

# mold™

March-April 2006  
Volume 3 | Issue 2

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on Page 35

**& MOISTURE MANAGEMENT MAGAZINE**  
The Magazine for Moisture Prevention and Remediation



## Remediation Scope: The Latest Techniques and Tools

**ALSO INSIDE:**

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AIHce 2006**

**15 STEPS TO A  
SUCCESSFUL  
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REPORT**



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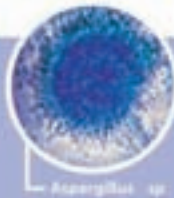
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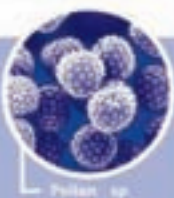
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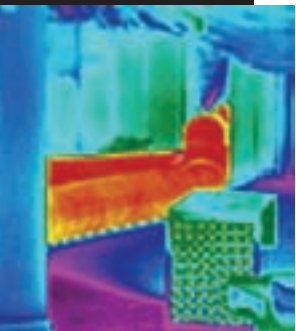
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Photos courtesy of 1-800-Water Damage (top), National Asbestos and Environmental Training Institute (center) and Environmental Education Foundation.



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## Spotting Patterns

As much as I like learning new things, including the ins and outs of mold remediation and construction best practices, I like writing about them even more. I've always liked to write, so crafting articles and our departments is the fun part for me. But when I'm stressed out with deadlines and mounting projects, writing doesn't calm me down—knitting does.

People "in the know" may have noticed that knitting isn't just for your grandmother anymore; its popularity has extended to college kids, movie stars and many people interested in meditation. The repetitive motion and focus that knitting requires can be very calming. It's also a very metaphorical act: while knitting can be infinitely creative, there are still rules to be followed. Knowing where to hold your yarn, and having an idea of the result you want, are important steps in getting to a finished product.

I bring up this hobby not because I find work to be so stressing lately (well, who doesn't on occasion?), but because of a column included in this month's issue in which I saw some similar patterns. Doris Adler with the National Asbestos and Environmental Training Institute has contributed a discussion on how the formation of regulations for removing lead followed the example set by asbestos regulations, and how many individuals expect mold removal regulations to likewise follow that example (*see page 12*). As Adler notes, mold is a much more complex problem, however, since it stems from a living organism native to the environment instead of additives to building materials. Although the problem from each of these substances has followed a similar pattern—panicked homeowners, sky-high lawsuit claims, and untrained individuals taking advantage of the situation—it remains to be seen whether there will also be a pattern in the solution. Could federal standards solve the mold problem as it did for asbestos and lead removal? It seems that following the pattern of already set regulations might offer some guidance to the mold industry, but it will likely take some additional creativity to find a solution that really works.

To stretch this metaphor just a little further, there seem also to be a multitude of creative ways in which to perform a mold remediation, so long as the basic rules are followed (fixing the source of the water problem, removing spores, replacing damaged materials, etc.). In this issue, we've taken a look at E-Therm Inc.'s ThermaPureHeat process, an unusual technique that uses heat to destroy mold spores (*see page 20*). Future issues will focus on other remediation techniques.

In the meantime, I look forward to speaking with many of you about your remediation techniques at AIHce 2006, coming up May 13-18 in Chicago (we'll be in booth #156), or hearing from you by e-mail (mheadley@moldmag.com) or phone (540/720-5584).

Megan Headley  
Editor, **Moldmag**



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<b>PUBLISHED BY</b> Key Communications Inc. P.O. Box 569 Garrisonville, VA 22463 540/720-5584   fax: 540/720-5687 www.moldmag.com	
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# Codes, Reports and Standards, Oh My...

## The Roles of Three Types of Industry Guidelines

By Colin Murphy and Lonnie Haughton.

Murphy is a founder and managing partner of Exterior Research & Design LLC in Seattle.

Haughton is a construction consultant for Richard Avelar & Associates in Oakland, Calif.

**I**t is important for construction professionals to understand the differing roles and functions of building codes, product evaluation reports and industry standards.

### Building Codes

Building codes establish minimum requirements to safeguard life or limb, health, property and public welfare by regulating and controlling the design, construction, quality of materials, use and occupancy and locations of all buildings and structures. To this end, many pages of our modern building code manuals are focused upon prescriptive instructions regarding the critical issues of fire resistance, structural strength and stability and means of egress for occupants.

These same codes typically address the somewhat less critical issues of waterproofing/weatherproofing the building envelope by using performance language that simply establishes the general 'intent' of the codes. For example (both quoted from 2003 IBC and 2003 IRC):

- "The exterior wall envelope shall be designed and constructed in such a manner as to prevent the accumulation of water within the wall assembly ..."
- "Roof coverings shall be designed, installed and maintained in accordance with this code and the approved manufacturer's instructions such that the roof

*covering shall serve to protect the building or structure."*

Note that a small amount of water intrusion (or even a small area of resulting mold growth) typically does not constitute the same level of crisis as that created by a fire or earthquake. Further, it is important to note that short-term leakage within a roof or wall assembly does not, in itself, necessarily represent a code violation, despite the loud proclamations of some building experts. The key question that must be asked in this situation is whether or not this minor leak can potentially

**"For example, poor quality construction cannot be defended by arguing that this level of workmanship is customary within a specific market or region."**

accumulate in a manner that will result in harm to building occupants or in diminished building integrity and service.

For further discussion of the issue of a structure's ability to buffer minor efforts of excess moisture intrusion, reference ASTM E 2266-04 (*Standard Guide for Design and Construction of Low-Rise Frame Building Wall Systems to Resist Water Infiltration*) and ASTM E 241-04 (*Standard Guide for Limiting Water-Induced Damage to Buildings*).

Proper interpretation and implementation of the weatherproofing sections of our building codes often require the use of industry standards not specifically referenced within these codes. These documents may be written by one of the national standards-writing associations, such as ASTM International,

or a national/regional publication by an industry support organization, such as the Gypsum Association or the Seattle-based Northwest Wall and Ceiling Bureau, which publishes the comprehensive and extensively detailed *Stucco Resource Guide*—the undisputed bible for plasterers in the Pacific Northwest.

### Industry Standards

An industry standard is a published document or detail that helps define the levels of design, materials and workmanship that currently are recognized (via consensus) by regional or national industry leaders as the minimum necessary to achieve a level of quality construction that, with reasonable and timely maintenance, will

provide satisfactory performance throughout the intended service life of the system.

An industry standard is a written document, not simply the unwritten customary practices of some portion of the industry. In other words, just because everyone within a particular trade or profession reportedly does (or does not) carry out a particular activity, this customary action (or lack thereof) is not necessarily evidence of an industry standard. For example, poor quality construction cannot be defended by arguing that this level of workmanship is customary within a specific market or region.

An industry standard also is a consensus document that has been reviewed and accepted by representative leaders of the industry.

*continued on page 8*





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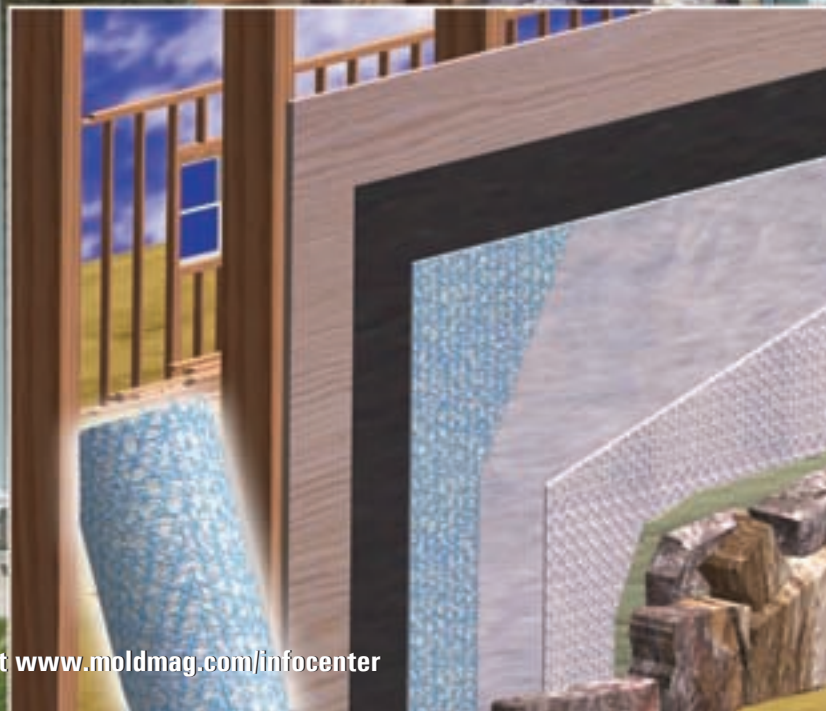


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In other words, an industry standard does not date to a single author's initial writing(s) about a particular subject or issues even if these new perspectives lead to an exchange of views within the industry that result in formalization of a new consensus standard. Consider, for example, the widely known New York City publication *Guidelines on Assessment and Remediation of Fungi in Indoor Environments*. The initial publication of this document can be considered the date that it became the new standard for New York City, or even New York State; however, it was only after subsequent wide review and broad consensus support that it could be considered an accepted standard throughout the nation's mold assessment and abatement industry.

