



RESPONSIBLE FOR A LIFETIME



FIBER GLASS AND MINERAL WOOL INSTALL SAFELY AND HELP MAKE A LASTING, POSITIVE IMPACT.

A responsible choice when recommended work practices are followed.

Renewable and Recycled Content

Fiber glass and mineral wool (rock and slag wool) offer products with high renewable and recycled content. Fiber glass is made from sand, an abundant and renewable resource, and an average of 50% (up to 70%) recycled glass cullet. Rock wool is made of natural rock and

43.8 BILLION
POUNDS OF RECYCLED MATERIALS
DIVERTED FROM THE WASTE STREAM²

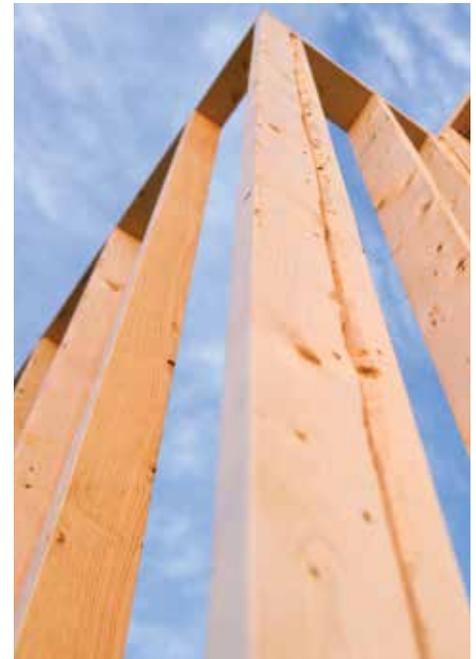
contains an average of 10–15% recycled blast furnace slag. Finally, slag wool contains an average of 70% (up to 90%) recycled blast furnace slag.¹ Because of these high recycled contents, NAIMA members' plants have diverted more than 43.8 billion pounds of recycled materials from the waste streams since 1992.²

Robust Product Standards

As some of the most thoroughly tested insulation products on the market, fiber glass and mineral wool are safe to use when recommended work practices are followed. Because they are naturally noncombustible, the insulation fibers also contain no chemical fire retardants like those required in other insulation types.³ Spray polyurethane foam has little known health and safety testing, and organizations such as OSHA, NIOSH and the EPA have all expressed concerns about worker and job-site safety, as well as the health effects of spray foam.^{4,5,6,7}

Firefighting organizations are also expressing concerns about the ignition and fire-spread hazards associated with spray foam.⁸ Because closed cell spray foam cures via exothermic reaction, it must be built up in a series of less than 2" thick layers that must fully cure before the

next layer is applied. Rushing this process traps heat generated during the curing process and has resulted in charring and self-ignition within the framing cavity.^{9,10}

