



## **From Conception to Certification – The Development of Certified Protocols**

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Gainesville, FL – “The Building Envelope Science institute has developed a cost effective protocol that can certify remediation of defective Chinese drywall,” says Charlie Jones, member of the board of directors for the institute. The institute, with the help of a workgroup called Defective Drywall in America (DDIA), has worked day and night to bring about a cost effective protocol that helps homeowners and builders who have been devastated by the Chinese drywall disaster. “The institute and its members have an ongoing commitment to helping those who have been devastated by this crisis,” said Jones. The institute understands that standardization of inspection and remediation protocols are essential in bringing a viable solution to the current crisis. The institute together with the other members of the DDIA workgroup completed the systems for the protocols in October 2009 that allows homes to be certified clean and be provided with a proposed home warranty from National Construction Warranty Corporation. In fact, the certification program offered through the Institute (BESI) instructs and trains licensed and approved state contractors in the remediation of defective drywall.

The proposed warranty is contingent on all the drywall being removed and replaced by tested domestic products. The certification and proposed warranty is also available for homes that do not have defective drywall to help prevent loss of resale value that is currently plaguing the residential real estate market. Spiderman S. Mulholland, a leading building forensic expert of U S Building Consultants, Inc. (USBCI), was one of the system design architects who helped take on the challenge of developing and testing the protocols. Mulholland recently said, “the development of this specific protocols for defective drywall were some of the most difficult based on all the dynamics involved with the process”. The development of remediation protocols are not new to Mr. Mulholland who has previously helped author two (2) other national certification programs and was an instructor on a national level for over 15 years. “I wanted to be part of a team that could focus on a proven and cost effective system of remediation so we could insure people would not have to go through this nightmare twice,” said Mulholland.



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### **The Protocols**

Homeowners, builders, Banks, Insurance companies, investors and tradesmen in the construction industry have to be aware of remediation efforts that will help or harm clients across the nation that have found themselves in the biggest Environmental disaster in U. S. housing history. Convincing people to leave the drywall in their homes, in our opinion, is a failed methodology when it comes to basic remediation efforts. Our early attempts at leaving the drywall in these homes proved to be too difficult and exposed either the contractor to large liabilities or home owners to sign off on issues that could come back and hurt them later. Protecting their number one investment and resale value was a very difficult challenge as we moved through the process of remediation. We knew the first priority should be remove the source and restore human health and life safety of the occupants along with the integrity of the structure. The institute decided that if we could not achieve these basic elements in any of the systems, the direction should not even be considered as a viable solution moving forward. We also determined, because a lot of the science is new and a lot of unknowns exist, that enough redundancies should be included which would allow for some flexibility and protection should one or two of the elements fail. We all understood that we had only one shot in properly remediating the problems associated with defective and corrosive drywall.

Based on the Institutes remediation experts and others in the work group, it was determined that the drywall could not be left in a home and that source removal was the only safe and effective way to achieve all the goals of the program. Based on other standard remediation practices, it was noted that source removal by far was the most recommended and acceptable practice in the industry.

Research of homeowners both in the workgroup and outside the workgroup made it perfectly clear that they did not want a Band-Aid solution when it comes to their number one investment; they want real solutions that are both economical and scientific sound.

The “BESI System” as it’s called, pulled resources from the workgroup for Defective Drywall in America (DDIA) which included top analytical scientists, chemists, toxicologists, a major university, consultants in the environmental field and twelve (12) business sectors that were considered in the development and analysis.



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The designed approach is simple and cost effective which includes, remove the defective product, remove the toxic chemicals out of the construction materials through a diffusion process, remove damaged construction materials (i.e. copper wiring), chemically treat the wood and construction materials left in the home, decontaminate the owners' belongings, certify the process with third-party inspections and peer review, and submit the paperwork for a proposed home warranty while maintaining a check and balance system to ensure quality control.

### **What makes it certified?**

The Merriam-Webster online dictionary ([www.merriam-webster.com/dictionary](http://www.merriam-webster.com/dictionary)) provides the following definitions.

Certify - to attest authoritatively, to attest as being true, to guarantee, to recognize as having met special qualifications (as of a governmental agency or professional board)

Certified - having earned certification, genuine, authentic

Authentic - authoritative, worthy of acceptance/belief as conforming to or based on fact

First, the basis of the system or protocols was to get a group working together for the same cause. This would require numerous hours of hands-on inspections, research, networking with top professionals in a variety of specialties (toxicology, metallurgical & failure analysis engineering, chemist, professors in analytical sciences, etc.), and having independent laboratories that included Analytical Research Systems, Inc. (ARS, Inc.), Centek Laboratories, LLC, Unified Engineering, Inc., Columbia Analytical Services, Inc., Assured Biotechnology Corporation, BSC Laboratories, Inc., and the University of Florida (ATCL, MAIC, MSE, & UFTTG) performing analytical testing and/or review of documentation pertaining to defective drywall.

The protocols were to be based on known facts collected during inspections and research/analysis conducted by qualified professionals over several months that involved peer review of each step of the way to the final protocols. The protocols by design would be considered a work-in-progress, meaning that as more scientific methods become available the protocols would be flexible enough to adapt to the new information; BETA testing of the first twenty five homes became a requirement said Chris Burton, owner of National Construction Warranty Corporation. We needed to test and re-test the protocol not only in the laboratory but



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also in the field. We also needed to adapt the protocol quickly as new technological advances and information became available from local state and governmental sources.

Secondly, the home inspections performed by Certified Defective Drywall Inspectors (CDDI) require a peer review for accuracy, clarity, and thoroughness; and the remediation process requires third-party inspections by Certified Defective Drywall Consultants (CDDC) to validate that the remediation protocol was properly followed by the Certified Defective Drywall Remediator (CDDR) and a peer review of the consultant's report is conducted for final validation before submittal to the National Construction Warranty Corporation for the proposed home warranty. The protocols have a built-in quality control mechanism that utilizes the third-party inspectors and peer review to ensure the quality and consistency of the inspection and remediation processes.

The professionals in the DDIA workgroup and at the Institute have established special qualifications for those that are being certified, for instance a consultant or remediator is required to have a minimum of seven (7) years experience as field supervisor, project manager, building/general contractor, construction consultant in the environmental, restoration or general construction field or related industry and provide written proof of such. Two of the five years can be accredited for a four-year college degree or better. Additionally, industry professionals who have been actively engaged in the construction field automatically qualify such as State Certified Building or General Contractor, Architect, or Engineer. You may go to the Institute's (BESI) website at [www.BESInstitute.org](http://www.BESInstitute.org) for the pre-qualification requirements for each certified designation along with a photo gallery showing snap shots during the development of the protocols for defective drywall.

The heartbeat of the program was to design a cost effective system with enough redundancies that would guarantee a successful remediation and bring back as much home or building value as possible. This was the mission of the institute and it continues today on this path to help those have been devastated by this crisis.