



2023 Construction Law Seminar

July 26-28, 2023

Blurred Lines?

*How Product Failures Amplify Exposures
Facing Designers, Contractors and Insurers*

Benton J. Barton

Moderator

HALL & EVANS, LLC

Denver, Colorado

bartonb@hallevans.com

Andrew T. Burns

COSGRAVE VERGEER KESTER LLP

Portland, Oregon

aburns@cosgravelaw.com

When Construction Defect and Product Liability Claims Overlap

Overview

There is no such thing as a *simple* construction defect action.¹ Speaking from experience, even defect lawsuits with just two parties and modest recovery expectations can spiral into expert-driven and expensive litigation where liability, causation and damages issues are hard fought. Parties will clash over whether design errors or inadequate workmanship were mostly to blame for the defects. They will then turn to debating proximate cause for delays and budget overruns, before disputing repair scopes and costs.

But what happens when the case also involves product defects?

We have found that relatively routine construction defect lawsuits become much more complicated when product liability theories (and parties) are injected into them.

We titled this paper “*Blurred Lines*” because, from our work in defending *hybrid design, construction and product defect cases*, traditional construction laws, cases, theories of liability *and defenses* we regularly reference to help defend designers and contractors are blurred or eroded when product liability concepts and parties are added. Moreover, the ultimate responsibility for “failures” in product selection and performance are often shared amongst the owner, designers, contractors and building product manufacturers (BPMs).

Regardless of you or your client’s role on a project, it is clear that the specifying, procuring, handling and installing of building products on projects, while necessary and inevitable, *are fraught with risk*. Some parties are more sophisticated than others in knowing how to limit their scope or transfer these risks. When construction defect and product liability claims overlap, exposures facing designers and contractors – and those that insure them – are often amplified beyond what we normally see in construction defect matters without product issues.

Products in Construction Defect Actions

Separate and apart from actionable design malpractice or faulty workmanship, construction defect actions may also arise from *building product “failures”* in the product’s selection or performance.² This is because “a building is simply a group of products brought together to form a structure.”³

As one commentator observed: “Adhesives fail, water sealants do not always prevent water intrusion, pipes leak, boilers explode and sprinklers sometimes do not sprinkle. All are ‘construction defects’ that may result from a product defect or failure.”⁴

In our experience in a busy construction litigation practice, design and construction defect cases which also involve products are becoming more common. Though there are hundreds of useful references and treatises which address designer and contractor liability in construction defect litigation – and shelves of materials *separately* discussing product liability theories and claims – few studies have thoroughly addressed the thorny problems and difficult questions arising when construction defect and product liability matters overlap.

Whether we are dealing with carpet, drywall, windows, pipes or paint, we must remember that in all significant projects there are hundreds (if not thousands) of carefully designed and engineered building products that were

selected, purchased and installed. Each building product must perform as intended, and each product must also perform harmoniously with others.

All building products must be:

1. Researched and recommended as being appropriate for the project;
2. Specified clearly and accurately in the contract documents;
3. Designed safely and well by the manufacturer;
4. Manufactured without defects;
5. Sold for a price that meets the budget, and sourced without delay;
6. Delivered to the project without alteration or damage;
7. Fit for their intended application in the building's systems and environment;
8. Handled and stored appropriately on site;
9. Installed correctly per installation instructions; and then,
10. Incorporated into the structure without negatively impacting other products nearby, or those that are upstream or downstream.

A failure of even one of these efforts or steps could lead to a complex and costly product-based action against the owner, designers, contractors or manufacturers.

All of these efforts and steps are subject to standards of care which depend upon the party's role. Responsibilities and standards may be unclear or fluid, but relevant information must still flow through organized communication channels and be carefully recorded. In short, all of the steps, efforts and communications surrounding how building products are selected, installed and perform carry inherent and significant risk across multiple party roles and responsibilities.

From reading this discussion relating to building products, one might ask rhetorically: *"What could go wrong?"* The answer (of course) is: *"Everything!"* And remember, even if the building product *itself* performed as anticipated, it must also have worked *compatibly* with surrounding products.

Below, we discuss additional challenges that may come into play, and some case studies providing lessons learned, when you and your company are involved in a hybrid design, construction and product defect lawsuit.

Product-Related Claims and Parties

Building products are sourced from BPMs, materials suppliers and vendors.⁵ Each can be sued for product failures in construction defect actions.

In our experience, most plaintiff-oriented construction attorneys are comfortable suing architects, engineers and contractors for "regular" defects that require repair. They will do so even when claims arise from products that designers selected and contractors installed. However, many well-resourced plaintiff's firms still shy away from suing BPMs for product liability. Why is this?

Most lawyers and experts realize that advancing a successful product defect claim will be difficult, expensive and uncertain. This is because BPMs (and their suppliers and vendors) are more knowledgeable about their products, how they were developed and tested, and how they are supposed to work in a particular application or system.

BPMs maintain national panels of attorneys and expert witnesses who have broad and deep experience with the product in question, and how it should have been used. BPMs are skilled at developing and presenting persuasive product defense theories, repeatedly employed in litigation (such as by resisting jurisdiction, or by proving alteration, misuse or failure to follow installation instructions).

