

# Standard Specification for the Production of Recycled Gypsum from Scrap Gypsum Drywall

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## Executive Summary

Construction and demolition (C&D) debris is one of the largest waste streams in the United States with an estimated 534 million tons produced in 2014. Gypsum drywall accounts for 2.5% of the total C&D debris generated annually and 12% of construction debris. Currently, an estimated 5% of gypsum drywall is recycled annually. Most of the material is landfilled, and this results in hydrogen sulfide gas formation, a source of odor and potential health concerns. Several markets



currently exist for recycling gypsum drywall, including use in new drywall production, agriculture amendments, and cement production. Recycling all of the gypsum drywall generated in the U.S. in 2014 would save 35.6 million BTU, equivalent to the energy needed to power almost 400,000 homes in the U.S. for one year. The Construction and Demolition Recycling Association (CDRA) has developed a standard specification to provide recyclers with information for classifying and processing scrap drywall to produce recycled gypsum for various markets and aid regulators in developing criteria for scrap drywall recycling ([www.cdrecycling.org](http://www.cdrecycling.org)).

The CDRA's standard specification describes the sources of drywall to aid in developing acceptance criteria for scrap drywall as part of the facility permit application to the appropriate state regulatory agency. The source of scrap drywall influences the level of processing required and the final recycled gypsum product. While most states do not currently have specific regulations regarding scrap drywall, some states do provide allowance for recycling of construction and demolition scrap drywall and beneficially reusing recycled gypsum.



Multiple options and technologies are available to process scrap drywall with some factors dependent on the desired product specifications and the target market. During processing, the scrap drywall is reduced to a powder and the paper is separated from the gypsum. The physical and chemical properties of the recycled gypsum should be tested to ensure product meets specifications for various markets and applications. The chemical concentrations can be compared to regulatory risk thresholds or land application standards to ensure the

product can be reused safely. After the product is approved for beneficial reuse it can be sold as a recycled gypsum product. The standard specification created by the CDRA includes information on accepting, processing, and preparing a recycled gypsum product that meets regulatory standards and ultimately saves landfill space and saves energy.