

WOOD STORAGE

- Ensure the right moisture ratio
- No change in shape
- No additional drying required

The significance of air

Wood which is sawn and dried is especially sensitive to moisture changes, because sawn materials are searching for equilibrium with ambient air humidity. The wood is adapting to both temperature and the moisture in the surrounding.

Storing sawn timber

Dried and sawn wood that is used for furniture production shouldn't have a moisture ratio in excess of 8-9%. Wood being used for doors and windows should have a moisture ratio of 12%. If this kind of timber is stored in an area without dehumidification, the quality may vary greatly. Varying moisture levels may cause the structure of the wood to change, which may cause problems with processing the wood during final production. This can lead to that the end customers are not satisfied with their product. So the biggest threat to the quality of the wood is sharp fluctuations in climate and varying humidity of the surrounding air.

Dehumidification optimised for stores selling wood

The purpose of dehumidification of wood storage for the wood products industry is to always achieve a constant indoor climate so that the timber supplier can guarantee its end customers consistently high quality of its products. Recusorb from Seibu Giken DST AB works with heat recovery and can use steam, electricity, gas or hot water as regeneration power source. Recusorb dehumidifiers can optimise the indoor climate of wood storage in order to ensure quality.



Controlled climate ensures quality

The moisture ratio and relative humidity are practically independent of the temperature on the premises. But heating costs can be reduced if you regulate the indoor climate after the dew point instead of after relative humidity.

- For more information on how dehumidified air can improve the climate in storages, don't hesitate to contact your nearest DST representative, www.dst-sg.com.

References

Austria: Hanger, Hechenblaickner, Kepplinger, Kieslinger, Ligna Trading, Lichtenstaen Holz
Czech Republic: Štětí
Finland: Pölkky Oy
Malaysia: Kurz production SDN. BHD
Netherlands: Corenso
Singapore: Sumitomo Bakallite

Holz Schwarz, Austria

Holz Schwarz in Austria, had the need to protect timber and wood materials against moisture during the storage period. They contacted KIRSCH, a DST representative, to get help with dehumidification.

Problems and requests from the client

The customer's problem was that the humidity in the store followed the outdoor climate. Which made the wood's moisture content to vary significantly depending on the season. Customer's requests were a solution that made the wood have the same quality all year around.

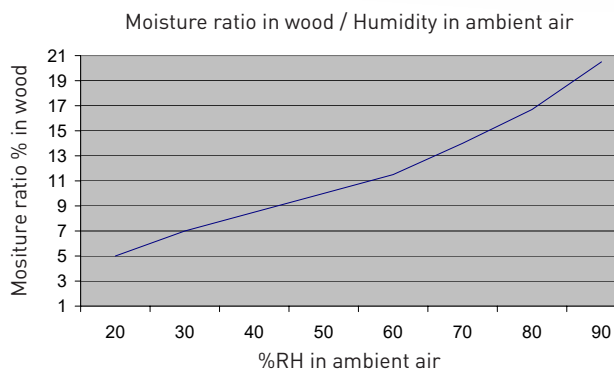
Solution

KIRSCH installed a DST Rescusorb dehumidifier to make the warehouse hold a relative humidity level

of 45% which provide a stable level of moisture in the wood. KIRSCH chose to install a Rescusorb dehumidifier because the units are working with energy saving Rescusorb principle that requires no additional heating of the premises to work.

A controlled humidity climate

After KIRSCH had installed a DST dehumidifier, the warehouse did keep the desirable moisture level of 45%, regardless of the inside temperature. The warehouse has secured its moisture content in the wood and can nowadays deliver wood that is of high and consistent quality all year around.



The diagram shows the moisture ratio in wood in relation to the relative humidity of the ambient air (at 0-20°C)

Examples of climate classes and moisture classes according to Swedish standards

Climate classes of timber structures according to Swedish BKR (Board's Design Regulations)

Moisture content class	Moisture content in %	Examples of application
8	6-9,5%	tiled floor, furniture, interiors
12	9-14%	inner panels, laminated wood, inner stairs, windows and doors
18	12-22%	outer panels, structural timber, construction timber, impregnated wood

Moisture content classes according to Swedish Standard SS 23:27 40

Name	Moisture content
Furniture dry	6-10%
Room dry, carpentry dry	10-15%
Bonding dry	14%
Planning dry	15-19%
Air dry (shipping dry)	15-23%