterior wall. It has an average k-value of 0,22 (outer plaster facing). A brick wall must be at least 90 cms thick to achieve the same desired value. Another plus is the synergy effect of recycled energy technology with additional airtightness which can be built in on request. This means that the warm air in the house passes through a heat exchanger and by doing this, your control of air conditioning is even more effective. The highly valuable insulated glass (k-value 1,1) is also standard in every house. The roller-shutter effectivity graph shows that all constructional details have been well-thought through. You can decide calmly on a

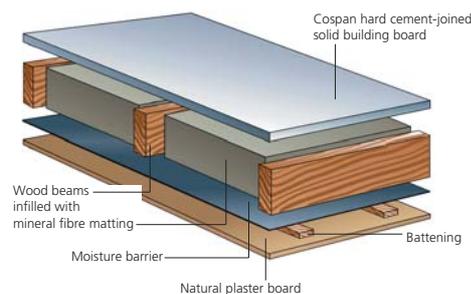
Schwörer house and live in it in total calmness. The excellent noise insulation of a Schwörer house with plaster outer walls, thanks to Cospan solid building board, has been improved further to 58 dB, and with a clinker brick facing to 61dB.



Noise insulation: The Schwörer standard exterior wall with 58 dB according to tests. The high degree of noise insulation is gained through the 16 mm Cospan solid building board which is rot resistant and can be recycled. (It also provides a comfortable room height of 2,53m.)



Construction of a Schwörer standard soundproofed wall with wood panelled facing



In the Schwörer standard ceiling, the material used for the 25 mm thick Cospan solid building board provides better noise insulation. The ceiling shown in wood beam construction reveals the high degree of footfall insulation of Ln, w 58 - 59 dB measured on a hard floor surface. With regards to air insulation the ceiling is even better than concrete!

The SchwörerHaus

A Protective Coating for every Weather



Recycled Energy House

We would like to explain it with an example: When the weather is rainy, windy or when it's cold, you might decide to put on a second thicker coating over your bunchy sweater - your anorak. You are doing the same with your body as we do with our houses: insulation (= sweater) and airtightness (= anorak) both provide good protection. We consider our Schwörer house as an all-round protective sheath and with the recycled energy house, we are already well-equipped for minimalizing heat loss in houses in the 21st Century.

The k-value (the term for heat transmission coefficient) of our exterior walls ($k = 2,2$) speaks for itself. In conventional building the brick walls would have to be 90 cms thick to obtain the same value. The roof is also an important aspect: a diffuser sheeting is fitted and acts as an additional wind blocker.

The exceptionally good insulating of our houses must be supplemented with airtightness or else even the best insulation is ineffective when the warmth can escape through tiny gaps. With clever planning, construction and the perfect assem-

bly of our houses, grooves and gaps present no problems. Vital constructional details such as the insulation of front doors with sliding latches, and front doors including windows with a k-value of 1,1 are examples of the accuracy and care we take in our work.

The airtightness of our houses is checked regularly with the Schwörer test bed. We require true and meaningful measurements, so in many cases we carry out voluntary checks at random where our technicians seek out the smallest of drafts. Cold



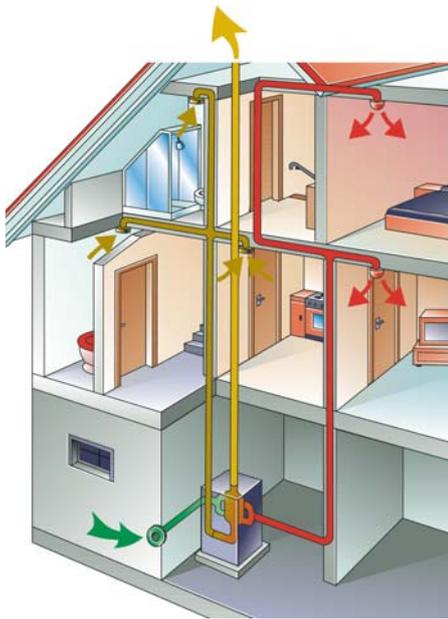
zones are avoided when the design details are right.