Industry standards serve both to supplement the typically minimalist instructions of the model building codes and to provide specific regional or national guidance for how best to implement the intent of the codes. As an example, while Section 2512 of the International Building Code includes specific key instructions for application of stucco and Section 1403.2 mandates that exterior walls must be weather-resistant and Section 1405.3 requires the use of flashings to achieve this goal, these directives by themselves do not inform the contractor how best to install a traditional hardcoat stucco cladding system in a manner that ensures long-term structural integrity and weather-resistive service. Instead, this supplemental guidance often is provided by stucco industry standards recognized within the local market.

To understand the role of industry

standards, it is helpful to compare them with the product evaluation reports issued by the independent International Code Council Evaluation Service and its predecessors. The building codes allow the local building official to approve the use of 'alternate' materials, designs and methods for construction that are not prescriptively addressed with the building codes but instead have been demonstrated through independent testing to provide a level of performance that meets or exceeds minimum code requirements. An example is vinyl siding, which once was an approved alternate cladding product, but now is included within our building codes.

### Evaluation Reports

To aid the local building official's review process, building code organizations, past and present, have created independent, subsidiary testing firms that provide a comprehensive product evaluation service for many alternate materials and systems. Products that pass such testing are issued evaluation reports that, although not an approval per se, indicate to building officials that these items can be permitted with full confidence that they will provide service that is equivalent to

the traditional products and systems that are addressed within the building codes.

In short, product evaluation reports are simply a means for extending the scope of our building codes. In contrast, building envelope industry standards go beyond the prescriptive requirements of the building codes and the supplemental product evaluation reports to provide specific regional or national guidance for how best to implement the intent of the codes that our structures provide satisfactory long-term weather-resistive service. m



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## ASSOCIATIONS

### XPSA Challenges Contractors to Cover Everything

The Extruded Polystyrene Foam Association (XPSA) of Woodbridge, Va., has launched a new awareness campaign designed to educate residential builders and contractors about the benefits of using XPS insulation—including moisture resistance. The new campaign, with its theme “XPS Covers Everything,” is aiming to illustrate that exterior walls with XPS insulating sheathing are moisture-resistant, durable and thermally efficient compared to building with oriented strand board or plywood sheathing.

According to the association, the closed-cell structure and lack of voids in XPS help it to resist moisture penetration better than other types of insulating materials. It does not corrode or rot, and is suitable for a variety of uses.

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## INDUSTRY NEWS

### GREENGUARD to Certify Mold-Resistant Construction

GREENGUARD Environmental Institute (GEI)—a non-profit organization that oversees the GREENGUARD Certification Program—has announced a mold risk reduction program that will for the first time certify the design, construction and ongoing operations of newly constructed multifamily and commercial properties. The group says its Mold Protection Program™ was created to ensure that buildings use best practices for safeguarding against the damage and resulting losses caused by mold.

“We hear so much about the financial costs of mold,” said Carl Smith, chief executive officer and executive director of GEI. “The GREENGUARD Mold Protection Program gives build-

### Rain Water White Paper Available to AAMA Members

The American Architectural Manufacturers Association (AAMA) has published a white paper entitled *Storm-Driven Rain Penetration of Windows and Doors* to provide information regarding water penetration during severe wind-driven rain storms. The topic was addressed in response to questions from residents about leaking through or around their doors and windows that otherwise remained unbroken and structurally intact during the 2005 summer’s tropical storms and hurricanes.

Electronic and/or hard copies of this document will be provided to AAMA members upon request.

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### Water Test Pressure Equivalent Wind Velocities for Windows Tested to the Nationally-Recognized Standard<sup>1</sup>

Design Pressure Rating	Water Test Pressure <sup>2</sup>	Approximate Wind Speed Equivalent to Water Test Pressure <sup>3</sup>
15 psf	2.86 psf	33 mph
20 psf	3.00 psf	34 mph
25 psf	3.75 psf	38 mph
30 psf	4.50 psf	42 mph
35 psf	5.25 psf	45 mph
40 psf	6.00 psf	49 mph
45 psf	6.75 psf	51 mph
50 psf	7.50 psf	54 mph
55 psf	8.25 psf	57 mph
60 psf	9.00 psf	59 mph
65 psf	9.75 psf	62 mph
70 psf	10.50 psf	64 mph
75 psf	11.25 psf	66 mph
80 psf	12.00 psf	68 mph
85 psf	12.75 psf <sup>4</sup>	71 mph
90 psf	13.50 psf <sup>4</sup>	73 mph
95 psf	14.25 psf <sup>4</sup>	75 mph
100 psf	15.00 psf <sup>4</sup>	77 mph

1 2003 International Residential Code® for One- and Two-Family Dwellings

2 Applies to R, LC, C, and HC performance class windows & doors (15% of design pressure; minimum 2.86 psf; max 12 psf); AW performance class is tested for water penetration at 20% of design pressure.

3 Pressure/Velocity conversions are based on a standard engineering equation; not to be used for code compliance.

4 For comparison only; the national standard caps water test pressure at 12 psf

Source: Storm-Driven Rain Penetration of Windows and Doors

ing owners, and their lenders and insurers, the confidence that appropriate preventive measures have been taken to manage potential losses due to mold damage.”

The program is based on a compilation of best practices that GEI has

developed and proposed as an American National Standards Institute (ANSI) standard. The proposed standard has been preliminarily reviewed by the Environmental Protection Agency (EPA) and piloted with several building owners.

Building consultancies review and assess properties based on the standard; once this is successfully completed, property owners can apply to GEI for certification under the program. Once a property is certified, it can be promoted to lenders, insurers and prospective tenants.

"GREENGUARD's initiative helps to fill an emerging need in the market for developers and lenders alike," explained Bruce C. Gunter, president of Progressive Redevelopment Inc., a developer of multifamily housing. "Giving lenders more confidence that a builder will take these preventive measures will help to secure financing because it mitigates the project's risk."

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# Why Can't History Repeat Itself?

## A Study of Mold Training and Certification

**Doris Adler** is founder and president of the National Asbestos & Environmental Training Institute (NAETI). She can be reached at [trainaeti@aol.com](mailto:trainaeti@aol.com).

**F**rom a scientific perspective, asbestos, lead and mold are unrelated substances. After all, asbestos is a mineral, lead is a metal and mold is a microorganism. Despite their disparity, all three have managed to create panic among the American public because they represent serious threats to health and home.

Given the impact of all three pollutants on human health and well-being, federal and state governments have been pressured to mandate the training and certification of those professionals who are qualified to diagnose, evaluate and remedy these hazards. The federal government formally regulates the asbestos and lead industries and provides a mandatory prototype for training, certification and licensing of industry professionals for individual states to adopt and/or enhance. However, the mold industry sector is still waiting for a comparable regulatory infrastructure.

The backbone of any set of sound environmental regulations is a series of guidelines for effective training and certification of a professional workforce. This involves developing standards for education, qualification and enforcement. Ensuring a high level of professionalism and accountability not only protects the health and safety of the industry workforce itself, but of private citizens and public entities as well.

### A Backward Glance

In the early 1980s, asbestos phobia was peaking and many "rip and skip professionals" were taking advantage of this hysteria to get rich at the expense of others. Unfortunately, the initial asbestos-oriented regulations were not implemented until years after an asbestos abatement industry had already evolved. This meant that there were unregulated consultants and contractors ripping out asbestos (while often ripping off their clients) in a manner that was dangerous to the public and to industry workers alike before the government

moved in to create a stringent regulatory environment.

During the mid-1980s, the federal government legislated the Asbestos Hazardous Emergency Response Act (AHERA), which mandated the Environmental Protection Agency (EPA) to develop a model accreditation plan (MAP) providing for the training of certain types of persons performing asbestos-related work in elementary and secondary schools. Congress further enacted the Asbestos School Hazard Abatement Reauthorization Act (ASHARA), which expanded accreditation requirements to public and commercial buildings and also required the

EPA to increase the minimum number of hours of training to include hands-on experience. ASHARA also provided for a civil penalty for contractors who failed to comply with the accreditation requirements.

The federal regulations regarding asbestos-containing materials (ACM) were so well honed that this basic model became the training and certification prototype for subsequent lead regulations.

### Mold Aversion ... Environmental Hysteria Revisited?

The asbestos regulatory environment paved the way for lead training and certification regulations. Unfortunately, both asbestos and lead abatement required environmentally simplistic solutions that cannot readily be applied to the far more complex

issues surrounding mold. Both asbestos and lead were additives to other materials that were utilized in the construction and/or maintenance of both public and private property. Mold, on the other hand, is a living organism comprised of an enormous subset of fungal spores that occur naturally in the environment and thrive under various and often ordinary conditions.

Perhaps the best way to characterize this latest environmental menace is to acknowledge that mold does not really fit into any predefined "mold." Mold regulations, therefore, must address a hazard that is not a single, readily identifiable substance, but rather as diverse as nature itself.

As in the early days of asbestos removal, non-educated,



**Industry professionals are asking whether progress toward federal standards has been impeded by the complexity surrounding the characteristics of mold.**

self-aggrandizing contractors and consultants again resurfaced. Mold infestation gave rise to rampant litigation by “ambulance-chasing” attorneys who succeeded in convincing many homeowners that “mold is gold.” As with asbestos, the situation got so out of control and the mold issue became so distorted that many panicked property owners were convinced to destroy the entire contents of their homes and even to abandon their premises when only some forms of mold had been found and not properly examined or evaluated. Subsequent claims against insurers resulted in awards for some plaintiffs in the millions of dollars. As a consequence, most insurance companies have since built in mold damage exclusions in their policies, leaving property owners even more vulnerable to an unregulated industry. Considering all of this, the mold industry is in dire need of proactive legislation to ensure the proper training and education for the certification of true professionals. These individuals must be equipped to utilize the latest state-of-the-art technology to identify and evaluate specific types of mold, to design effective and economical means to reduce existing contamination and to successfully implement preventative measures to avoid recurrence.