BPMs are also likely to rely upon burdensome discovery processes with massive document productions and contested corporate representative depositions. Simply stated, BPMs are more prepared than most litigants to defend complex lawsuits wherever their building products were sold and installed.

If the construction defect plaintiff's attorney has decided not to sue the BPM for a product design or manufacturing defect, or a failure to warn, it may quickly become apparent that the designers and contractors who *were* sued will be expected to "own" the product failure due to their role in its selection, purchase and installation. In these difficult situations, one must quickly figure out, under the laws of your state:

1. If justified, can the defending designer or contractor legally bring the BPM into the case for product liability through third-party claims?
2. Would there be personal jurisdiction over the BPM?
3. Does any party have contractual privity with the BPM?
4. Does the BPM's supplier who sold the product have responsibility, or an "innocent seller" defense?
5. If the BPM is not sued but should have been, is the law firm retained for the designer or contractor ready and able to prosecute a high-leverage product liability claim?

Without manufacturer participation in hybrid defect lawsuits, designers and contractors may be left holding the bag for damages that were partially or fully caused by product failures in selection or performance.⁶ In other words, traditional "empty chair" defenses in construction defect lawsuits that minimize exposure, where defendants can blame absent non-parties for certain defect-caused damages, are simply not as helpful when claims depend upon product liability.

Different Legal Schemes May Also Apply (in the Same Lawsuit)

To further complicate the analysis and evaluation of a hybrid design, construction and product defect case, most jurisdictions are careful to distinguish between statutes and standards of care that apply to designers and contractors, versus those that govern product manufacturers and suppliers. It is possible that two different statutory schemes, and separate lines of cases decided under different laws, may simultaneously apply to a designer, contractor and BPM.

In hybrid cases, one sees how battle lines are drawn between the different parties in the ways they strategically defend themselves. For instance, designers and contractors always argue that they cannot investigate, test and understand the product and how it will perform as well as the manufacturer can and should have.

By contrast, manufacturers always argue that their product should not have been selected for the application, or that it was misused or mis-installed. Otherwise, it would or could have worked well.

Design professionals also appropriately argue that "perfection" is not the standard by which their plans and specifications should be judged, nor should "perfection" apply to a contractor's workmanship. But, when looking specifically at product liability, courts often apply *strict liability* concepts to building products and BPMs – including to the representations, warnings and instructions that came with the product – without any consideration of

contract terms and conditions, invoice disclaimers or negligence standards founded upon reasonable care.

The mixing of legal schemes, theories and standards in the same case can set up unwary construction defect litigation parties (and their attorneys) to be disadvantaged. Hybrid cases are also particularly difficult to present to a jury, as even instructions on what is the applicable law will become unduly complex and muddled.

The schemes which organize claims and defenses in design and construction defect actions (including breach of contract and negligence) – as opposed to product liability – are separate in nearly every state.⁷ Product liability lawsuits also often involve national, international and industry-wide standards. Attorneys and parties working on hybrid cases therefore need to be carefully educated on completely different statutes, standards, legal frameworks, presumptions and precedents which they might not encounter in routine construction defect cases.

To list just a few examples of critical legal differences in the theories, claims and defenses which are often litigated in hybrid cases, consider:

- Many product liability lawsuits start with a fight over personal jurisdiction over the BPM, while these threshold disputes are rare in regular construction defect actions.
- Courts also require different types of experts to opine on the sufficiency of products, warnings and instructions, from those we normally see in regular construction defect matters.
- Different statutes of limitation, repose and accrual triggers must be applied to the same underlying set of facts in hybrid construction and product defect cases, but can lead to different outcomes.

Generally, it has been our experience that when design, construction and product issues overlap in the same case, we see higher “product” standards of care (closer to strict liability) applied to designers and contractors who may have played a role – albeit a small one – in the product’s selection, handling and performance.

Risks in How Products are Selected and Specified

As with most everything else in law and construction, building products are becoming more and more specialized in their design, engineering and application. Products can follow many paths from the time they are first discussed in initial planning meetings to when they are formally identified in contract documents, listed in specifications, depicted in plans, and then installed into the subject structure.

Often, building products are recommended – or perhaps *required* – by the owner or design team in a project’s earliest stages. These preferences could have been based upon any one or a combination of the following factors: function, aesthetics, longevity, green characteristics (such as low VOC or high recyclables content), size, shape, ease-of-installation, familiarity, price and availability.⁸

Or perhaps, the owner and design team were swayed by a particularly persuasive sales pitch that convinced them to try something new.

Regardless of the product selection factors that tipped the scale, rarely can a designer know for certain that a building product has been proven to work, will work on this project, or that it is 100% compatible in applications that are dependent upon other building components and systems to succeed.

As one architect-commentator has observed, “[w]e tend to not want to use new systems unless our clients agree to take the risk with us.”⁹ Still, as construction lawyers, we regularly litigate cases in which owners, designers and contractors were enticed by a BPM’s promise that a new building product was not only innovative and useful, but also that it was thoroughly tested and “ready for prime time.”