Living healthy and cozy with Recycled Energy Technology

We have the solution. In fact, we already had it 15 years ago. There are not many companies who have gone into the subject of controlled ventilation recycled energy in such depth. However, we had already begun developing our energy-saving ventilation technology twenty years ago. It is now standard and has been built into all recycled energy houses since 1982. Meanwhile, scientific tests have proven the advantages with controlled ventilation and it was stated: "In the tests of all three houses, the air input with mechanical ventilation systems shows a 90% reduction of germ particles compared to the outside air. On the other hand, air in the house obtained through conventional airing by open windows contained more micro-organisms than outside air" (Dissertation: T. Schneiders, Aachen Polytechnic of Technology).

Our houses offer breathing air with a large percentage of oxygen as the air in rooms is fully renewed every 1,5 hours. In this cycle, the radon content is also reduced considerably. The air is healthier as it contains fewer dust particles, fewer allergy-causing substances and is less polluted. You breathe fresh air, free from unpleasant odours and in all rooms you have a carefully balanced temperature which avoids the danger of accumulating mildew or dangerous spores. Above all you have optimal soundproofing as the windows can stay shut and that also increases prevention against burglaries. Combined with our recycled energy technology you have the best solution for living in a comfortable home, and of course, lower energy bills.

Environmental Conservation with State of the Art Heating and Ventilation Technology



This is how the Schwörer Fresh Air and Recycled Energy Technology works:

The stale air is sucked out of the kitchen, bathroom and WC by an extractor valve through an output pipe to a central unit. At the same time, fresh air is sucked in and filtered in the unit (pollen filter, see diagram).

Basically, the central system consists of a heat exchanger and a small heat pump. Stale, warm air is sucked out and, without mixing with fresh air, used to warm it up. The stale air is cooled to freezing point and then conducted to the outside through an exit pipe. The warmed air passes through the fresh air pipes to the living room and bedrooms where it is gently distributed through round-shaped valves.



Emission and Recycled Energy Technology

Schwörer Recycled Energy Technology combined with gas central heating.

With so many different sources of energy at our disposal today, we are constantly asked the question: "How do you make best use of natural resources?"

We at SchwörerHaus have set ourselves a goal: to keep the loss of valuable energy as low as possible. Our modulating heating technology produces only as much warmth as is needed. We gain more valuable heat produced through heating by recycling it. The same applies to the stale air from the kitchen, bathroom and WC. The requirements laid down by government are becoming stricter - and rightly so! Using our modern heating and ventilation technology you can be sure that you are really well-equipped for the future and needn't have to worry about additional fittings.

This is how the Schwörer Emission/Recycled Energy Technology works:

Hot gases from the burner and warm, stale air from the kitchen, bathroom and WC are passed to



the heat exchanger while fresh air from outside is sucked in and filtered. The cool, cleaned air is warmed, without mixing with the stale air, in the heat exchanger and conducted to the living room and bedrooms. The cooled heating gases and stale air are then discharged to the outside.



Pollen-free air, a healthy interior climate and low heating costs with Fresh Air and Recycled Energy Technology

In your new Schwörer recycled energy house you breathe fresh, filtered air which is less contaminated by pollen, dust particles and other pollutants - a godsend for those who suffer with asthma and allergies. The stale air in the house is continually replaced and damage caused by mildew is avoided. You also live in quiet surroundings as the windows can stay shut if you wish. The warmth remains in the house as it is extracted from the stale air. Through a heat exchanger, the fresh air is filtered back (without mixing), and using this method you also save considerably on heating costs.

Be rest assured that in a Schwörer recycled energy house you can take a good, deep breath of fresh air.

