

Temporary Climate Control for Hospital Construction Projects



Polygon Speeds Hospital Construction

During hospital construction, architects and contractors are faced with:

- the constant pressure to meet deadlines
- the need to avoid mold contamination
- the responsibility to deliver the highest quality workmanship

But excess moisture—trapped in building materials or entering from leaks—can cause a myriad of unexpected problems, resulting in delays, or worse, biological contamination. To solve these problems, and to keep projects moving forward on schedule, Polygon has developed state-of-the-art construction drying services. Using desiccant technology, Polygon offers project managers a comprehensive approach to solving moisture problems that allows for work to move ahead quickly and assures that building quality expectations can be met.



Polygon helps hospital construction projects stay on schedule!

Use Polygon to:

- Meet scheduled deadlines
- Avoid mold growth
- Restore water damage
- Protect installed HVAC equipment
- Protect stored materials
- Heat or cool during construction
- Meet flooring specs
- Control working conditions

How Polygon helps:

- Joint compound dry in hours; sand the same day
- Water content in slabs meet spec
- Prevent wood floors and trim from swelling or warping
- Dry fireproofing quickly
- Avoid house HVAC start-up
- Prevent mold growth
- On-time completion



Photos above and right: On-time completion at the new Regional Hospital in Abbotsford, British Columbia, was made possible by Polygon's climate control services. During periods of record breaking rainfall, windstorms and snow, with daytime humidity levels reaching 95% RH, Polygon kept inside conditions warm and dry. Polygon built a temporary roof top system combining desiccant dehumidification and heat, which allowed work to move at record pace with comfortable working conditions inside.

How Polygon Does It

Polygon ends construction site moisture problems with temporary dehumidification and ventilation, instead of dangerous propane heaters or the building's HVAC system. Polygon dehumidifiers continuously replace humid air inside the building with air which has been dehumidified. This extremely dry air has a low vapor pressure. As a result, it attracts moisture molecules from wet surfaces—such as recently poured concrete, joint compound, freshly painted walls, stored building materials etc.—allowing them to dry at an accelerated rate. Surface materials, like paint and “mud” dry in hours instead of days. Concrete slabs can meet specifications for coating or floor covering applications twice as fast as normally would be expected. Likewise, staged materials such as millwork or wood flooring don't absorb moisture.

The Leader in Hospital Construction Drying Worldwide

Polygon is the oldest and largest construction drying company in the world. Polygon began construction drying in Europe in the 1970s and has provided services to building sites in North America since 1984. Our nationwide fleet of drying equipment is available on a 24-hour basis from offices in 20+ cities. We work on hospital construction projects across the US and Canada every day.

Expertise in Engineering

Polygon's experience and expertise is unmatched. We have worked with hundreds of architectural firms and contractors to solve moisture problems for nearly four decades. All of our technicians undergo rigorous technical training in:

- Psychrometrics
- Refrigeration and heating equipment
- Desiccant dehumidification
- Construction drying

In serving our customers, we engineer a system based on the job site requirements. The system may be desiccant dehumidification alone, or an integrated system of heating, cooling, air moving and dehumidification equipment. We pride ourselves in engineering a cost-effective solution for your unique project needs.

Preventing Mold and Biological Hazards

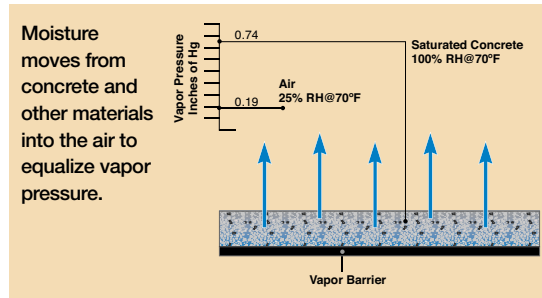
Today, there is great concern about mold and other microbiological hazards developing during a hospital construction project. Condensation, high humidity and water leaks can all lead to the growth of dangerous microbes. With Polygon on your job, moisture and humidity levels inside the building are kept under control. No hazardous biological growth will occur because the moisture necessary for these organisms to prosper has been eliminated.

Avoid Using the Building's HVAC System

Using the building's HVAC system to end moisture problems is ineffective, as the system is designed for temperature control, not moisture removal. Likewise, if operated during construction activity, the HVAC system can be infiltrated with dust and mold spores and lead to damaged coils and filters. Operating the HVAC system before commissioning the building may lead to warranty issues with the equipment. For these reasons, many building owners no longer allow use of the system during construction. Polygon can both eliminate moisture and create comfortable conditions for workers. So, there will be no need to activate the HVAC system or open windows until the building is completed.