### What to Learn about Training Programs

The mold industry has grown faster than the government's ability to define training and certification standards that are scientifically sound and pragmatically enforceable. Yet, within the indoor environmental quality industry, there is an acute awareness of and commitment to education and standardization. The American Indoor Air Quality Council (AmIAQ) and the Indoor Air Quality Association (IAQA) have made significant strides in terms of self-regulation by:

- Circulating membership-wide industry newsletters;
- Defining industry-wide certifications;
- Establishing prerequisites for certification; and
- Monitoring continuing education of certification holders.

This attempt at self-regulation has been recognized by major insurance companies, private individuals, corporate entities and even the United States court system. Without government regulation, however, is there still any value in attending courses at institutions that do not offer even intra-industry certification? There certainly can be.


The above-mentioned associations, along with several other entities such as the Institute of Inspection, Cleaning and Restoration Certification and, for entry-level certification, Indoor Environmental Standards



**Lacking national standards for mold remediation, some in the mold industry have begun implementing their own guidelines for training and certification.**

Organization are acknowledged and competent self-regulating organizations. At this time, they are the only sources for valid certification (apart from a few states such as Texas and Louisiana who are in the vanguard of mold legislation and regulation).

In summary, given today's climate, anyone seeking to become part of the mold industry or to expand their level of professionalism should attend classes given by training providers who have been approved by a nationally-recognized indoor environmental quality organization. Other considerations include the length of time a training provider has been in business and the institution's reputation within the industry. Finally, the trainee should assess the likelihood that the training agency will become approved by state/federal entities as education/certification regulations are put into place. This will assure that today's trainees can grandfather all course work in accordance with state and federal regulations.

The entire subject of indoor environmental quality regulation remains the object of much internal controversy, scientific argument and governmental caucusing. The bottom line is that the industry on its own has come a long way toward implementing scientifically sound yet practical guidelines for training and certification. These hopefully will establish a foundation for an eventual superset of federally mandated regulations. Once this happens, then hopefully mold and other air quality pollutants will share the same fate as their predecessor environmental contaminants. 



## INDUSTRY NEWS

**Consumer Reports Finds Flaws in Mold Test Kits**

An article in the February 2006 issue of *Consumer Reports* found that four mold test kits available to consumers were each flawed in some way, and as a result each of them earned the magazine's "Not Recommended" rating. The kits surveyed included a malt extract culture plate and air sampler manufactured by Home Diagnostics of Jewett, Texas; the mold sampling kit and test kit from H Chek Inc. of Phoenix, Ariz.; and the mold test kit model MO109 from Pro-Lab Inc. of Weston, Fla. The costs of the kits, with laboratory analyses, ranged from \$39 to \$203.

The investigators found that unused plates sent into the lab came back testing positive for mold growth, in three of the kits. In fact, the article states that one unopened kit from Pro-Lab was moldy when the investigators opened the box. Other complaints included lack of expiration labels (since, the article explained, using old materials could affect the lab results); difficulty in opening packaging (dropping the contents was

expected to lead to cross contamination); and even false advertising (labels on two kits claimed the kits could identify toxic mold, although the report the lab sent conflicted with this point).

Some remediators will find additional work as a result of the article though; it also offers information to homeowners on how to find a qualified remediation professional for large areas of mold damage.

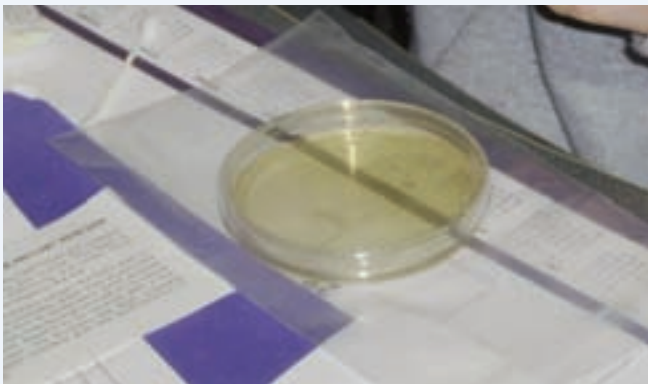
## COMPANY NEWS

**Pure Air Establishes Houston-Based Subsidiary**

Pure Air Control Services has established Building Health Check of Houston. The new subsidiary will concentrate on performing indoor environmental quality (IEQ) evaluations and mold assessments for insurance carriers, consumers, building owners, school districts, office management and city, county, state and federal government.

The Houston office is staffed with professional IEQ personnel who are fully trained in the evaluation of buildings and homes. Using proven sampling techniques, protocols and HVAC assessments, the indoor environmental technicians provide reports to their clients that contain laboratory methods, analysis summary, laboratory results, recommended guidelines and healthy building concerns.

Alan Wozniak, president and chief executive officer of Pure Air Control Services, commented on the expansion of the company, "Due to the increasing demand and request for professional IEQ services, we are expanding our services to the Gulf Coast region and beyond, to more effectively assist our clients with their particular IEQ needs and concerns."



Several mold test kits, including this model from Pro-Lab Inc., earned bad reviews from *Consumer Reports*.

*continued on page 16*

## IN ACTION

**Verox® Group Donates 5,000 Gallons of Mold Remediation Product to CCA**

The Verox Group, a part of Realm Products LLC of New York, announced that it has donated 5,000 gallons of its Verox® mold remediation product to the Christian Contractors Association (CCA) to assist with their clean-up efforts in those areas of the Gulf States ravaged by recent hurricanes. CCA is a non-profit, faith-based organization specializing in providing first response and residential reconstruction to underinsured disaster victims.

"In the wake of the natural disasters that have decimated large parts of the Gulf States, we felt it important

to help organizations that were helping in the reconstruction process, and no organization better exemplifies the American ideal of neighbors helping neighbors than CCA," said Juli Collura, a spokesperson for Realm Products. "As emergency response efforts slowly give way to rebuilding, addressing the toxic mold problem will be of paramount concern, and Verox is a cost-effective, environmentally sound way of addressing this problem."

Verox is a mold remediation product that uses oxidizing technology to permanently remove mold from surfaces in residential and business structures.

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## COMPANY NEWS

**RestorationSOS™ Contacts the Pros**

RestorationSOS.com, from RestorationSOS of Pasadena, Calif., says it can connect victims of water damage searching to the water damage restoration or mold remediation professionals they are seeking.

Home or business owners submit their name and address and the type of damage that has occurred, and a local RestorationSOS associate will contact customers within minutes from the time a request is posted on the website. According to information from the company, a fully equipped local restoration team is alerted and ready to be onsite within 60 minutes. All RestorationSOS

associate companies are pre-scanned for proper licensing and insurance and are committed to the company's code of ethics. If the damage is covered by insurance, RestorationSOS will directly bill the insurance provider.

In addition to these services, the company's website also offers extensive information on dealing with



water and mold damage when it occurs and "First Aid" steps to recovery. Referral services are offered free.

"RestorationSOS™ was established from a vision of providing a free and reliable referral service to victims of water damage," said Jonathan Holland, vice president of business development. "When we started the company, we operated just a small emergency center that received calls and alerted the pros. According to our research, the internet has become the most effective way for customers to search for damage restoration companies as hundreds of thousands of internet users are using the web every day to find immediate

help with their restoration needs. So we expanded our call center and went online, discovering that it works just great."

Holland added that the company expects to soon complete its nationwide coverage of restoration associates.

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The Texas Department of State Health Services has licensed Pure Air Control Services as a mold assessment consultant, as well as a mold analysis laboratory.

**Sherlock Healthy Homes Launches Commercial Group**

Sherlock Healthy Homes Inc. (SHH) of Irvine, Calif., a mold inspection and indoor environmental service company, has announced the launch of the Sherlock Commercial Group.

Sherlock Healthy Homes provides indoor environmental services directly to the homeowner, but the new commercial group will focus on commercial properties including office complexes, industrial buildings, retail, medical buildings, government offices, apartment developments, restaurants and community associations.

"Finding and determining the source of water intrusion or leakage in a commercial building is frequently an urgent need for a property owner or manager. Sherlock uses state-of-the-art electronic instrumentation, including thermal imaging to provide accurate detection and effective customer service," said William Salesky, president and co-chief executive officer.

In addition, the company has expanded into Northern California, with new offices in San Francisco. With its expansion, Sherlock serves seven counties surrounding the greater San Francisco Bay Area and all counties in Southern California.

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**Abatement Technologies Moves into Expanded Headquarters**

Abatement Technologies, a manufacturer of air purification products, has moved to its new expanded corporate headquarters in Suwanee, Ga.

According to David Shagott, president of Abatement Technologies, "We have more than doubled our warehouse space, which makes it even easier to meet our objective of shipping 98 percent of client orders within 24 hours."

Shagott continues, "The additional warehousing space has already proven its value by enabling us to better deal with the enormous demand for our HEPA-AIRE portable air scrubbers and negative air machines caused by hurricanes Katrina, Rita and Wilma."

