

**Remediation Guidance**  
**for Homes with Corrosion from Problem Drywall as of March 18, 2011**<sup>1</sup>

by the U.S. Consumer Product Safety Commission  
and the U.S. Department of Housing and Urban Development

**Introduction**

This Remediation Guidance summarizes what the staffs of the U.S. Consumer Product Safety Commission (CPSC) and the U.S. Department of Housing and Urban Development (HUD) believe is an effective approach to address potential health and safety issues for the remediation of houses affected by problem drywall, given the information now available.<sup>2</sup> Initial studies found a strong association between the presence of problem drywall and corrosion of metal in homes. Based upon those findings, the CPSC and HUD have developed this guidance that focuses on the replacement of problem drywall and building components for which drywall-induced corrosion might cause a health or safety problem. This version supersedes prior versions of this Guidance.

CPSC staff and HUD staff recognize that many homeowners want to begin the process of repairing their homes. This revised Guidance is designed as a conservative, common sense approach to assist homeowners in making some of the challenging decisions they face remediating their homes. Should additional scientific information become available suggesting that less extensive or costly remediation methods would work, CPSC staff and HUD staff will consider the evidence and we will update our protocol is appropriate.

**Remediation Guidance**

This Remediation Guidance for homes with problem drywall calls for the replacement of all:

1. **possible problem drywall;**
2. **fire safety alarm devices** (including smoke alarms and carbon monoxide alarms);
3. **electrical distribution components** (including receptacles, switches, and circuit breakers, but not necessarily wiring); and
4. **gas service piping and fire suppression sprinkler systems.**

All testing and remediation work should be conducted in compliance with applicable building codes, occupational safety and health standards, and environmental regulations.

**Discussion**

This Remediation Guidance intends to address possible health and safety hazards related to corrosion in drywall homes by: (1) eliminating the source of the corrosion—the problem drywall, and (2) replacing building components for which drywall-induced corrosion might cause a safety problem, such as fire safety alarm devices, electrical components, gas service piping, and fire suppression sprinkler systems.

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<sup>1</sup> This is a staff document, and has not been reviewed or approved by, and may not necessarily reflect the views of, the Commission or the Department.

<sup>2</sup> This remediation guidance is not intended to address any non-health and safety remediation requirements, nor does it address what, if any, additional elements of a home may require remediation in order to accomplish the principles set forth herein. The Task Force recognizes that additional considerations for repair of economic damages have been included in both court-ordered remediation plans and voluntary remediation plans agreed upon by various parties, including homeowners and those in the supply chain. This Remediation Guidance does not address such economic considerations that lie outside the scope of health and safety, but which are nonetheless of great import to all parties involved.

As a threshold matter, before remediation, care should be taken to determine whether the house has problem drywall. The CPSC staff and HUD staff issued guidance,<sup>3</sup> to assist in such determinations.

Where a house has been identified as having problem drywall, the scientific and practical challenges of finding individual problem sheets of drywall remain. Until such challenges are overcome, this Remediation Guidance calls for the general replacement of drywall in an identified home. If a portion of the drywall in a home can be identified reasonably to not be problem drywall, because it is known to have been installed prior to the relevant time period (*i.e.*, before 2001), and if there are no other corroborating conditions, as provided in the CPSC staff and HUD staff guidance on identification, which indicate that the drywall is problem drywall, one option is to leave that drywall in place.

Replacement of all fire safety alarm systems, electrical components (but not necessarily the wiring), gas service piping, and fire suppression sprinkler systems should address the metal components in the home at greatest risk of being affected by drywall-induced corrosion in a way that may affect the occupants' safety.

CPSC staff's assessment of the effect of problem drywall-related corrosion on electrical distribution components, including receptacles, switches, ground fault circuit interrupters, and circuit breakers has not revealed any safety-related failures.<sup>4</sup> Corrosion of exposed contact surfaces was observed on devices harvested from affected homes, as well as on new devices subjected to an accelerated corrosion regimen at Sandia National Laboratories to simulate 40 years of exposure. However, although no significant degradation of the electrical connections to the devices was noted, extensive corrosion was present and replacement of receptacles, switches, ground-fault circuit interrupters, and circuit breakers is recommended out of an abundance of caution.

