In a world of expanding options, designers are finding new ways to research and understand materials and products.

By Jennifer K. Gorsche
t the end of August, Royce Epstein, Affiliate IDA, LEED AP, announced that she was getting rid of all furniture binders in her firm’s resource library. “We need the space for materials,” she explains. Epstein is a resource specialist at the Philadelphia office of KlingStubbins and has nearly 25 years of experience as a material researcher. With 53 designers in its interiors department alone, the firm’s library sees a lot of use. These days designers have little time to meet with product representatives—those are valuable billable hours. They also don’t count on receiving material samples overnight—neither designer nor manufacturer wants to pay for last-minute shipping anymore. As the design industry on the whole experiences accelerated project timelines and fee schedules, there’s not even much time for material research once a project gets underway. “I have to have [my library] very well stocked,” says Epstein.

Resource specialists like Epstein use everything at their disposal—from manufacturers’ Web sites to product blogs and trade shows—to keep colleagues up to date, but for designers without a staff member dedicated to research, who shoulders the fieldwork? Professionals today are faced with the dilemma of the digital age: too many resources to choose from, too few hours to understand them. They’re also bombarded by e-newsletters, print publications, and manufacturer literature touting the latest state-of-the-art and green products and materials. Everyone—from designers at large firms to individual practitioners and academic institutions—is looking for a way to better understand, and put to use, the wealth of high-tech and sustainable materials available today.

Material ConneXion pioneered the concept of materials consulting in 1997, when it launched a carefully curated library of innovative materials from around the world, with a roster of material scientists and experts to guide in their use. And with production of cutting-edge materials growing exponentially, the firm has expanded just as fast. To capitalize on the increase in manufacturing and building in Asia, the company will open its second Korean location this fall and plans to open 10 locations throughout China by 2017. It also recently launched a new strategic partnership with online design and architecture resource Architonic that provides a preview of new additions to the Material ConneXion library. Users still pay a subscription fee to use the company’s online library, and much higher fees for samples and consulting services.

Entrepreneur Zach Kaplan perceived the potential of matching designers with materials in 2002 when he cofounded Inventables, a subscription-based service that delivered a curated box of new, high-tech materials to designers, artists, and inventors. The service came for a fee—anywhere from $70,000 to $350,000 per year—making it impossible for small design firms to get a piece of the action. “If our true mission and vision is to help companies innovate, we’re doing a disservice to the world by locking it up with a subscription,” Kaplan realized. Last year, he eliminated the subscription fee and opened the online Inventables product library to everyone. Now, visitors with just a credit card can order a few yards or a few gallons of anything—from powerless illuminating tubing to resin-suspended stainless-steel coating—and have it delivered to their doorstep the next day. If a designer needs larger quantities, Inventables will connect them with the manufacturer.

Larger companies, too, are realizing the benefits of this format, a sort of open-source product consultancy. Kaplan estimates that customers such as Herman Miller, Method Home, MillerCoors, and Qualcomm drive 33 percent of Inventables’ business on any given day.

Without a research budget but with plenty of research skills, many young designers are taking materials education into their own hands. When Yong Lu Lee and Brian Brush of design collective EB Office won a commission to design a permanent media wall for Salt Lake City’s science museum, The Leonardo, they turned to the Internet. With low cost and high sustainability in mind, they eventually located an unlikely material resource: a small, reprocessed plastics manufacturer in Garfield, Minnesota, called RPM. More likely to manufacture boat equipment than museum installations, the manufacturer nonetheless supplied high-density polyethylene panels that had the right amount of light transmittance for the designers’ LED-embedded wall. Just opened on October 8, the project couldn’t have worked out better, but Brush admits that with the Internet-research approach, “you’re shooting from the hip.”

Online research can be mind-boggling. There’s a plethora of Web sites devoted to sustainable products and materials, such as GreenBuilding.com’s GreenSpec Product Guide with “over 2,200 environmentally preferable products” selected by the publication’s editors. DesignerPages, a robust manufacturer-generated search platform with...
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—R. J. Brennan, Associate IIDA, LEED AP, IA Interior Architects

With one of the largest materials libraries of any college or university in the country, the University of Texas at Austin School of Architecture’s University Co-op Materials Resource Center, or UTSoA Materials Lab, continues to use the CSI standard of organization for its more than 27,000 samples. But encouraging curiosity is important, so the online catalogue presents different points of entry depending on the user’s interests: composition, form, process, properties, and applications.

Design firms are getting involved in research as well. Launched in 2008 as a collaboration between Rensselaer Polytechnic Institute and Skidmore, Owings & Merrill, the Center for Architecture Science and Ecology (CASE) conducts research on sustainable systems and materials from indoor hydroponic systems for improving building air quality and energy consumption to uses of agricultural waste, like coconut husk, to make desiccant building materials in tropical climates.