BPMs routinely represent that their new building products (or improved formulas) are going to be better or more sustainable than the old “tried-and-true” products offered before. In our view, while “old-school” products will not be considered as “exciting” for the owner or design team to recommend, there is still something to be said for the fact that contractors will already know how to successfully work with and install traditional products, whereas they will have a learning curve with new products.

It is also risky for architects, engineers and contractors to rely solely upon the BPM for data on the product’s functionality in past applications. Disputes over what information was available on a building product’s past performance were prevalent in the matter discussed in our first case study below.

First Case Study:

What happened when the general contractor asked the architect to approve products that had been subject to class-action product defect claims?

As an example of a matter arising from arguably unknown risks in selecting a product, we recently defended an architect malpractice lawsuit which arose in part following the approval of certain fiber cement panels (any of several different brands would have been allowed) used as exterior cladding on multiple apartment buildings. Damages for repairs to remove and replace all the panels, including to add a moisture management system, were alleged to exceed \$25 million.

Installation errors by the subcontractors were widespread and acknowledged by experts for all parties. These construction defects contributed to the panels warping, cracking and falling off the buildings. But as it turned out, while our project was being designed years before, *the same fiber cement panels had already been found to be defective* in class-action product liability lawsuits. Thus, the owner and contractors argued that the construction defects were legally irrelevant, since they were subsumed by the product defects.

Our design malpractice lawsuit turned on how much “bad” information about the building product was in the public record, during both early design efforts and later when the product submittals were approved. In short, it was asked:

- Was the architect’s initial investigation thorough enough?
- Did more information develop later, so that the architect should have flagged the potential product defects when the general contractor wanted to use the cheaper panels?
- Was the architect arguably “bound” to understand and heed adjudicated product defect findings from past court proceedings?

Our client faced significant exposure beyond its design conduct for not checking into the panels’ defects, *which could have been ascertained from a quick Google search*. These product selection risks were unknown, but knowable.

Other complications arose due to the bankruptcy of the manufacturer following the class-action lawsuits. The BPM was not available to help investigate and defend the product defects. The BPM was similarly not available to assist the owner with warranty requests, provide information on the design and manufacture of the fiber cement panels, or contribute to a settlement.¹⁰

Regularly referencing, relying upon *and following* the contract documents – including well-drafted specifications – are critical efforts for designers, contractors and BPMs to anticipate and hopefully mitigate risks that could trigger claims arising from product selection. This case also taught us that updating independent research into certain products, and carefully documenting the results of that investigation, is vitally important.

Risks in How Products are Submitted and Substituted

On a well-run job, building products are supposed to be *submitted for further review* and vetting, then approved by the design team and general contractor before installation. What do these “reviews” entail? How deep should they go?

Submittal steps are meant to protect owners; they create more opportunities for research, sharing information and catching potential product selection problems. But they can also lead to miscommunications and dropped balls between the design team, contractors and BPMs.¹¹

In our experience, parties who participated in submittals regularly had inconsistent, conflicting understandings – and unfounded expectations – about what each other’s roles were in investigating and approving products. As one recent AIA study showed, only two in ten architects believe that contractors propose substitutions with the owner’s best interests in mind.¹² On the other side of the coin, most contractors believe that architects propose designs and products that are impractical or too expensive. Thus, the submittal system is set up for friction, conflicts and misunderstandings.

From an owner or contractor perspective, in reviewing contractor-furnished submittals, the designer’s words and actions in “[submittal review] stamps are often a focal point regarding liability associated with review of a submittal.”¹³ In other words, it is easy for an owner, contractor or BPM to argue later that the designer “should have known more” or “could have done more” when reviewing and approving a building product. Often, it is also later discovered that the designer attempted to limit his or her responsibility by using disclaimer-type language in the approval stamp. Many commentators have argued that the use of “weasel words” by architects and engineers in stamping submittals should have no legal significance in court cases.¹⁴

Disputes also arise when building products were substituted from what was earlier recommended by the design team. We find that product substitutions often happened without a clear paper trail, perhaps following a poorly documented value engineering meeting. Or perhaps, substitutions were thought to be necessary due to concerns over product availability which could have delayed the project.¹⁵ We are still seeing delay and liquidated damages claims *allegedly* resulting from supply chain problems and disruptions exacerbated by the COVID-19 pandemic.¹⁶ Despite the passage of time, it seems today that many parties in *current* lawsuits continue to cite the pandemic as an excuse for delayed work and deliveries.

It is very important for designers, contractors and BPMs to communicate clearly, accurately and transparently with each other. This applies equally in situations when already-specified building products are being submitted

for final approval, and also when different products are being proposed for substitution.

No two products are 100% identical, although they can be considered “equal” in performance in the eyes of the design team or contractors. Reviewers should therefore clearly and carefully note key differences in how substituted products may perform, and also how they need to be installed. Stated another way, when addressing product substitutions, close enough will not be good enough.

Clearly, the selection, specification, submittal and substitution processes and decisions around building products are full of risks for everyone who may be involved. Risks can attach themselves to owners, designers, contractors and BPMs. In a lawsuit, each party in the process will be motivated to minimize its role, while deflecting responsibility to others.