CPSC staff's assessment of the effect of problem drywall-related corrosion on electrical distribution wiring indicated that exposed copper wires were corroded.<sup>4</sup> However, the corrosion was superficial and did not significantly reduce the overall cross-section of copper, and thus, did not decrease the wire's ability to carry its rated current. Removal or cleaning of the exposed ends of the wiring to reveal a clean/uncorroded surface is recommended. Removal/replacement of cable runs is not necessary, unless the remaining cable has been damaged during drywall removal. However, all repairs must comply with local codes, and final approval of the installation is at the discretion of the authority having jurisdiction.

The staffs of CPSC and HUD are aware that some remediation efforts have included the replacement of electrical wiring, water service plumbing, HVAC (heating, ventilation and air conditioning) evaporator coils, furnishings, and carpeting. Homeowners may seek to replace such items, but their replacement is not included in this Guidance because of the absence of a direct connection to safety.

The staffs of CPSC and HUD continue to recognize that other remediation approaches ultimately could prove more cost-effective and/or less invasive, such as the preservation of gas service piping; however, additional study is required on such approaches. Ongoing CPSC staff studies on long-term corrosion, due later in 2011, should provide relevant scientific information.

Homeowners should recognize that homes can suffer from corrosion unrelated to drywall, and that such other corrosion problems may not be resolved by addressing the drywall.

#### *Other Building Materials and Contents:*

Underlying the CPSC staff and HUD staff recommendations is the view that removal of the source material (*i.e.*, the problem drywall), will eliminate the cause of the corrosive environment. The staffs of CPSC and

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<sup>3</sup> [www.cpsc.gov/info/drywall/IDguidance031811.pdf](http://www.cpsc.gov/info/drywall/IDguidance031811.pdf), March 18, 2011.

<sup>4</sup> [www.cpsc.gov/info/drywall/electrical031811.pdf](http://www.cpsc.gov/info/drywall/electrical031811.pdf), March 18, 2011.

HUD do not have a scientific basis to believe that emissions from the problem drywall require replacement of non-problem drywall, wood studs, flooring, cabinetry, or other household components and fixtures that may have been exposed to the drywall emissions.

The staffs of CPSC and HUD understand, however, that certain other building materials and contents could be affected or require replacement in the course of the practical construction or engineering steps required to undertake the remediation described in this guidance. The staffs of CPSC and HUD do not offer any view on the replacement of other affected metals, home electronics, or personal property.

*Drywall Dust Clean-Up:*

During the remediation, it is important to ensure that the home is cleaned to remove any visible drywall dust and debris that was created during the demolition, including material that is on and around framing material, prior to commencing reconstruction.

The staffs of CPSC and HUD are aware that some parties who are remediating homes with problem drywall use HEPA (high efficiency particulate air) vacuums and wipe surfaces to remove drywall dust, and ventilate the home for a period between removal and replacement of drywall to insure that all reactive sulfur gases have dissipated. We do not have a scientific basis for recommending such steps, but homeowners may consider these options as they seek to make an informed decision in their particular situation.

*Additional Issues:*

The staffs of CPSC and HUD are aware that some parties offer remediation approaches other than the replacement of problem drywall and affected metal components. We do not have a scientific basis to provide an opinion of such approaches.

Consumers should exercise caution in contracting for testing and remediation and should be diligent in confirming the references, qualifications, and backgrounds of individuals and firms that offer such services.<sup>5</sup> Consumers should request that individuals and firms that offer remediation strategies that differ significantly from this Guidance explain those strategies to the consumer's satisfaction before the consumer's purchase of those services or products.

**Continuing Development of this Guidance**

Scientific investigations to understand the complex problems presented by the issue of problem drywall are wrapping up. The scientific work completed, to date, by the Federal Interagency Task Force has been essential to building the foundation for decision making by homeowners and local, state, and federal authorities.<sup>6</sup> The investigation continues to expand our understanding of this issue—but the current information is sufficient to provide this Remediation Guidance for homes with corrosion from problem drywall.

More information on problem drywall is available at the Federal Drywall Information Center website, [www.drywallresponse.gov](http://www.drywallresponse.gov).

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<sup>5</sup> FTC Consumer Alert, "Defective Imported Drywall: Don't Get Nailed by Bogus Tests and Treatments," [www.ftc.gov/bcp/edu/pubs/consumer/alerts/alt164.pdf](http://www.ftc.gov/bcp/edu/pubs/consumer/alerts/alt164.pdf), December 2009.

<sup>6</sup> Reports and information regarding problem drywall can be found at [www.drywallresponse.gov](http://www.drywallresponse.gov).