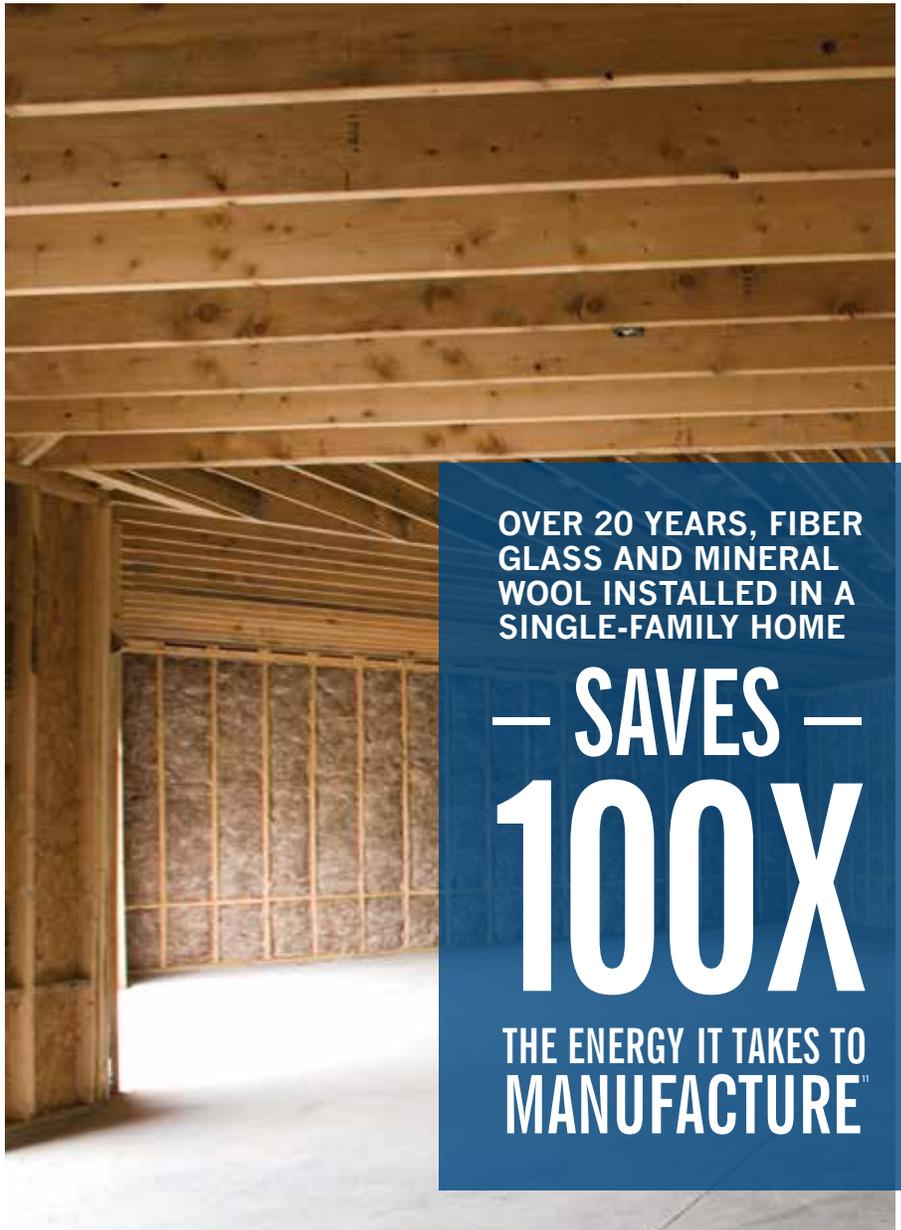


Lasting Energy Savings, Minimal Waste

Fiber glass and mineral wool are among the most viable insulations for reducing our carbon footprint. That's because the energy it takes to produce them is saved within a short period after installation. In fact, a typical pound of fiber glass or mineral wool insulation saves 12 times as much energy in its first year in place as the energy used to produce it, and continues saving for the life of the building.¹¹ Fiber glass and mineral wool can also be installed with minimal waste. On the typical open cell spray foam job, up to one-fifth of material used ends up as waste.¹²

Minimal Safety Equipment Required

Installing fiber glass and mineral wool batts requires minimal safety equipment, including gloves, protective eyewear and an optional dust mask. With spray foam, installers must wear specialized expensive personal protective equipment, including full-face supplied-air respirators and chemical protective clothing to shield themselves against emissions.^{4,5,7,13}



OVER 20 YEARS, FIBER
GLASS AND MINERAL
WOOL INSTALLED IN A
SINGLE-FAMILY HOME

— SAVES —
100X
THE ENERGY IT TAKES TO
MANUFACTURE¹¹

Get the Facts for a Stronger Business

Discover more insulation knowledge at InsulationInstitute.org/Responsible

NAIMA
NORTH AMERICAN INSULATION
MANUFACTURERS ASSOCIATION

¹ "Fiber Glass and Rock and Slag Wool Insulation – Materials for a Sustainable Planet," NAIMA Pub. No. N012, October 2013

² Based on a 2012 survey of NAIMA Members use of pre- and post-consumer recycled materials in their products from 2008-2011. Includes data from the U.S. and Canada.

³ EPA, OSHA and NIOSH have recently elevated safety concerns with spray foam insulation related to worker and jobsite exposure, as well as ongoing chemical exposure to building occupants. Environmental News Service, April 16, 2011 "EPA Considers Ban on Dangerous Chemicals in Spray Foam Insulation"

⁴ "Green Job Hazards: Weather Insulating/Sealing: Chemical Hazards - SPF/Isocyanates," United States Department of Labor, https://www.osha.gov/dep/greenjobs/spf_chemical.html

⁵ "NIOSH Overview: Spray Polyurethane Foam Processes," <http://www.sprayfoam.org/files/docs/2011/Agency%20Report%20-%20NIOSH.pdf>

⁶ "Spray Polyurethane Foam (SPF)," Environmental Protection Agency, http://www.epa.gov/dfe/pubs/projects/spf/spray_polyurethane_foam.html

⁷ "What You Need to Know About the Safe Use of Spray Polyurethane Foam (SPF)," Environmental Protection Agency, http://www.epa.gov/dfe/spf_presentation_2009_epa_osha_niosh_cpssc.pdf

⁸ "Bridging the Gap: Fire Safety and Green Buildings Guide," National Association of State Fire Marshals, <http://www.firemarshals.org/greenbuilding/bridgingthegap.html>

⁹ "Spray Polyurethane Foam Insulation: Safe use and handling guidelines for installers," BaySystems, <http://www.greenbuildercollege.com/studyguides/BaySystemsSprayInsulation.pdf>

¹⁰ "Closed Cell Polyurethans Spray Foam Insulation," VolatileFree Inc., <http://www.volatilefree.com/pdfs/product-data/VFI-714.pdf>

¹¹ Green and Competitive: The Energy, Environmental, and Economic Benefits of Fiber Glass and Mineral Wool Insulation Products," Energy Conservation Management; The Alliance to Save Energy; and Barakat & Chamberlin, 1996

¹² "Calculating Yield in Sprayfoam Applications," <http://www.masonknowles.com/articles>

¹³ "Steps to Control Exposure," Environmental Protection Agency, http://www.epa.gov/dfe/pubs/projects/spf/steps_to_control_exposure.html#contractors

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