

WATTS # 4

Technical
Training
Series



The goal in structure drying is to draw moisture from building materials to the air, where it is removed. This is a mechanical process that involves controlling air convection, temperature, and humidity. The following are general concepts used in structure drying:

- Increased airflow reduces air pressure at the surface, which allows moisture to evaporate.
- Increasing temperature allows the air to 'hold' more moisture.
- Dehumidifiers are then used to remove the moisture from the air.

To accomplish structure drying, certain items need to be quantified such as:

- How much water is present and in what materials:
 - **Class 1:** Wet concrete, Block, Framing, Subflooring
 - **Class 2:** Wet Drywall, Carpet – to a height of 24" above finished floor
 - **Class 3:** Wet Drywall & Carpet – walls and ceiling
- Establish room dimensions, linear footage of affected wall and cubic footage of affected space
- Place air movers – Air movers are generally placed every 12' – 16' along the perimeter wall in a constant direction, creating a vortex or circular airflow.
- Calculate dehumidifier requirements utilizing Class Divisor Factors, Cubic Footage, and Dehumidifier **AHAM** ratings (check manufacturer specifications)

Dehumidifier Type	Class 1 Factor	Class 2 Factor	Class 3 Factor
Standard Dehu*	70 pts	35 pts	25 pts
Low-Grain Refrigerant**	70 pts	40 pts	30 pts
Desiccant***	2ACH /30	4ACH /15	5ACH /12

DIVISOR FACTOR TABLE

- *Standard Dehu = DrizAir 1200 or similar, **AHAM rating of 64 pts / day**
- **Low-Grain Refrigerant Dehu = Phoenix 200 MAX LGR or similar, **AHAM rating of 110 pts / day**
- *** Desiccant Dehu = Phoenix 1200 Desiccant or similar – measured in **Air Changes Per Hour (X/60)** and **CFM rating of unit**

Dehumidifier Calculation Equation and Sample

$CF \div \text{Divisor Factor} \div \text{AHAM rating} = \# \text{ Dehu's Required (always round up)}$

Class 2 Loss, 5,760 cf area, 200 MAX LGR: $5,760cf \div 35 \div 110 = 1.49 = 2 \text{ Dehumidifiers Required}$

This Information is also useful for reverse calculating equipment requirements, as is often necessary when evaluating a contractor's emergency service billing documents.
AHAM rating: Association of Home Appliance Manufacturers