In some cases, designers will offload exposure for product selection to a BPM, which may have occurred due to mutual misunderstandings. Such a situation formed the basis of a difficult lawsuit we defended described in our second case study.

Second Case Study:

What happened when the building department and EOR asked the BPM to stamp calculations and drawings beyond its scope, knowledge and expertise?

We recently defended a BPM in multiple arbitrations and lawsuits that arose from a luxury condominium project. Our BPM client first met with the owner, design team and general contractor, recommending that they specify “thermal break” balcony connectors to attach reinforced concrete balconies to the exterior edges of post-tensioned slabs. The BPM provided samples of the connectors and also sketches and “tender specifications,” some of which were incorporated into the final plans and specifications.

The contractors were not familiar with the innovative products, and the mock-ups were given short shrift. After the connectors were installed and balconies poured, the balconies sagged up to five inches. This stopped the project in its tracks due to obvious defects and life-safety concerns. Though some experts quickly identified installation errors around the connectors, other experts argued that the poor workmanship did not cause the deflections since the connectors were structurally under-designed.

Thus, similar to the case above involving fiber cement panels, from a causation perspective, the owner and contractors alleged that the product defects overwhelmed the construction defects.

Notably, the connectors had been sold worldwide (without any claims) for over twenty years. Still, the Denver building department was not experienced with the product and required a structural engineer’s review and stamp on the data sheets, sketches and calculations. The submittal package was supposed to be further vetted by the project’s structural engineer of record (EOR). After the EOR failed to review and stamp the BPM’s documents and calculations, the BPM obtained its own P.E. stamp from an in-house engineer based in another state. This led to difficult questions as to how thorough the review was by the stamping P.E., who otherwise had no project involvement.

Although multiple parties shared responsibility for over \$15 million in damages for repairs and delays, the BPM’s exposure was heightened due to its “voluntary” assumption of duties that should have been performed by the EOR who had superior knowledge of the primary structural system. The parties also argued that the BPM assumed

the role of “delegated designer.” In the end, although the connectors “did what the BPM said they would do” in terms of structural capacity and resistance, the partial taking-over of EOR responsibilities by the BPM was hard to defend. Moreover, the BPM’s in-house engineer had to report and defend the settlement to state licensing authorities.

Substitution and submittal processes trigger serious risks for designers, contractors and BPMs alike. Project parties should never treat submittals with a “rubber stamp” mentality, even if the building product under review was initially recommended and specified by the design team (*i.e.*, not substituted).

Designers should also ensure that they carry enough hours in the project to undertake *careful* submittal reviews, or they should request compensation for “additional services.” In the case discussed above, the unexpected involvement by the local building department also ratcheted up pressure on the EOR and BPM, leading to misunderstandings of who was primarily responsible to approve the submittal package.

Other Risks from Inadequate Specifications

In hybrid design, construction and product defect lawsuits, we have found that the project’s specifications (or “project manual”) are more important in deciding the claims than are contracts or drawings. Particular provisions can be very helpful or harmful on particular issues for designers, contractors and BPMs.

On the project or in the lawsuit, specifications must be carefully studied and regularly consulted. Specifications on most complex projects are quite voluminous, and they seem to be expanding over time.

As one commentator has defined them, “[s]pecifications describe how the design team wants a construction project to be built. They go together with the plans, which show what needs to be constructed. *Specifications include detailed information on what materials should be used, how they should be installed, and the quality of the work.*”¹⁷

With respect to products, specification provisions are described as *prescriptive, performance or proprietary*. The type of provision matters when assessing the standard of care that the designer, contractor or BPM brought to the process.

Prescriptive specifications identify different types of building products necessary to meet design intent and the individual performance levels of each product. These are the most detailed specifications from a designer’s perspective and they “give a better image of what the final product will look like compared to other specs.”¹⁸ Designers will have more challenges defending alleged errors and omissions in product selection when the specification is deemed to be “prescriptive.”

Performance specifications, by contrast, detail “what the final installed product has to be capable of doing.” Performance specifications signal that designers rely more upon the contractors to figure out the best materials and installation means-and-methods for a particular application.¹⁹ Thus, this type of specification provision shifts more risk for product selection and performance onto the general contractor and subcontractors.

Proprietary specifications are the most specific type. These provisions are usually disfavored by owners, government entities and building departments, and in some jurisdictions they are illegal on public projects. Proprietary specifications are viewed as anti-competitive because they steer the purchaser to a particular brand of product.

A proprietary specification will list “a product by brand name, make and model that a contractor must (shall) utilize in construction.”²⁰ Proprietary specifications place the most risk on the owner or designer for any future product selection claims. Proprietary specifications also still place risk on the BPM for ultimate product performance, so long as the product was not damaged, misused or mis-installed.

Whether or not certain types of specifications are preferred or disfavored, or common or uncommon, many specifications may still refer to specific product brands, perhaps as a “basis-of-design” or in a list of options, without being deemed “proprietary.” There is nothing wrong with this routine practice in specifications drafting. These types of provisions work to provide additional guidance to contractors on what may be necessary to serve design intent.