As many designers admit, the tricky part of navigating this exciting new world in which materials can kill germs and eat smog remains large-scale adoption of new material research and sourcing practices outside of academia. “The challenge to the profession is to continue to evolve with new products, rather than going back to the tried and true,” says R. J. Brennan, Associate IIDA, LEED AP, IA Interior Architects. Brennan lectures frequently on the topic of nano-enabled materials—those that derive benefits from microscopic characteristics—such as nano-enabled carpet, which looks identical to a traditional one but has hydrophobic and antimicrobial properties that would allow it to be used in a hospital environment. That could in turn radically change

150,000 listed products, also allows users to network with manufacturers and with other designers. Hoping to attract designers directly to their Web sites, product manufacturers are also becoming more sophisticated and user friendly with iPad apps, social media, and editorial content (60 percent of respondents to an IIDA Member survey said they rely on manufacturer Web sites to learn about new materials and products). Resin panel maker 3form hosts a blog, “Translucent,” written by its material designers; posts aren’t the usual company boilerplate, they’re real discussions of everything from fashion to sustainability and technology in the design world.

With the aim to inspire students to try new applications for materials regardless of their traditional use, many design schools are rethinking the way they organize their collections. Last year, a student initiative at RISD resulted in the Material Resource Center for the school’s 22 departments. Rather than catalogue the collection according to the Construction Specifications Institute (CSI) standard used in the building industry, the library is organized by material property. (The library also includes a donated collection from Inventables.)

Pratt Institute encourages the innovative use of materials with its Center for Sustainable Design Studies (CSDS), which conducts detailed research on 125 materials at a time, using four categories to describe the materials’ sustainable properties: ecological impact, resource usage, human health impact, and social equality. The format gets students thinking not only about their material selections but also about the materials’ impact throughout the lifecycle of a project.

85%  MANUFACTURER REPS
82%  DESIGN PUBLICATIONS
73%  ONLINE RESOURCES
53%  EXPOSITIONS AND SHOWS
33%  LIBRARIES

85%  manufacturer reps
82%  design publications
73%  online resources
53%  expositions and shows
33%  libraries

IT’S A THREE-WAY QUEST: IIDA’s September 2011 member survey reveals where designers are learning about new materials and products.
the universal perception of hospitals as hostile, sterile environments, points out Brennan. But designers have to know what questions to ask, and where to look.

Frances Mong, a designer at Rockwell Group, says nanotechnology-based textile enhancements company Nano-Tex can double a fabric’s durability and increase its stain-resistance manifold, allowing her to specify a wider range of fabrics in lighter colors not normally used in restaurants or commercial spaces. But Mong also points out that the newest thing is not the greenest thing. Rockwell often uses repurposed materials, as it did for the penny-tiled floor at New York’s Standard Grill restaurant, so she also searches architectural salvage companies for materials and products.

Ultimately, product research has become a way of working, not just a job, for those looking to push the design envelope. For her part, Epstein has launched a blog that aims to give designers new, insider information about contract design materials and products. Brennan, too, sees infinite possibilities in today’s social-networking platforms, which have become host to a wealth of discussion forums surrounding new products and materials in the design world. “It can be a challenge to think outside the box while following a very detailed schedule,” he says. But in the world of global competition, he adds, designers must be committed to research and innovation. “[If] we keep doing the things we’ve always done, we’re going to become non-competitive.”

SELECTED RESOURCES:

The Architect’s Library
A regionally based, user-generated guide to products and services from The Architect’s Newspaper.
www.archpaper.com > Architect’s Library

Architonic
A source for architecture and design industry materials and products as well as designer profiles and news from around the world.
www.architonic.com

Best of NeoCon
Searchable by manufacturer and 42 product categories, this site, features award-winning new commercial interior products from Contract magazine’s competition at NeoCon.
www.contract-network.com

CASE
The Center for Architecture Science and Ecology comprises educational institutions, manufacturers, and firms advancing environmental performance in building systems.
www.case.rpi.edu

Designer Pages
Allows users to browse thousands of product listings and network with major manufacturers as well as other designers.
www.designerpages.com

GreenSpec Product Guide
The online GreenSpec® Product Guide lists over 2,200 environmentally preferable products selected by editors at BuildingGreen.com.
www.buildinggreen.com/menus/T

IdeaConnection Newsletter
A free e-newsletter published by a consultancy of creative experts who solve a broad range of R&D challenges across several disciplines.
www.ideaconnection.com

IIA Knowledge Center
A selection of the most authoritative and timely design resources from the thousands available to designers on the Web, organized by resource topic, client type, and resource type.
knowledgecenter.iida.org/Index.aspx

Interior Design Go-To Buyer's Guide
Organized by product category, market segment, or style, the searchable database allows companies to add product information and designers to store it in personalized online binders.
goto.interiordesign.net

Inventables
A self-described “innovator’s hardware store,” the site sells samples of a wide range of materials and components in small quantities.
www.inventables.com

Material ConneXion
In addition to its expansive library of materials and building processes, the global consultancy’s site contains articles from Matter magazine.
www.materialconnexion.com

Pratt Institute’s Center for Sustainable Design Studies
Pratt’s online resource center includes product case studies and material descriptions geared toward promoting sustainable building practices.
csds.pratt.edu

Repeat, No Repeat.
A commercial products blog by Philadelphia-based KlingStubbins resource specialist Royce Epstein.
repeatnorepeat.typepad.com

Trade Only Design Library
A specification database, exclusive to design professionals and students, of detailed information on 300,000+ products that instantly connects users to manufacturers.
www.TODL.com

Transmaterial.net
A companion to the Transmaterial books written by Blaine Brownell, this edited resource provides information on the latest and most intriguing materials commercially available.
www.transmaterial.net

UTSoA Materials Lab
A vast online materials database organized by a range of criteria with manufacturer names.
www.so.a.utexas.edu/matlab