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## THERMAL CAMERAS

**MoistureDM Introduces the Pocket MultiCam™**

The Pocket MultiCam, from Moisture Detection and Measurement of Portsmouth, N.H., is a lightweight, pocket-sized thermal camera that can also capture visual images and allows 30 seconds of digital voice annotation for each image pair.

The thermal image shows suspect areas for elevated moisture. The paired visual image provides an easy location reference for the infrared image, and the inspector can record voice notes to comment on the image and its context. Back at the office, the voice annotations remind the inspector of on-site observations and image locations. The included software provides comprehensive thermal analysis and a report wizard, automatically generating an editable word processing document with each set of images on a separate page, along with the



date and time each image was taken.

The MultiCam is suitable for moisture inspections in new construction and existing buildings.

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**Portable IR Cameras Feature High Resolution**

Infrared Solutions Inc. has announced the addition of two new infrared cameras. The IR FlexCam® 320 Series includes the high-end PRO320 and T320 models. Both models incorporate the company's 25 micron, 320 x 240 uncooled vanadium oxide (VOx) microbolometer sensor, thermal sensitivity and a 5-inch color display.

The PRO320 model features temperature measurement range up to 600° Celsius for higher temperature applications and NETD =70mK sensitivity. A 60 Hz frame rate offering real-time target temperature displayed live on the camera's screen, as well as programmable image capture allow the user to initiate scans at timed intervals or by the target temperature reaching a preset high-or-low "trigger" temperature. The PRO320 also offers new image browsing capabilities, enhanced annotation capabilities and more.

The T320 model offers most of the same features as the PRO320, but with reduced cost and capabilities. Both cameras in the 320 Series come standard with the company's new SmartView™ software, a complete suite of powerful analysis, management and reporting tools.

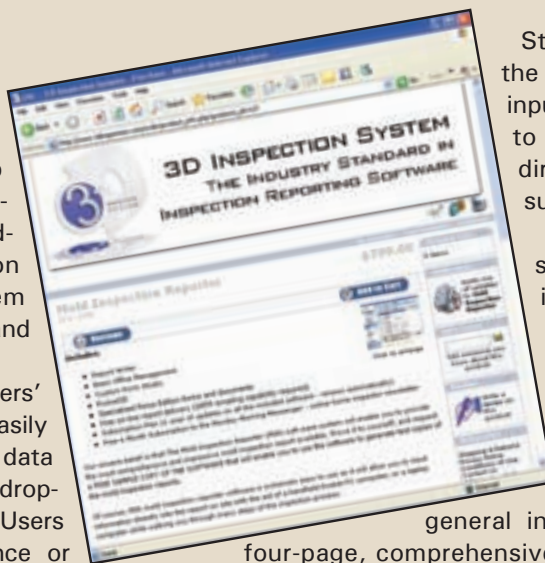
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## SOFTWARE

**MIR Records Inspections and Recommendations with Ease**

Mold Inspection Reporter (MIR) System Inc. of West Palm Beach, Fla., is offering software to help inspectors quickly and easily document interior and exterior visual findings, environmental instrumentation readings, air conditioning system inspection information, lab results and lab result interpretations.

Information can be added to users' computerized forms quickly and easily with the MIR system. Much of the data input is automated, with hundreds of drop-down menu items to choose from. Users just click on the appropriate sentence or paragraph already stored in the program and it is added to the report. In addition, drop-down menu items can be created and deleted or edited by the user at any time.



Standard with the software is the ability to merge information input during the inspection and to place a prepared report directly into document-type summary pages.

Also generated by the software are a billing invoice; summary of final conclusions; AC remediation protocol pages; general remediation protocol pages; information on mold spore level studies from around the world;

general information on mold; and a

four-page, comprehensive, pre-inspection agreement form designed to help keep inspectors from legal problems.

➔ [www.moldmag.com/infocenter](http://www.moldmag.com/infocenter).

## VACUUMS

### Meyer Re-Powers its Line of Insulation Removal Vacuums

William W. Meyer & Sons Inc. of Skokie, Ill., has introduced a new vacuum line-up for the removal of insulation damaged by water, fire or smoke.



Now available are the 8 hp Insul-Vac and 13 or 15 hp Versa-Vacs. The insulation removal vacuums are designed for fast removal of wet or dry blown-in insulation from attics, sidewalls and crawl spaces that could lead to mold growth. Engineered to perform and built to last, all of the company's vacuums feature heavy-gauge, welded steel construction, powder-coated finishes, heavy-duty material handling fan wheels and commercial quality Kohler® and Briggs and Stratton® engines.

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## COATINGS AND CLEANERS

### BioSafe Systems Introduces New Mold Remediation Product

BioSafe Systems LLC of Glastonbury, Conn., has introduced the SaniDate disinfectant to its mold remediation and restoration product line. According to the company, SaniDate disinfectant is the foundation for an effective remediation and clean-up program that treats and eliminates algae, bacteria, fungus, mold, slimes and odors. The peroxygen chemistry utilized by the disinfectant provides a cost-effective treatment without the use of toxic, potentially restricted or discharge-regulated products.

SaniDate disinfectant is EPA-registered. The liquid concentrate mixes easily in water without agitation and offers excellent coverage with and without additional surfactants.

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### Thompson's® Water Seal™ Keeps Concrete Clean

The Water Seal concrete care cleaner and degreaser from Thompson Co. of Hollister, Calif., is able to remove mold, mildew and algae, as well as oil and



grease, from concrete surfaces. Suitable for use on interior and exterior concrete, brick, stucco, masonry and stone, the product features little odor and is purchased ready-to-use. The cleaner covers approximately 250 square feet per gallon, depending on the condition, texture and porosity of the surface. For best results, it should be applied to dry surfaces.

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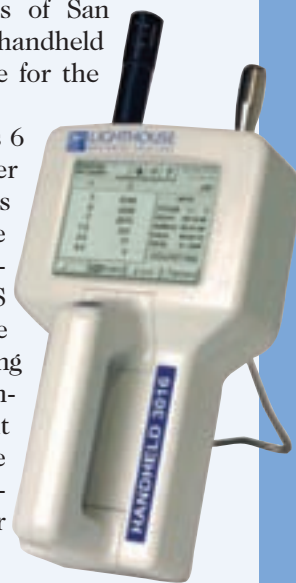
## PARTICLE COUNTER

### Lighthouse Puts New Particle Counter in Users' Hands

Lighthouse Worldwide Solutions of San Jose, Calif., is now offering a new handheld particle counter and user interface for the indoor air quality industry.

The handheld 3016 IAQ displays 6 channels of particle data in either cumulative or differential mode, as well as temperature and relative humidity data. Data is easily downloaded using the company's LMS XChange software. The unit's large memory makes it capable of storing data for up to 3,000 records. Its graphical interface is displayed on a backlit LCD touch-screen display. The counter also features an ergonomically designed handle and user removable/rechargeable battery.

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# Some Like It Hot

How Heat Has Become a Tool  
for Mold Remediation



By Megan Headley, editor of *Mold and Moisture Management* magazine.

With containment barriers and heating equipment in place, hot air was ducted into the Tropicana Gardens student housing facility to remediate its mold problem.

**H**igh heat mold remediation (HHMR) is not a mold remediation tool that can be mastered through an online course or during one or two weekend classes. The use of heat to rid a structure of mold growth is a complex process that requires extensive training and a thorough knowledge of building science but its advantages are many, according to individuals familiar with the process.

"When it's done right, nothing else compares," said Michael Geyer, P.E., C.I.H., C.S.P., president of Bakersfield, Calif.-based Kerntec Industries, which employs heat as one of its remediation techniques.

## Like A Heat Wave

Although he has been engaged in the environmental arena for more than 20 years, David Hedman only began developing heat treatments for mold remediation in 2000.

"The concept of using heat in structures was really brought to me by two professors at UCLA, Dr. Walter Ebeling and Dr. Charles Forbes," said Hedman. "They found that moderate temperatures, 120° to 130° Fahrenheit, were lethal to most insects."

The professors approached Hedman with their findings, and "they asked me if I thought there were environmental applications,"

he recalled. "I was very excited about the technology."

The use of heat had also been evaluated by the EPA in 1996 in a study called *U.S. EPA Heat Treatment on Imported Timber*. The study considers the use of heat treatments a "viable method" to reduce insects and fungi on lumber. In January 2000, Hedman and his business partners purchased the technology to learn how to expand the application of heat to control mold and insect problems in residential, commercial and industrial structures. E-Therm Inc., headquartered in Ventura, Calif., currently holds six patents on HHMR

## Heat Eradication Chart

Target Contaminant Mold	Lethal Temp	Duration	Reference
Stachybotrys chartarum	140F / 60C	30 Minutes	Compendium of Soil Fungi, pg., 745
Aspergillus alutaceus	144F / 62C	20 Minutes	Compendium of Soil Fungi, pg., 82
Aspergillus ustus	144F / 62C	25 Minutes	Compendium of Soil Fungi, pg., 119
Aspergillus niger	145F / 63C	25 Minutes	Compendium of Soil Fungi, pg., 103
Alternaria alternate	145F / 63C	25 Minutes	Compendium of Soil Fungi, pg., 36
Wood Fungi (Staining Fungi)	151F / 66C	75 Minutes	Compendium of Soil Fungi, pg., 106 (Chidester, 1937, 1939)
Poria – Wood Eating Fungi (Meruliporia Incrassata)	151F / 66C	75 Minutes	Compendium of Soil Fungi, pg., 106 (Chidester, 1937, 1939)

Source: Precision Environmental Inc.

techniques and about 20 trademarks, including one for the brand name ThermaPureHeat™.