Stated another way, non-exclusive “[b]rand name specifications are not the preferred method, but they can have a legitimate use in ... bid solicitation activities. ... Unless otherwise noted, it is understood that other brands or models will be accepted on an ‘or equal’ basis.”²¹

In the case studies discussed above involving the selection of fiber cement panels and balcony connectors, particular BPM brand names, model numbers and catalog sections were referenced in the project specifications. The contractors were allowed to consider different product options and they were allowed to propose substituting “or equal” products. However, in both matters (which ended up in hotly contested hybrid design, construction and product defect lawsuits), the parties and their experts vigorously disagreed over whether different products were truly “equal.”

In the case involving fiber cement panels, the owner argued that the cheaper panels were inadequate and should never have been approved due to the fact that the BPM had been subject to years of nationwide class-action product liability lawsuits.

In the lawsuit involving balcony connectors, the general contractor argued that the preferred product in the specifications had no “equal” due to fire-rating characteristics that competitors could not match. Thus, the general contractor sought to label the BPM as a “sole source” and “delegated designer.” While the arbitration panel declined to make “sole source” and “delegated design” findings against the BPM specifically, an interim award did conclude that the BPM crossed over into design and consulting services which should have been left for the EOR to perform. This also worsened the BPM’s exposure.

Also in the case involving balcony connectors, the utilization of “tender specifications” to describe the product also blurred the lines of responsibility between the design team and BPM, and increased the BPM’s exposure significantly.

Different specification provisions and sections often come from different sources, including those published by building product manufacturers. BPMs use samples and tender specifications to help their marketing efforts. We also often see language which is simply recycled from other jobs by the design team, or “cut-and-pasted” by the architect’s specifications drafter into particular portions of the project manual where a specific building product is discussed as the basis-of-design.

The use of tender specifications (and also tender drawings) from the BPM can be risky for designers and contractors, and also the BPM, unless the information is carefully reviewed and edited for the needs of the specific project. We have worked on lawsuits where both the designer and BPM were criticized for a lack of clarity in specifications and drawings which were initially provided to the designers and contractors by the BPM, and used

in the construction process. These situations raise exposure all around for damages caused by product selection and performance failures.

Product Incompatibility: A Real Issue to Research and Rule Out

It sounds almost too obvious to say, but products and systems in a building have to work together. Still, more frequently than one might imagine, incompatibility issues arise and are difficult to investigate and remedy. This is because a properly specified and installed building product may itself have performed as it was intended, but perhaps it was later found to have been compromised by other conditions and products nearby.

In our experience, serious product incompatibility situations will impact multiple areas of a building and can lead to very expensive “rip-and-replace” repairs.

Who can be blamed when previously unknown product clashes arise on a project, or are discovered later in a hybrid design, construction and product defect lawsuit?

As a notable example, we continue to defend extremely serious cases involving incompatible materials interacting with and compromising CPVC fire sprinkler systems in high-rise buildings. These interactions are invisible above a microscopic level. These complicated design, construction and product defects have resulted in widespread, unpredictable water leaks and floods, and gained unwanted attention from government officials. These matters are very difficult to successfully defend, due to their “life-safety” implications and the exorbitant damages that are at stake.

CPVC fire sprinkler lawsuits have led to enormous settlements to fund total-system replacements in already-finished and occupied hotels, condominium buildings and apartment complexes, and to repair damaged living spaces and replace the personal property of residents. These cases, now pursued all over the world, have also led to the creation of a cottage industry of “plastic failure” litigation attorneys, testing laboratories and causation experts, all making lots of money from known and provable product incompatibility issues.

In our experience, settlements have been paid by insurers on behalf of developers, owners, design firms, contractors, property managers and BPMs. Many times, property damage settlements have also spawned downstream subrogation actions where the product liability issues must be litigated all over again.

The below case study involved a “chemical attack” by sealants and paints on CPVC fire sprinkler pipes in a high-rise apartment project in Colorado. Both types of products were discussed in separate specification sections and drawings from the design team, and “tender specifications” from BPMS are also at issue. The incompatible products were purchased and installed by design-build subcontractors. All of these parties and the BPMs are involved in the current action.

Third Case Study:

What happened when CPVC fire sprinkler pipes were “chemically attacked” by upstream sealants and paints whose formulas changed over time?

We are currently defending the general contractor in a hybrid design, construction and product liability lawsuit of the highest complexity arising from a 508-unit apartment building in Denver. During a four-year period of time

following substantial completion, over thirty leaks “randomly” occurred in the project’s fire sprinkler and domestic water systems, which were constructed of CPVC pipes.

Scores of occupied apartments (and personal items in them) were damaged by the unpredictable flooding events. Millions of dollars were paid out in property damage settlements. Numerous tenants had to relocate to hotels, sometimes for months at a time. The tenants’ problems resulted in glaring and uncomfortable local news coverage, and inflammatory social media posts about the developer, property manager and contractors.