Equipped for the Future: Thermal Heat Exchanger, and BUS Technology

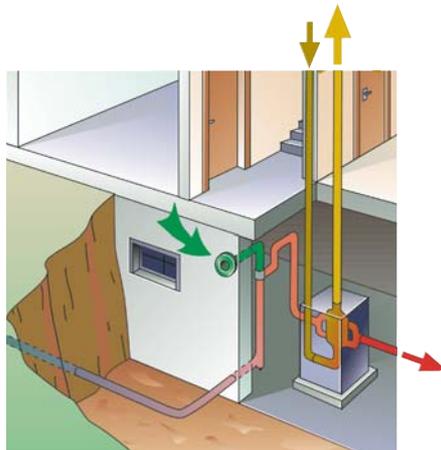


We make use of the Earth's 'climate chamber': gratis and environmentally-friendly.

Under the ground frost level, just as in our atmosphere, there are many balanced temperatures which are not influenced by temperatures above the surface. This 'energy' from under the earth, or to be more exact, the difference in sub-surface temperature and outside air is put to good use by Schwörer's own developed thermal heat exchanger. It cools the air in Summer so even on very hot days the house always maintains a pleasant temperature. In Winter, on the other hand, the cold air is prewarmed at an outside temperature of minus 8°C to 12°C. The balance is a considerably higher degree of effectivity resulting from our fresh air and recycled energy technology.

The Earth's thermal properties provide the rooms in your house with a temperature that makes you feel good.

By making optimal use of the Earth's thermal energy, a smooth pipe is laid with a gradient underneath the frost level along the outside wall of the basement. The thermal heat exchanger sucks in the fresh air from above the ground,



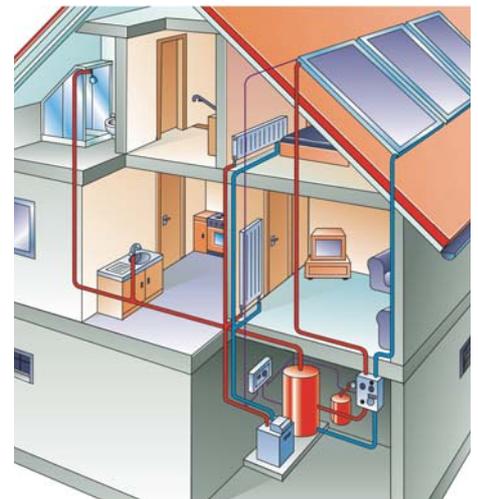
regulates the temperature and blows it dry to the fresh air/recycled energy unit.

The Sun Collector - already included in a Schwörer Recycled Energy House

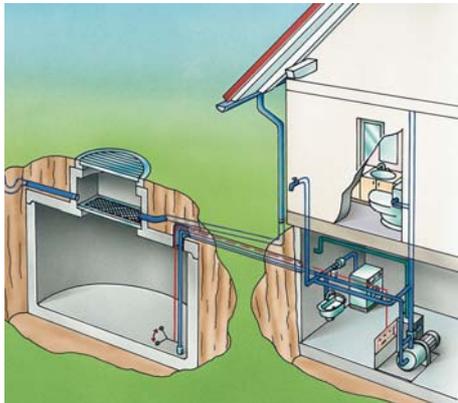
When Spring arrives with warmer days, the burner switches itself off and in Summer, completely. Only in late Fall do you need to heat your water with either gas, oil or electricity. The sun gives off energy the whole year round and it's gratis - free from pollutants and emissions. Our system also works under an overcast sky and in both easterly and westerly directions. Even a 4,8 m² sized collector saves the environment from as much as 1 ton

of carbon dioxide per year. The high quality, long-life solar collector which is mounted to our Schwörer houses makes for an environment worth living in - for us and for future generations. And the more collectors working on rooves, the more they serve in improving our climate as a whole. That's why we have made solar collectors a standard feature in our Schwörer recycled energy houses.

Those who may wish to invest even more in our environment can also have photovoltaic panels fitted to produce electricity. Tap onto the sun with us!



Solar Technology, Rainwater Utilization



Utilizing rainwater - with cisterns and circulation system

You water the garden, clean your washing and rinse the WC with it and all that wetness from the sky is free! A great percentage of your water consumption can be covered by rainwater. But a rainwater system is more - it's an investment in the future because it saves on the most valuable resource we have: drinking water.