HHMR, used in conjunction with gross removal of moldy materials, is able to destroy mold growth in wall cavities and other hard-to-reach areas that otherwise may not be remediated without extensive destruction, according to Hedman.

Hedman said, “A lot of people ask us, are we replacing gross removal? Absolutely not. We use [heat] in conjunction with gross removal. If we see visible mold growth in a structure we’re removing that.”

### Heating Things Up

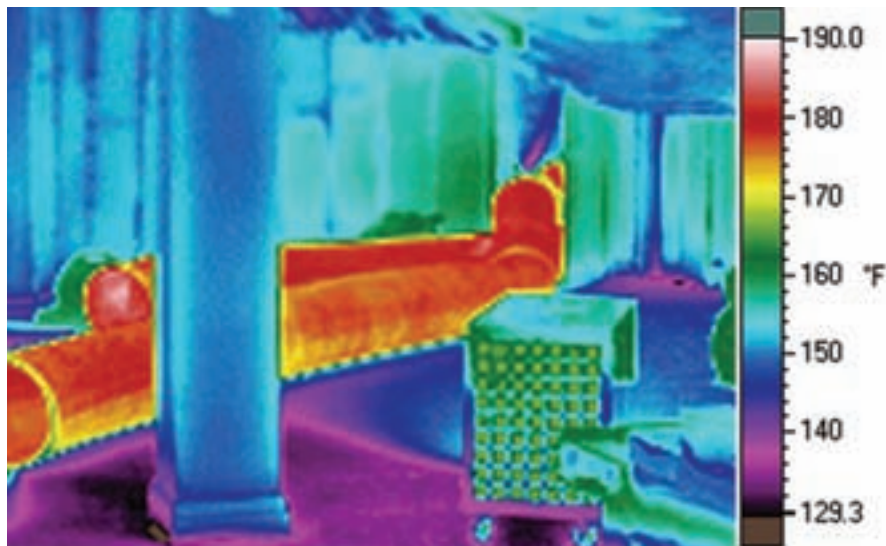
Heating a building enough to kill mold spores isn’t a matter of turning the thermostat up.

“Basically, the temperature of the structure is increased slowly using a variety of types of equipment,” explained Larry Chase, vice president of E-Therm.

Temperatures are raised up to between 140° and 150° Fahrenheit for several hours (See *Heat Eradication Chart* above). But it takes a lot of work to get to that point.

Before the temperature is raised, the area is surrounded with a plastic containment barrier to confine the mold spores and protect the structure. HEPA-filtered negative air machines create a vacuum that eliminates any leaks in the containment and captures airborne spores. Then, visible mold is removed and damaged building materials are replaced by the technicians.

Next the equipment to heat the



Thermal imaging cameras can tell heat technicians if a building is heating evenly or if there are pockets of cooler air that need to be fixed.

area is put in place. Heat is forced into the containment through flexible Mylar ducting. The heaters themselves, according to Chase, can be as small as a Salamander portable heater or as large as a crate-mounted unit, depending on the size of the contaminated area. The type of heat also varies. For fungi in high-rise buildings, a technician might choose an electric heater over propane. For a residential setting, a hydraulic heat exchanger, where heat is transferred via liquid, could be the best choice.

The company doesn’t manufacture the equipment that heats the buildings, but finds that many options already on the market are suitable for their technicians’ work. They recommend heating equipment that has been registered to the EPA in compliance with the Federal Insecticide, Fungicide, Rodenticide Act.

To keep the heat even throughout

the structure, fans are required.

“If you don’t have a lot of fans to stir up the air then all of a sudden the ceiling is 200° and the floor is 80°,” Geyer said.

In principle, the process works much like a convection oven, in which a fan circulates the hot air so that food is evenly heated.

### Tools of the Trade

Although the heat is clearly the cornerstone of the process, filtration is probably the most critical step. Hedman can’t stress that point enough.

“While we’re heating, we always use filtration,” Hedman said. “Heat does give us lethal temperatures that will kill microorganisms, but one of the largest benefits of our company is running our

*continued on page 22*



## Mold Growth in the Gardens

**K**ent W. Dunn would agree with David Hedman that it's the whole process, not just the heat, which gives heat success as a remediation tool.

Dunn was an investor in Tropicana Gardens, a housing facility in Goleta, Calif., for students of University of California Santa Barbara (UCSB) and Santa Barbara City College (SBCC), in 2005 when the university was looking to purchase the 40-year-old building. The deal nearly went to pieces when a mold problem was discovered.

In the process of buying the facility, the university did testing on the premises, and found high concentrations of moisture behind a number of the wallboards, particularly near the bathrooms. Other problems soon began to emerge. A roof that hadn't been replaced for 40 years had leaks throughout. Previous owners had stacked layers of flooring one upon the other, with mold growing between layers of linoleum.

In March 2005, a contractor friend of Dunn's suggested learning about heat to remediate the mold. That's when a team from Precision Environmental Inc., which uses the ThermaPureHeat process, was brought onto the site.

Dunn was eager to learn about the technology. Although, upon the recommendations of a consultant, the investors had overseen the work of ripping out moldy wallboards and replacing flooring, Dunn was still concerned about the safety and health of students in buildings that wouldn't need to be fully renovated. Armed with the knowledge that mold problems could exist without any visible indication, Dunn felt that the heat treatment would be a good way to take care of any potential health issues in the housing units that were not on the list for remediation.

"I wanted to be able to tell parents that we had taken care of the mold problem everywhere we had found it because we had used the process throughout the property," said Dunn.

During the 2005 summer, technicians with Precision Environmental spent at least a week applying the heat technology to each unit, working around summer camps and guests.

Technicians used Salamander portable engines due to the layout of the units.

"Of course it was all contained," Dunn said. "They essentially draped the building like you see done for a termite test."

The work finished earlier than the investors had projected, with final testing being done throughout August and the "all clear" given September 2.

"So far we haven't had any readings that are anything other than ambient levels," Dunn said.

Additional testing is scheduled for this summer, as part of the university's new mold management plan.



**Technicians took approximately one week to heat each unit in the Tropicana Gardens student housing facility.**

air scrubbing and negative air components while running the heat treatment."

"In fact," Hedman continued, "the process may be dangerous if we were not using those air scrubbers."

Hedman warns that the desiccation of the fungi particulates helps the spores to become brittle, and the blowing fans push those pieces into the air, potentially spreading the mold contamination.

Geyer said, "I've seen people heating without the air filtration. They're baking out the water. Without the air filtration ... they're leaving behind a huge residue."

Hedman has worked with various manufacturers to create air scrubbing equipment with motors and filter fabric able to withstand the high temperatures.

So that heat technicians can ensure that the heat is distributed evenly and that sensitive materials remain safe, a variety of other tools are used. One example is remote probes attached to computers that can relay temperatures back to the technician. This is key when ensuring that no pockets of cool air are left.

"The key to efficacy is reaching uniform temperature throughout the structure," Chase said.

Thermal imaging cameras are another tool that proves useful.

"The one thing the imaging cameras really provide is real-time data so we can modify the heat delivery equipment in a real-time basis," said Geyer.

He added that since every building "behaves differently," adjustments are made on every job.

"Buildings aren't cookie-cutters, they behave differently, and the thermal imaging cameras allow us to ... get feedback on a real-time basis."

*continued on page 24*

INTRODUCING

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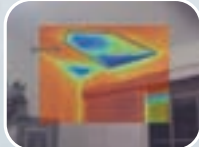
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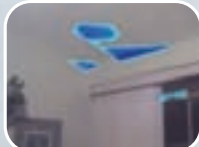
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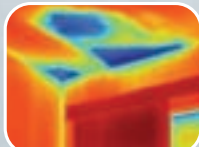
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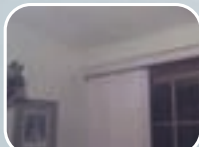
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# Some Like It Hot

continued

## Handling the Heat

Through the development of the process—and some trial and error—technicians have learned what materials can handle the heat.

“Heat can damage things in buildings,” Hedman said. “We have learned through sad experience that it’s easy to damage things.”

As Kent W. Dunn pointed out, technicians can’t always be sure which items will have pieces that can be damaged by the process. He oversaw the remediation in the University of Santa Barbara student housing facility, for which he was an investor (*See Mold Growth in the Gardens, page 22*). The rooms each had heaters with plastic pieces inside, and in a few cases where the Salamanders were pointed directly at the heaters, the technicians ran into problems.

“Some of the pieces melted, and we didn’t know it until November when we turned the heat on,” Dunn said.

For the most part, technicians have learned to remove sensitive materials or find ways to protect them from the heat.

“We’re below temperatures that your car will achieve in a parking lot on a summer day, so anything that you would not leave in your car ... we remove,” Hedman said.

Hedman also recommended that if a company is going to use the process, that they have a certified industrial hygienist test for pre- and post-verification standards.

## Intensive Training

Comparing the HHMR to “pasteurization” or a “convection oven” makes it seem easy to understand, but proper application requires an intensive level of training.