After months of investigation, laboratory testing and expert analysis, most parties now believe that the CPVC fire sprinkler and domestic water pipes were “chemically attacked” by particularly damaging compounds in some firestop acrylic sealants and paints which were used by other subcontractors on the project. While some products intersected intentionally, it is also true that certain subcontractors could have protected their work better, while other subcontractors did sloppy work leading to more contamination.

The applications of incompatible chemicals have led to microscopic “environmental stress cracking” in the CPVC pipes. At various times, the products were represented to be “compatible” or “incompatible” by different BPMs. Some BPMs have sued each other in different jurisdictions over the same issues. It has also been alleged that the firestop acrylic sealant manufacturer changed its chemical formulas without providing notice to its customers or various CPVC companies.

The CPVC pipe manufacturer in our case has argued that the sealant company, after changing its “recipe” years ago, failed to update its warnings and “product incompatibility lists” available to the public. Currently, total estimated repairs and lost rent damages are alleged to exceed \$50 million, and responsibility may ultimately be shared amongst some of the designers, contractors and BPMs. The owner is also seeking “lost reputation” and negative stigma-type damages due to the community fallout.

As with the case study above concerning the selection of fiber cement panels which had been subject to class-action lawsuits, this case involving chemical incompatibility between CPVC pipes and other products may turn on what information was known, or could have been knowable, by the design team, design-build subcontractors and BPMs. The lawsuit is currently, and unfortunately, set up as a “circular firing squad” amongst the defending parties. It remains to be seen how liability and causation for the breathtaking amounts of claimed damages will be sorted out.

Miscellaneous Other Exposure Risks in Hybrid Cases

In an earlier section of this paper, we outlined several steps in the process of building product selection, specification and installation on a construction project. If any one step is missed or fails, parties can find themselves defending a complex and expensive hybrid design, construction and product defect lawsuit.

To recap, building products must be 1) researched and recommended as being appropriate for the project; 2) specified clearly and accurately; 3) designed safely by the BPM; 4) manufactured without defects; 5) sold and sourced without delay; 6) delivered to the site without alteration or damage; 7) fit for the application and environment; 8) handled and stored appropriately; 9) installed per installation instructions; and then, 10) incorporated into the structure without negatively impacting other products.

Some additional risks and complications we have dealt with that have made our hybrid cases even more difficult to defend include:

1. The parties could not obtain personal jurisdiction over the BPM, which is based in a foreign country;
2. The BPM changed the style, design or chemical composition of its products;
3. Product updates were not translated quickly enough into catalogs, data sheets, tender specifications and other manufacturer's publications relied upon;
4. The BPM's sales team over-promised what the product could do;
5. The BPM's notifications of changes were not communicated publicly, widely enough or in time;
6. The BPM was insolvent, bankrupt or out of business;
7. Use of the BPM's product was approved in some jurisdictions by building officials, but not in others;
8. The required mock-up was never built, or built poorly, or never tested (e.g., for water intrusions);
9. The party that selected the product required a different party to purchase and install it;
10. Value engineering decisions led to substitutions or lesser products, and the reasons behind those decisions were not clearly recorded;
11. The general contractor did not train subcontractors on product installation;
12. The installing subcontractors did not train sub-subcontractors and laborers on product installation;
13. Documents which might have shed light on key project decisions went missing due to the passage of time or database failures;
14. Memories of key witnesses faded;
15. Important owner, designer, contractor or BPM witnesses changed jobs or died;
16. Products were discussed or addressed in different contracts, purchase orders, invoices, terms and conditions pages and websites, all of which had inconsistent warranty, disclaimer and risk transfer provisions; and
17. Certain parties with some responsibility for product selection and performance did not procure the right insurance, or enough insurance coverage, to cover their alleged conduct.

Practice Tips: Mitigating Risks in Product Selection and Performance

Whether your perspective aligns with the owner, design team, contractor or BPM, as we have previewed above, numerous pitfalls lurk in the sometimes-byzantine processes governing how building products are investigated, selected, submitted (or substituted), approved and then installed. When claims arise, tough questions will be asked and often memories will have faded to the point where the project's meeting minutes (if they are available) might be the "last word" on who agreed to do what, or who said what to whom. Accurate and complete record-keeping in these areas is critical.

The questions below highlight the enhanced risks that arise for everyone involved in defending hybrid design, construction and product defect lawsuits. We have broken down these risks into two broad categories: those arguably rooted in allegedly inadequate *product selection and specification*, versus those that arise later from failures in *product performance*.

Recognizing and Defending Product Selection (and Specification) Risks

As discussed in the case studies above, a future construction defect action may arise against designers, contractors and BPMs for mistakes in product selection, specification and substitution. In these types of actions, the following critical questions must be asked and answered as early in the project or litigation as possible:

- How was the building product first introduced to the project? Whose idea was it?
- What did the design team do to ensure that the building product would work and meet design intent?
- Did the design team have experience previously specifying this product?
- Did the designers or contractors offer other options for products that were "equal?"
- Did the selected, specified product have an adequate track record, or a history of failures?
- Did the BPM support the project by attending design meetings and answering technical questions?²²
- Did the BPM clearly delineate when and where its responsibilities began and ended?
- Were the designers familiar with how and where the building product was to be installed vis-à-vis other systems and products upstream and downstream?
- How much investigation was done into the product itself, and other projects where it was used, before authorizing it in the specifications or submittal response?
- Were the contractors familiar with the building product?
- Did the contractors have knowledge and experience in how to handle and store the product on site?
- Did the contractors know the purpose of the product?