Comfort and safety with the BUS-System

The lights go on at dusk, the roller-shutters close automatically, awnings react to the strength of the sun, heating and ventilation are optimally programmed for the entire house. Electronically guarded: an alarm rings in the event of a burglary. The electronic house controller does all that and a lot more - day and night. Whether you are at home or not it will certainly look as if it is being lived in. The control program is geared to your daily rhythm and requirements. Operation is unbelievably easy and can be called up even when you are away from home. A telephone call enables you to make sure that an iron or cooker have been switched off. The European Installation BUS-System fulfils ever-increasing requirements by coupling and controlling the entire technology in your house. Even when you don't wish to make use of it today, it's worth thinking

about tomorrow and taking advantage of the BUS introductory packet.

Foundations planned by experts

Would you like a sun-flooded bay-room? Should the kitchen be adjoined to a pantry? Can you imagine an open-planned house with a gallery and wide stairwell? Or would you rather live on the ground floor and renovate a storey under the roof later? We can make many suggestions that will make it easier for you to design your personal house according to your wishes and plans in life - just like what you dreamed of! For us, the little things that make living easier are practically as important as designing the foundations. Our well-devised concepts help you develop your own imagination. At first, we also help you calculate what is possible and financially feasible because we want to make sure that worry-free building works for you and that it stays that way. We support you with compact, space saving concepts just as much as with representative designs. We can plan for houses with smaller meas-

urements as for villas with amazing opportunities in interior design.



Company headquarters	SchwörerHaus GmbH & Co., 72488 Sigmaringen, Bahnhofstraße 9 SchwörerHaus KG, 72531 Hohenstein-Oberstetten, Hans-Schwörer-Straße 8
Founded in	1950
Employees	1500
Share capital	5 million Euro Schwörer Foundation 6 million Euro (charity)
Turnover	200 million Euro
Shareholders	Hans Schwörer (CEO) Dr. Hermann Schwörer (Executive Director)
Plant in D-72531 Hohenstein-Oberstetten Telephone +049 (0) 73 87/16-0 Fax +049 (0) 73 87/16-2 38	Single family houses, duplex and row houses, extensions, fresh air recycled energy technology, wood processing, laminated wood, solid wood panels, triple-layer furniture board and shuttering board. Schwörer Customer Advice and Service, South, Building Info Center
Plant in D-55469 Simmern	Precast concrete elements (slabs), cellars
Plant in D-72401 Haigerloch-Stetten Telephone +049 (0) 74 74/6 95-0 Fax +049 (0) 74 74/6 95-100	Steel construction, basements, garages, concrete prefabricated units, Liapor prefabricated units
Plant in D-72519 Veringenstadt Telephone +049 (0) 75 77/3 09-0 Fax +049 (0) 75 77/3 09-23	Kastell solid construction houses, basements, ceilings, chimneys, concrete and Liapor prefabricated units, VS composite shuttering board, VARIAX prestressed hollow concrete ceilings
Plant in D-16356 Blumberg/Berlin Telephone +049 (0) 30/9 38 99-0 Fax +049 (0) 30/9 30 94 34	compound walling system, prefabricated bathrooms, apartment buildings, industry- and administration building
Plant in D-06869 Coswig/Anhalt Telephone +049 (0) 3 49 03/42-0 Fax +049 (0) 3 49 03/42-140	Large-format laminated particle boards with mineral bond Eco-building modules for storey buildings and single family houses Schwörer Customer Advice Center, East
Plant in D-06722 Weickelsdorf Telephone +049 (0) 3 44 22/613-0 Fax +049 (0) 3 44 22/613-49	Kastell solid construction houses, basements, ceilings, concrete and Liapor prefabricated units, VARIAX prestressed hollow concrete ceilings
56575 D-Weißenthurm Telephone +049 (0) 26 37/914-0 Fax +049 (0) 26 37/914-100	Schwörer Customer Advice Center, West/North
Display houses	Within Germany we have over 50 model houses on display. Since 1964 we have erected more than 25.000 houses.



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