“I think there’re some firms out there that have thought that heating is easy,” Geyer said.

Geyer added, “You have to understand a certain amount of building science, thermal mass,



The size and type of heater used varies depending upon the layout of the building and scope of the problem. The only constants are the need for containment and filtration.

convection and how important these air exchangers are.”

Training remediators to use the process is necessary because there are extensive considerations to take into account, and they typically differ with every building treated. Without using proper filtration, spores will be able to settle in new areas. Without addressing the source of the moisture intrusion, the mold problem will begin anew. Without consistent heating, mold may actually be encouraged to grow.

“If someone tries to heat and doesn’t understand the technology or building science, and has pockets sitting in 90° to 100° Fahrenheit, that is perfect for incubating mold,” said Geyer.

The cost of this investment is approximately \$3,000 per state per month (the process is licensed on a state-by-state basis). In addition, Hedman’s company receives 5 percent of the gross profit. This cost includes training on how to use the technology and continual assistance.

The average cost to customers currently ranges between \$1 (for builders looking to dry framed construction only) to \$5 per square foot.

## To Heat or Not to Heat


Hedman stressed that another significant benefit of the heat technology is that it does not use chemicals to treat the environment.

“Our job is to clean up the environment,” Hedman said. “I’m really excited about bringing forth a technology that can replace a significant pollution stream.”

Geyer added that the process is also useful when it comes to remediating historic structures, where building materials must be preserved.

“It has a broad base of applicability,” Geyer said. “A very good process for the scalability...and it does treat a wide type of building types,” Geyer said.

Hedman said that the trend to build buildings that are more resistant to heat, as a result of building code changes, as well as new technology, has allowed E-Therm to bring this process forward.

“It’s not as simple as bringing up heaters ... and heating things up,” said Geyer. “It all needs to be controlled—but if it’s under control, boy does it deliver.” 

Look for “Cold”  Technologies in our next issue.



# MCR

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# The Art of the Mold Inspection Report

How a Strong Report Can Win You Rave Reviews



By **George Jorkasky**, director of global sales and marketing for Leviticus Corp., and a certified mold inspector and certified mold remediator. For more information visit George at [www.leviticuscorp.com](http://www.leviticuscorp.com) or contact him at [gjork@leviticuscorp.com](mailto:gjork@leviticuscorp.com).

With a keen eye, mold inspectors must be able to find and then thoroughly document the extent of a mold problem before property owners can take the next step and have it remediated.



**T**he ability to generate a great mold inspection report can be considered a work of art.

It is sometimes frustrating to use a lot of time and effort to collect a vast amount of data in the field, compile it and then return to your office to formulate a complete summary of the data so your client can review your work. The problem I see most often occurs when people take shortcuts and, as a result, do not give our clients the most they deserve.

As more and more people join the growing mold industry, our first responsibility remains giving our customers the very best. This starts not by taking the path of least resistance, but by finding a system that allows us to become more efficient.

### The Road to Good Reporting

Report generation made easy, through the advent of software tools, might be an option to explore. Such tools can guide us in knowing exactly what a professional mold inspection report or remediation scope should contain.

The whole idea behind compiling a report is being able to give the customer an easy-to-read and understandable description of what took place while we were in their environment. It should entail a complete

## Documentation for a Successful Inspection Report

- Credentials: let the client know why you are the best person for the job.
- Background of the problem: keep documentation on why the client requested a mold inspection.
- Observations: document the complete visual mold inspection you perform.
- Photographs: visual documentation can help your client and your records.
- Sampling: keep documentation of bulk or air sampling as well as laboratory results.
- Exclusions: note in writing anything not covered by the scope of work.
- Works cited: list any industry guidelines cited in your inspection report or remediation recommendations.

flow from A through Z, leaving out nothing. We must remember that the information we compile is Latin to most of our clients. It is in breaking it down and making it make sense where lies the art of report generation. And after reviewing thousands of reports, be it homemade or done with the latest software, I have come to recognize that a well done report is truly a work of art.

It is also crucial to realize that we cannot vary the report depending on the client; the process for every job must be the same. We should demand perfection and, in return, expect this will be reflected in our overall earnings.

### Tools for Quality Reports

There are hundreds of ways to compile a report but the best one is what makes you most efficient. The one statement I hear over and over is, "it is taking me too much time"—and as we all know time is money. The best solution might very well be a software package. There are several good options in today's marketplace and it is important to find one that is easy to use, has great support and will take out the user's computer anxiety. Built-in processes and formulation can only enhance the professionalism of your operations, thus allowing your business to make time for more opportunities.

Remember, never shortchange your clients; give them more than they have coming and in return the satisfaction gained, dollars could never fulfill. The opportunities are endless but only those that remain committed to doing this business the right way will succeed.



**Good photographs can provide the most thorough documentation for a mold inspection.**

*continued on page 28*



# Steps to a Successful Mold Inspection Report

1. **Background.** Who is the client? Where is the property? Be sure to document all of their information.
  2. **Client Interview.** Why did the client feel the need to request a mold inspection? Does the structure have a history of water damage? What are the client's expectations of the inspection?
  3. **Complete Visual Mold Inspection and Scope of Work.** Have ventilation systems been visually checked? How about ceiling tiles, gypsum wallboards, cardboard, paper and other cellulose surfaces? Is a moisture meter being used during the inspection to detect moisture hidden behind walls, ceilings and floors? A visual inspection can be the most important initial step in identifying a possible mold problem.
  4. **Observations.** In your initial inspection, does there appear to be any conditions that you expect would lead to moisture intrusion? Is there visible mold growth?
  5. **Methodology.** If there is visible growth, have topical samples been taken? If there is no visible mold, has the air been sampled?
- **Topical Sampling.** Is there visible mold growth? Was a visual inspection unclear (e.g. discoloration or staining)?
  - **Air Monitoring.** Is there evidence that the ventilation systems may be contaminated? Is the

presence of mold suspected in a particular area of the structure even through a visual inspection did not show mold growth? Are the building inhabitants suffering from health problems associated with fungal exposure?

6. **Interpreting Laboratory Results.** Are the laboratory results easy to understand? Interpreting laboratory results may be confusing to someone unfamiliar with the industry, so any information that could help the home or building owner or facility manager better understand will make the report more valuable.
7. **Laboratory Results.** Do you have the laboratory results of air or bulk samples? Be sure to document them.
8. **Mold Definitions.** You've already explained what the laboratory results are, but what does that mean to the client? If the client is not familiar with mold, definitions of where certain types are found and their associated potential health effects may help make the client understand why remediation is or is not needed.
9. **Conclusions.** Has the problem that initiated the first call to the inspector to come to the premises been solved? Should further action be taken?
10. **Property Specific Mold Decontamination Recommendation.** Was a mold problem discov-

Instructions, the amount of exposure and the susceptibility of exposed persons. Susceptibility varies with the genetic predisposition (e.g. allergies do not always occur in all individuals), age, state of health and concurrent exposures. For these reasons and because measurements of exposure are not standardized and biological markers of exposure to fungi are largely unknown, it is not possible to determine (with) or (without) levels of exposure for people in general.

---

**Conclusions**

In conclusion to the Mr. Stephen property located at SAKAKAWANAKA Hill and I feel very comfortable that there is not any cause to be concerned about any extensive fungal problem. As per the results of the test samples and the complete thorough inspection done to the property it is our professional opinion that this residence is well within the guidelines.

The musty odor coming from the area in the basement as well as the previous water leakage from the upstairs kitchen Levisson Corporation would like to extend a 90-day no question asked warranty meaning if for whatever reason we will come out and inspect that specific area for free not including any additional sampling.

Now as far as recommending a way to get rid of the mold, there are a number of good products available on the market. I would recommend cleaning the floors off the bricks as well.

**IEH SH4**

**LOCATION**  
NORTHEAST SECTION BACK OF HOME  
LAKELAND

**NOTE**  
THIS AREA WAS DIRECTLY OUTSIDE  
WALKOUT BASEMENT WHERE THE  
CONCERN WAS NOTED.



**Mold Remediation Protocol**

**STEP #1: INSPECTION**

\* To determine whether the property has a mold problem requiring remediation, (Any Inspector's) uses a wide variety of mold testing techniques and technologies. The air is sampled via a Bioscience Sampler and tested results are sent through the laboratory. This process allows for:

**Interpreting Laboratory Results**

The following can be used to better understand the laboratory results:

Samples	Air (Viable)	Swab	Air-D Cell	Carpet	GM Test
Over 1000 (CFU/m³)	> 10	Based on visible growth for comparison	None do above		Indicates
Benchmark: 100 - 1000 (CFU/m³)	1 - 10	None do above			Indicates
Ambient Growth: 100 - 1000 (CFU/m³)	1 - 10	None do above			Indicates
Very Ambitious Growth: > 1000 (CFU/m³)	> 100	None do above			Indicates
NOTE: Top numbers to count. Top numbers to count none do above					

**BULK SAMPLE**

(Not all may apply)

Over the guidelines	
Benchmark: No guidelines	
Ambient Growth: No guidelines	
Very Ambitious Growth: No guidelines	
NOTE: No guidelines	

Page 6

**Interpreting Laboratory Results**

The following can be used to better understand the laboratory results:

Samples	Air (Viable)	Swab	Air-D Cell	Carpet	GM Test
Over 1000 (CFU/m³)	> 10	Based on visible growth for comparison	None do above		Indicates
Benchmark: 100 - 1000 (CFU/m³)	1 - 10	None do above			Indicates
Ambient Growth: 100 - 1000 (CFU/m³)	1 - 10	None do above			Indicates
Very Ambitious Growth: > 1000 (CFU/m³)	> 100	None do above			Indicates
NOTE: Top numbers to count. Top numbers to count none do above					

**BULK SAMPLE**

(Not all may apply)

Over the guidelines	
Benchmark: No guidelines	
Ambient Growth: No guidelines	
Very Ambitious Growth: No guidelines	
NOTE: No guidelines	

Page 6

Samples from a mold inspection report

ered? A professional recommendation should be made to help the client understand the next step in fixing the problem. General recommendations would explain why remediation is important in the event of a mold problem.