- Did the contractors know how to install the product?
- Had the local building department assessed and approved use of the building product before?
- Were specifications and supplemental instructions drafted to clearly outline the building product's performance requirements?
- Were specifications drafted so restrictively that they could be considered "proprietary" to a single brand?
- Did the general contractor acknowledge receiving the BPM's catalog, installation instructions, warnings and product data sheets?
- Did the general contractor meet with and train subcontractors on installation?
- Did the BPM supply some of the contract documents through "tender" drawings or specifications?
- Did the design team customize or edit the BPM's drawings and specifications?
- Who purchased the building product?
- Were sales terms and conditions agreed-to between the buyer and seller? Is there a "battle of the forms" situation?
- What happened when the preferred product – or one that was proprietary – was not readily available?
- Did the parties ignore or short-circuit the submittal process due to concern for the schedule?
- If a substitution was allowed, were new and supplemental installation instructions and data sheets clearly communicated to the contractors?
- How did the parties handle and process submittals, shop drawings, RFIs, ASIs, emails and other correspondence discussing the product?
- Was the BPM asked to comment on the substituted building product?
- Did any party disclaim or try to punt responsibility for vetting and approving the product?

On the project or in a hybrid design, construction and product defect lawsuit – whoever is your client – asking and answering these and tangential questions early in the process will be extremely helpful in minimizing risk, or assessing responsibility and causation where necessary.

Recognizing and Defending Product Performance Risks

Although rarer, construction defect actions may also arise from building product failures. Even if the product itself worked as it was represented to do, its performance might have been negatively impacted by installation errors, other incompatible products or systems, or the environment or other external factors which compromised its functionality.

In the case discussed above regarding thermal break balcony connectors, these “product failure” issues were in play as experts acknowledged that the post-tensioned slab design, along with construction errors independent of the thermal break balcony connectors, compromised the connectors’ ability to support the reinforced concrete balcony slabs. The action saw several mini-trials over shared liability, before ultimately resolving in a global settlement.

When product performance is at issue, the following critical questions must be asked and answered by attorneys and experts handling hybrid design, construction and product defect lawsuits, whatever their client’s role or perspective may be:

- Did the building product actually fail to perform “as advertised,” or was it compromised by external factors?
- Was a mock-up incorporating the building product required? Was the mock-up ever built and tested?
- Was the assembly with the building product tested *in situ* (e.g., for structural capacity or water-tightness)?
- Did the BPM support the project by going to the site to provide technical advice, answer installers’ questions and/or approve alternative means-and-methods?
- Did the BPM observe and sign off on the installation of the building product?
- What if the building product would have worked, but for specific system or environmental conditions that were unusual or unique?
- In the case of a performance-based specification, was the substituted building product really “equal?”
- Was there a different, available building product – whether from this BPM or another – that would have worked better?
- If the BPM or its supplier were sued, does the jurisdiction recognize the “learned intermediary” defense in hybrid design, construction and product liability cases?
- Which party was most responsible for communicating the building product’s installation instructions? Or its warnings, disclaimers and product data sheets?
- Were any critical components or other details (such as fasteners, sealants, nearby reinforcement, etc.) missed in the installation?

- Was the building product sourced through a purchase order, or a more thorough contract?
- What terms and conditions in the purchase order or supply contract(s) address warranty or product performance failures, if any?
- What terms and conditions in the contracts and invoices address potentially available remedies for product performance failures?

In most cases, responsibility for building product performance failures is muddled. Each party that looked at or touched a product has incentive to point to someone else in the process to deflect blame. Stated another way, exposure risks can be shared amongst the owner, design team, general contractor, subcontractor, product manufacturer and supplier. This makes a hybrid design, construction and product defect case very difficult to evaluate before mediation or trial.

Conclusion

Because so many things can go wrong when a project's success depends upon choosing the right products, owners, designers, contractors and BPMs must all take great care and responsibility for setting themselves, their companies – and more broadly the project itself – up for a good outcome. No matter who you are or who you represent in hybrid design, construction and product defect cases, we predict that in our increasingly complex world we will continue to see more claims involve and hinge upon the litigation of conduct around product selection and product performance.

¹ In this paper, we use the term “*construction defect*” in its broadest sense. Stated another way, the words are not limited solely to *construction work* performed by contractors; they may also refer to situations where defects were caused by design or product failures.

² As with references to “*construction defects*,” we use the term “*product failure*” broadly as well. For instance, a product might have performed as advertised, but it was not right for its intended application. Thus, a building product might have “failed” because it did not work *in the context of the project*.

³ *Deconstructing Construction Defect Claims: A White Paper for Construction Contractors*, Assurex Global Construction Practice Group (2016), available at: www.assurexglobal.com/industries-expertise/practice-group-construction/ (last visited July 2, 2023).

