

## Alternative Assessment with Lead and Elemental Analysis Conducted for Triad Recycling and Energy

Triad Recycling and Energy (Triad), located in Tonawanda, New York, is a waste management firm that specializes in recycling materials from new construction and demolition applications. Triad serves Western New York from Niagara Falls to Jamestown, including the Rochester area.

One of the materials Triad currently recycles is unpainted drywall for use as a raw material in three key products: animal bedding, soil amendment, and the Gyp Dry™ Eco-Friendly Absorbent product. The current supply of unpainted drywall feedstock comes as scrap from new building construction sites.

### Challenge

Triad has recognized an opportunity to strengthen its supply chain by expanding the types of drywall that can be reused or recycled to include materials that have been painted or otherwise coated. Developing the capacity to handle these materials would mean that Triad could accept end-of-life drywall materials from post-use and post-deconstruction sources. As a result, they could offer a greater supply stream and increase waste diversion while potentially lowering the cost of feedstock for their recycled products.

Triad was interested in investigating whether the possibility of lead paint contamination in end-of-life demolition drywall scrap would affect the suitability of that material, for use in recycled products, in light of existing regulations on lead concentrations in those products themselves.

### Solution

The New York State Pollution Prevention Institute (NYSP21) worked with Triad to research beneficial and alternative uses for painted gypsum drywall. In support of this effort, NYSP21 performed analyses of drywall samples, and identified and assessed potential pathways for beneficial reuse of painted gypsum drywall based on the balance of physical, economic, and regulatory limits of its constituent materials.

The samples collected, provided NYSP21 with the knowledge to understand how paint and coatings applied during use may affect the material's capacity for recycling and how coating materials may affect human and environmental health once processed and reused. Additionally, NYSP21 identified alternative uses for gypsum drywall approved by relevant regulatory authorities, as well as element-specific regulations associated with those uses.

### Results

NYSP21 identified some key results based on the assessment conducted:

- Based on the average lead concentration of the samples tested, Triad may extend its use of drywall waste of recycled gypsum products to include end-of-life painted drywall

### CHALLENGE

- Triad wanted to investigate whether the possibility of lead paint contamination in end-of-life demolition drywall scrap would affect the suitability for use in recycled products

### SOLUTION

- NYSP21 worked with Triad to research beneficial and alternative uses for painted gypsum drywall
- Analyses of the drywall samples were conducted and potential pathways for beneficial reuse of painted gypsum drywall were identified and assessed
- NYSP21 identified alternative uses for gypsum drywall approved by relevant regulatory authorities, as well as element-specific regulations associated with those use

### RESULTS

- NYSP21 identified some key results based on the assessment conducted, which helps Triad better understand the impacts of lead paint in end-of-life demolition drywall scrap

- There are four market opportunities beyond Triad's current activities for which painted gypsum drywall is viable feedstock
- Triad may contribute significantly to the extension of product life and the circularization of its local industrial economy in both economically valuable and socio-ecologically meaningful ways

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Funding provided by the Environmental Protection Fund as administered by the New York State Department of Environmental Conservation. © 2018 Rochester Institute of Technology. Any opinions, results, findings, and/or interpretations of data contained herein are the responsibility of Rochester Institute of Technology and its NYS Pollution Prevention Institute and do not represent the opinions, interpretation or policy of the State.

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