**11. Limitations and Exclusions.** Do you wish to include any exclusions or limitations to your report? Be sure to document what the report does and does not cover, in the event that the

report is referred to in the future. State clearly what was not covered by the scope of work.

**12. Credentials.** What makes you qualified to inspect the property? List the professional certifications or training that qualify you as the best mold inspector for the job.



**Before the remediation can take place, a thorough mold inspection should pinpoint the problem and may even be expected to offer remediation recommendations.**

**13. Photos.** Were photos taken throughout the inspection? Be sure to include them, with explanations as to why and how the areas were inspected, and what was found.

**14. Mold remediation protocol.** Knowing the problem, can you offer a recommendation as to the solution?

**15. Works Cited.** What industry guidelines informed your recommendations?

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# Ready, Set ... Show!

## Industrial Hygienists Prepare for AIHce 2006

**I**ndustrial hygienists and occupational and environmental health and safety (OEHS) professionals from across the globe are gearing up to meet at McCormick Place in Chicago, May 13-18, to learn more about what it will take to be a successful professional in the coming years. They will all be part of the 2006 American Industrial Hygiene Conference and Expo (AIHce), co-sponsored by the American Industrial Hygiene Association (AIHA) and the American Conference of Governmental Industrial Hygienists (ACGIH).

In addition to a trade show featuring nearly 300 exhibitors, including laboratories, product manufacturers and remediation companies, a special table-top pavilion will spotlight the services of independent practitioners and small consulting firms.

AIHce has added a host of new programming to the 2006 conference schedule. Extensive educational programs take place throughout the week. *Ask the Expert* sessions will follow each keynote and late-breaking sessions will discuss the response to and recovery from the devastating 2005 hurricanes in the Gulf Coast. In addition, the conference will feature the first-ever weekday science symposium, with top-level speakers including John Howard, MD, director of the National Institute for Occupational Safety and Health (NIOSH), and Mort Lippmann, PhD, CIH, of the New York City School of Medicine.

Happening concurrently with AIHce, May 15-17, is the 8<sup>th</sup> International VENT conference, *Practical Applications of Ventilation for Emission and Exposure Control*. The expo will feature displays and demonstrations of all types of ventilation-related equipment. VENT 2006 will also take place at McCormick Place. All AIHce attendees will be able to attend VENT education sessions at no extra cost.

For more information about AIHce, including a schedule of planned professional development courses and education sessions, call 800/424-5249 or visit [www.aiha.org/aihce.htm](http://www.aiha.org/aihce.htm).

### AIHce's Educational Events on Mold

#### Monday, May 15

10:30 a.m. - Noon.

CR 303 Post-Remediation Verification and Clearance Testing for Mold and Bacteria—Five Levels of Cleanliness Assurance

2:00 p.m. - 4:30 p.m.

RT 205 Mold Components Impact on Health: Spores, mVOCs, and Mycotoxins and IAQ—The Human Factor

#### Tuesday, May 16

10:30 a.m. - 12:30 p.m.

PO 109 Environmental Microbiology

2:00 p.m. - 6:00 p.m.

PO 116 Mold: What is Normal?

2:00 p.m. - 6:00 p.m.

RT 215 Mock Trial—Homeowner vs. Builder, et al

#### Wednesday, May 17

10:00 a.m. - 12:00 p.m.

RT 218 Post Remediation Clearance: What Does it Mean for Lead, Asbestos, Mold and Methamphetamines?

1:00 p.m. - 4:40 p.m.

PO 123 Mold: Dirth to Disaster

### AIHce Products Preview

Here are just some of the products you'll see at the show.

#### Booth #356:

#### Foster® Features Ready-to-Use Disinfectant



Foster 40-80™ disinfectant and sanitizer from Specialty Construction Brands Inc. of Arlington Heights, Ill., is an EPA-registered, ready-to-use formulation that inhibits the growth of mold and mildew on a wide range of surfaces and materials in homes, hospitals, institutions and commercial properties.

According to information provided by the company, Foster 40-80 is suitable for water damage restoration projects and designed to help clean and remove flood water residue. The all-in-one disinfectant, sanitizer and cleaner, may be used on porous, semi-porous and non-porous materials, including carpets, wood and drywall. It can also be used to disinfect the coils and drain pans of air conditioning equipment.



The product is packaged in a 5-gallon container. Because it requires no mixing, users may choose among several application methods.

➡ [www.moldmag.com/infocenter](http://www.moldmag.com/infocenter)

### **Booth #1158: New Psychrometer Available from Extech**

Extech Instruments of Waltham, Mass., a supplier of test and measurement equipment for the industrial marketplace, has announced the availability of its new precision hygrometer psychrometer, Model RH390. Suitable for mold inspections and remediation, the RH 390 can measure 0 to 100 percent relative humidity and features a fast response time of less than 30 seconds.



The dual backlit display allows for the simultaneous display of humidity and temperature; humidity and dew point; or humidity and wet bulb. The tool's slim design and rubberized sides allow for better grip or one-hand operation for hard-to-reach measurements. The unit features data hold and min/max functions as well as an auto power-off function.

➡ [www.moldmag.com/infocenter](http://www.moldmag.com/infocenter)

### **Booth #201: SKC Introduces VersaTrap® Spore Trap Cassette**

SKC Inc. of Eighty Four, Pa., has introduced its VersaTrap spore trap cassette for effectively collecting mold spores, fungi, pollen,



dust and other contaminants using bioaerosol sampling pumps such as the QuickTake® 15 or QuickTake 30.

The narrow slit inlet focuses particles in the airstream toward a clear glass slide coated with a sticky collection substrate that holds targeted size particles in a well-defined rectangular-shaped footprint for analysis. Each slide is encased in a SURE-SEAL™ certified leak-free cassette to ensure sample integrity. Slides are easily removed from the cassettes and feature positioning marks to ensure easy reading. Analysis is per-

formed using routine microscopic techniques.

➡ [www.moldmag.com/infocenter](http://www.moldmag.com/infocenter)

### **Booth #745: Sceptor Showcases Portable Aerosol Collector**

Sceptor Industries of Kansas City, Mo., will showcase its Omni 3000 portable aerosol collector. The Omni 3000 quickly and effectively captures and concentrates samples of air to test for the presence of molds in buildings, in addition to other potential environmental hazards or biothreats.



According to information from the company, the Omni 3000 provides an efficient collection of particles and vapors in a large air volume.

The collector can concentrate samples at over 13,000 times the level of the particles in the air, allowing users to detect and evaluate even small trace samples of contaminants. Sample collection can be performed over a variable time interval to assess discreet or time-weighted average exposures and will operate efficiently in a wide range of ambient temperature and humidity conditions.

➡ [www.moldmag.com/infocenter](http://www.moldmag.com/infocenter)

### **Booth #851: Scentaur™ Seeks Hidden Mold**

Hamilton Thorne Biosciences of Beverly, Mass., offers the Scentaur for the instant detection and measurement of mold and microbial volatile organic compounds (MVOCs). According to information from the company, the Scentaur allows for the detection of mold without ripping apart walls, ceilings or floors.

The hand-held sensor features built-in controls for easy monitoring of buildings. It allows users to compare current and previous months' results, and also offers remote transmission and storage of data for each building area. A physical data record of proactive steps aims to prevent health hazards.

➡ [www.moldmag.com/infocenter](http://www.moldmag.com/infocenter)







## SILLS AND FLASHING

### EZ Pan Protects Vulnerable Areas



Carlisle Coatings and Waterproofing (CCW), a manufacturer of waterproofing products headquartered in Wylie, Texas, has introduced its EZ Pan sill pan flashing. Used primarily for residential window construction, EZ Pan protects the building enclosure from water damage in one of the most vulnerable areas—the area beneath doors and windows. This specialized pan flashing system provides a continuous water barrier and drainage plane over the sill and especially in the sill corners. EZ Pan is designed to collect and drain water that leaks into the rough opening to the exterior.

The pan assembly incorporates a sill wedge, CCW door and window flashing, WillFlash pre-molded HDPE corner accessory pieces and CCW EZ Flash door and window self-adhered flashing.

➡ [www.moldmag.com/infocenter](http://www.moldmag.com/infocenter)

### Flashing Tape Available with Custom Serration

Protecto Wrap of Denver, Colo., now offers its 9-inch BT20XL window sealing tape with a serration for customized installations. BT20XL is a tough-faced, self-adhering air/vapor barrier and waterproofing membrane for vertical and horizon-

tal above-grade substrates. It seals window perimeters to building substrates to create an impenetrable barrier that stops air leakage and moisture intrusion.