Emergency Service for Hospital Construction

Polygon offers service around-the-clock. We have construction specialists on call and equipment ready to meet your needs at any time. For a project evaluation or emergency service, call 1-800-I-CAN-DRY (422-6379).



Dehumidification lowers the vapor pressure above the concrete slab, drawing water vapor out. The greater the vapor pressure difference, the faster the drying.

Ending a Misconception: Heating vs. Desiccant Drying

Contractors have often attempted to dry damp building interiors using heat. But the physics of drying show that, while heating may temporarily reduce relative humidity inside the building, it will not remove moisture trapped in materials, such as concrete, sheet rock, fireproofing and wood flooring. Nor, can it quickly and effectively reverse water damage from storms or leaks.

To effectively dry water-laden materials inside a closed building, the vapor pressure of the inside air must be reduced. Polygon accomplishes this by deeply drying outside air with industrial dehumidification equipment, and then filling the inside construction areas with the treated air. Because the vapor pressure of the dry incoming air is well below the vapor pressure of the construction material at risk, the moisture vapor naturally moves to the surface of the material and is absorbed into the air. As the inside air becomes laden with moisture from the surrounding materials, it is evacuated from the building and replaced with more dry air. Unlike heating, this cycle can dry joint compound in hours after being applied. Concrete slabs give off moisture in time to reach proper manufacturer's specs for flooring installation. Wood floors and moldings don't cup or warp.

Besides being ineffective, the use of heat for drying construction environments has other disadvantages. For example, direct-fired heaters may add moisture to the inside air through the process of combustion. They have a high cost of fuel and labor, and in some environments they are too dangerous to use.

Polygon Helps Meet Hospital Construction Deadlines

Whenever moisture is the problem and time is of the essence, Polygon is the answer. Construction moisture problems can be as simple as drying rain water after a storm or as complex as bringing a concrete slab to a specific moisture content. Whatever your situation, Polygon has a cost-effective solution that can save you valuable time.

Concrete/Masonry

The problem may be: poured concrete walls and slabs unable to dry under ambient conditions, masonry block full of rain water, or Gypcrete™ subfloors too wet to apply floor coverings. Polygon can dry them all fast, saving you weeks of delays. No matter whether you're in the middle of the humid Southeast summer or a damp Northwest winter; Polygon can help.

Drywalling and Painting

The key to meeting finishing schedules is quick drying. Polygon can help joint compound dry the same day it is applied and paint dry in hours. Imagine a crew spackling in the morning and sanding the same afternoon! You can improve your finishing work schedules, saving thousands of dollars.

Fireproofing

Sprayed fireproofing compounds are tough to dry because they have substantial water content when applied. When relative humidity inside closed structures prevents drying, dehumidification is the answer. Using our dehumidifiers, sprayed fireproofing can be dried in as little as one week. This allows interiors to be closed off without the danger of moisture related problems such as the formation of mold or falling patches of material.

Material Preservation

Moisture sensitive material such as wood flooring, plywood, drywall and masonry powders can gain moisture when staged in outdoor areas or humid interior spaces. Polygon can dry the storage area so materials do not take on unwanted moisture while awaiting use.

Wood Floors and Moldings

In humid conditions, wood flooring and fine finishes can absorb moisture directly from the air causing warping, cupping and expansion. These factors play havoc with installations. After the building heat is turned on and winter comes, finishes and floor boards will contract as moisture is given off, creating spaces and cracks unacceptable to the customer. Working in humidity free environments with "stabilized" wood materials makes installations accurate and prevents moisture problems from arising later.

Carpet and Tile

Floor covering subcontractors won't guarantee their work if sub-flooring does not meet the manufacturer's standard for moisture content. Why risk buckling, delamination and adhesive failures? Polygon can dry your subfloors to manufacturer's specs in record time.

Water Damage Reversal

Buildings under construction can be particularly susceptible to storm damage, water main breaks or leaks in unfinished roofs. Once inside the building, moisture is absorbed by structural materials, only to cause problems throughout construction and into the future. If your building has had severe water damage, call Polygon. In days, we will create optimum conditions for finishing work by deeply drying water locked inside walls, floors and masonry.



Polygon

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