⁴ ARTICLE: Robert C. Epstein, *Construction Defects: Who is Responsible for What?*, New Jersey Law Journal (2016).

⁵ *The Architect's Journey to Specification 2022: Improving the Built Environment Through Stronger Relationships Between Architects and Contractors*, The American Institute of Architects (2022), www.aia.org/resources/85766-the-architects-journey-to-specification:46 (last visited July 2, 2023).

⁶ Sometimes, the opposite situation occurs where the BPM is initially sued, then chooses to tender to and/or sue its suppliers and sourcing contractors. David Toney, *Emerging Trends in Construction Defect/Product Liability for Manufacturers* (February 2, 2023), available at: www.adamsandrees.com/news-knowledge/toney-clm-alliance-construction-defect-product-liability-trends (“[S]ome manufacturers never used to add and/or otherwise join its subs and suppliers to its claims/cases/matters. However, company strategies have changed over the years.”) (last visited July 2, 2023).

⁷ In most states such as the author’s home state of Colorado, different statutory schemes govern construction defect versus product liability litigation. For instance, Colorado has the *Construction Defect Action Reform Act* (“CDARA”), C.R.S. § 13-20-801 *et seq.*, which applies to “construction professionals” and outlines a pre-suit notice of claim process. CDARA establishes for most construction defect claims an eight-year statute of repose. But Colorado has a different set of statutes governing “product liability actions,” found at C.R.S. § 13-20-401 *et seq.* These different laws apply to actions against product manufacturers and suppliers, even if the product liability lawsuit arose out of a construction project. These product liability statutes could simultaneously apply designers and contractors sued in building product selection and performance cases, and they include a “rebuttable presumption” that the product was not defective if it was first sold or consumed ten or more years before causing personal injury or property damage.

⁸ Jim Allen, *Is an architect liable for failure to advise a client to use a better material?*, Quora forum on “What is Responsible Architecture? (2022), available at: <https://www.quora.com/What-is-Responsible-Architecture-What-materials-can-be-termed-as-responsible-materials> (last visited July 2, 2023).

⁹ Anne Whiteacre, *Is an architect liable for failure to advise a client to use a better material?*, Quora forum on “What is Responsible Architecture? (2022), available at: <https://www.quora.com/What-is-Responsible-Architecture-What-materials-can-be-termed-as-responsible-materials> (last visited, July 2, 2023).

¹⁰ Similar factual and legal issues were discussed in a case study discussing difficult situations triggered by the BPM’s insolvency: Pierre Grosdidier, *Product Liability in Construction and the Case of the Insolvent Manufacturer* (September 20, 2021), The American Bar Association, available at: www.americanbar.org/construction_industry/publications (last visited June 30, 2023).

¹¹ Nadine M. Post, *Architects Offer Advice to Building Product Suppliers*, Engineering News-Record (2017), available at: www.enr.com/articles/print/41946-architects-offer-advice-to-building-product-suppliers (last visited July 2, 2023).

¹² *The Architect’s Journey to Specification 2022* (at p.7).

¹³ Kevin O’Beirne, *Shop Drawings and Submittals – Submittal Review Stamps* (March 15, 2021), Engineers Joint Contracts Documents Committee, available at: <https://www.ejcdc.org/shop-drawings-and-submittals-part-4-submittal-review-stamps-by-kevin-obeirne-pe/> (last visited July 3, 2023).

¹⁴ *Id.* (at p.5).

¹⁵ *The Architect’s Journey to Specification 2022*, noting that “architects are not convinced that contractors propose substitutions with the client’s best interests in mind,” and contractors may recommend building product substitutions for self-interested reasons (at p. 30).

¹⁶ David Toney, *Emerging Trends in Construction Defect/Product Liability for Manufacturers*, noting: “As for a general marketplace trend, we have seen both an uptick in delay claims (including liquidated damages claims) due to scarcity and/or sheer inability to supply product or meet prior agreed upon schedules, as well as defect claims related to material substitutions due to material unavailability.”

¹⁷ <https://planhub.com/resources/how-to-read-construction-specifications/> (October 28, 2020) (last visited July 3, 2023).

¹⁸ <https://esub.com/blog/3-types-of-construction-specifications/> (November 6, 2018) (last visited July 3, 2023).

¹⁹ *Id.*

²⁰ Wally Zimmolong, *Are Proprietary Specifications Illegal?* (April 3, 2018), available at: www.supplementalconditions.com/ (last visited June 29, 2023).

²¹ *Guidelines for Writing Effective Bid Specifications*, University of South Alabama, available at: www.southalabama.edu (last visited June 29, 2023).

²² Quoting an earlier version of the *Architect's Journey to Specification*, in 2017, ENR.com author Post observed that "85% of specifying architects use manufacturer's websites to seek out products and materials." In the survey results, architects cited numerous examples of "manufacturer websites contain[ing] incomplete and out-of-date information that is difficult to find or access ..." perhaps due to the "proprietary culture" of BPMs. Architects also expressed strong preferences for dealing with "an informed sales force, armed with technical information and specifications." *Architects Offer Advice to Building Product Suppliers*, Engineering News-Record (2017).