The new tape includes a built-in serration at the 4-inch mark. When sealing the bottom sill of a window, installers can peel and stick the 4-inch portion of the tape so that it covers the sill, as well as the exterior substrate material. This helps prevent water intrusion. With the bottom 5 inches of the tape still hanging off the sill, installers can tuck their housewrap underneath and then seal the remaining tape to the wall.

According to company information, the strong sealing tape can be



installed and left exposed for 180 days without any UV degradation, and has passed hurricane level wind-driven rain test ASTM E331-90. BT20XL seals itself around nails, screws and staples. It can be applied to vinyl, plywood, OSB, concrete, metal, aluminum, polyethylene, building wrap products and block and masonry surfaces.

➡ [www.moldmag.com/infocenter](http://www.moldmag.com/infocenter)

## COATINGS

### Anabec Presents Mold Prevention Product

The Anabec Systems, from Anabec Inc. of Clarence, N.Y., are a science-based product line developed to reduce indoor allergens and remove strains of mold and bacteria in porous building materials such as wood, brick, block, concrete, ceiling tile, insulation and flooring.

Anabec's premier prevention product, New-Build 30, is based on nanotechnology for new construction. This product provides a one-step solution for mold and bacteria protection. After application, this product does not lie dormant but continues to provide long term surface protection from microbial and bacterial growth for 30 years.

All of the company's product systems average 1,000 square feet per gallon and when applied by a trained Anabec applicator come with written warranties for up to 30 years.

According to the company, the systems have been used in schools, office buildings, homes and healthcare facilities across the country.

➡ [www.moldmag.com/infocenter](http://www.moldmag.com/infocenter)



## MOLD-RAM™ Delivers Long-Term Protection

MOLD-RAM is the new surface mold and mildew prevention product from Sostram Corp. of Roswell, Ga. Suitable for use on wood, wall-board, concrete and masonry construction materials, it can be applied during construction or to existing structures.



EPA-registered MOLD-RAM contains the active ingredient chlorothalonil, a contact fungicide, which prevents surface mold and mildew by interrupting the metabolic activity of the fungal pathogens commonly associated with building materials. According to the company, it offers tank-mix flexibility when mixed with borate products used for termite control and fungal decay. It is applied by licensed pest control professionals or certified mold remediators using an airless or backpack sprayer or paintbrush. If desired, a spray dye indicator or permanent dye can be added to the solution to track the spray pattern.

➡ [www.moldmag.com/infocenter](http://www.moldmag.com/infocenter)

## Coating's Film Creates Barrier for Saturated Surfaces

UltraBan™ from Rhino Hide LLC of Eaton Park, Fla., creates a vapor-permeable film that controls moisture and prevents mold growth on its film, even on saturated surfaces.

Penetrating into absorbent materials, UltraBan creates cross-linking polymerization to control moisture. With a perm rating of 1.25 to 2.25 perms, the water-repellant film meets Federal Specification TT-W-

572B and produces a mildew-resistant coating. The encapsulating, moisture-controlling film allows moisture to escape through its dried film surface.

UltraBan does not support the growth of mold or fungi on its dried film. It can be applied to all species of wood, wood composites, millwork, wall coverings, drywall, natural fibers and other materials. According to the

company, the product contains no harmful bleach, acids or solvents.

➡ [www.moldmag.com/infocenter](http://www.moldmag.com/infocenter)

## CORRECTION

The January-March **Moldmag** mistakenly characterized DP 2545 (see *Show Preview*, page 27). The coating features an EPA-registered preservative, but is not itself EPA-registered. We regret the error. **m**

**PATIENT ADMITTANCE FORM**

PERSONAL INFORMATION

LAST NAME: Rad FIRST NAME: Joe MR. Q

ADDRESS: 128 West Main St. Anywhere, VA 12845

DOB: 12/20/03 SEX: M 123 456 789 PHONE: 555 123 4567

AGE: 32 WEIGHT: 175 LB. GENDER: M ☒ INFUSED: Yes

EMERGENCY CONTACT: John Rad PHONE: 555 123 4567

ALLERGIES

penicillin

EXISTING MEDICAL CONDITIONS

diabetes

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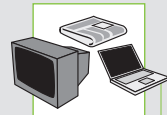


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## The Glamorous Life of ... Mold?

**S**ome restoration companies focus solely on removing mold and other dangers from works of art and antique books. But consumers are more likely to hear about how mold affects the arts in a different way, as when we hear about the astronomical lawsuits involving celebrities and the mold growth in their homes. These items from the consumer press show some bizarre ways in which the dangers of mold have touched the art, television and music industries.



### Mold Threat is a Cruel Joke

Just the threat of “black” mold was enough to distress singer Macy Gray during a December episode of MTV’s prank reality show “Punk’d,” according to an article in *The Repository*.

Gray was informed that the building in Los Angeles where she operates the M. Gray Music Academy was filled with mold growth. In reality, as the singer soon discovered via paperwork, the mold problem was at a different address, according to the article.

### Fox News Employees Sue over Mold Growth



According to a January article from *The Mercury News*, two Fox News employees have filed a lawsuit alleging they were sickened by mold growth in a building where some of the network’s top shows are produced. The lawsuit, filed in February in the New York Supreme Court by graphics technician Laurette DeRosairo and makeup artist Madronica Clarke, seeks unspecified damages from Fox News and the building’s management company.


According to the article, the employees have claimed that the mold growth and the “inappropriate” use of cleaning agents caused them to have headaches, dizziness, weakness, anxiety and blurred vision.

A Fox News spokesperson told the Associated Press that the Occupational, Safety and Health Administration had declined to investigate and an onsite probe by New York’s Department of Environmental Conservation had resolved the matter.

### Getty Trust Finds Report on Mold Not Trustworthy

A \$3.5 million home bought in October by the J. Paul Getty museum by the director has been found to be uninhabitable due to mold growth, according to an article in the *Los Angeles Times*.

Representatives of the trust said they had relied on a 2004 report that said there was no mold growth in the 70-year-old, 4,900-square-foot West Los Angeles home that they purchased for director Michael Brand.

Valerie Fitzgerald, a Coldwell Banker agent in Beverly Hills, told the *Times* that she was surprised the trust didn’t have a basic mold inspection done to verify that information. According to the article, trust officials have considered the possibility of a lawsuit. 





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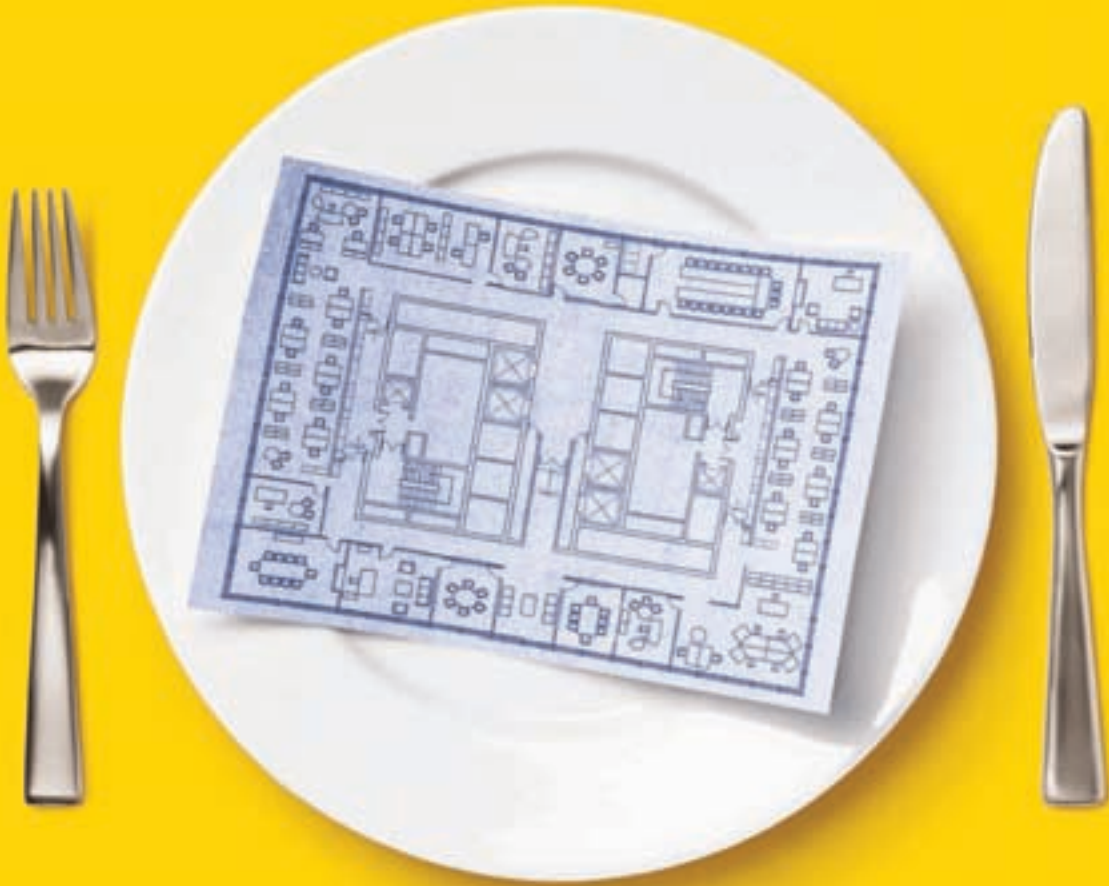
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