NU-WOOL®

PREMIUM CELLULOSE INSULATION

GREEN Since 1949

Good for the Environment

Good for your Building

Good for your Budget

Take a Positive Step

Table of Contents

Premium Insulation. Premium Performance. Premium Value.

Choose Nu-Wool to ensure premium performance

:: Environmentally Sound - Naturally GREEN product from a naturally GREEN manufacturer

:: Energy Savings - Up to 40%* on heating and cooling costs compared to fiberglass insulation

:: Superior Sound Control - Notice the "quietness" with Nu-Wool

:: Competitively Priced - One of the best values on the market

:: Higher "Effective R-value"

:: Longer Fire Resistance - Industry leading firewall designs

:: Qualifies for LEED and Green Built

:: UL Classified - Nu-Wool is the longest running UL classified product in the cellulose insulation industry

Nu-Wool Co., Inc. has over 60 years of proven performance standards!

Nu-Wool Premium Cellulose Insulation

Nu-Wool Premium Cellulose Insulation is an energy-saving insulation made from recycled paper. With its superior thermal and air infiltration properties, it is installed in both attics and walls of residential and commercial buildings. This environmentally friendly, "GREEN" insulation provides savings of up to 40%* on energy bills when compared to fiberglass insulation. In addition to energy savings, Nu-Wool Premium Cellulose Insulation provides quiet, comfortable, draft-free buildings. A product high in R-value (3.8 per inch), Nu-Wool Premium Cellulose Insulation is manufactured by Nu-Wool Co., Inc., a business with 60 years of proven performance standards.

The Nu-Wool WALLSEAL System

Nu-Wool WALLSEAL is a spray-in-place cellulose insulation product that is applied to the wall cavities of new construction, eliminating the voids and air pockets common with other insulation materials. Installed to a density of 3.0 to 3.5 lbs/ft^3, Nu-Wool WALLSEAL will not settle in the wall cavity. Fibers attach to the sheathing and studs, forming a seamless bond inside the wall cavity. Whether working toward LEED, the Green Building standard, or just trying to control energy bills, sound transmission or overall comfort, Nu-Wool delivers premium performance in a guaranteed product. Plus, WALLSEAL works with both steel and wood stud framing.

Nu-Wool is superior in performance to fiberglass insulation

Nu-Wool WALLSEAL is sprayed in place, eliminating the voids and air pockets common with other insulation materials. Density, or weight per cubic foot, which is important in reducing air infiltration and increasing "Effective R-value", is more consistent with the Nu-Wool WALLSEAL system. Since you can actually see the insulation in place, you will know that all of the areas in a wall are insulated.

Nu-Wool WALLSEAL Fire and Sound Insulation

Nu-Wool WALLSEAL Fire and Sound Insulation is a new product specially formulated for use in the U382 firewall assembly, which achieved an industry first 2.5 hour rating (see page 8 for complete U382 firewall assembly data).

The GREENEST of the GREEN

A Naturally "GREEN" Product

Nu-Wool was GREEN long before Green Building existed. With its low embodied energy, high recycled content and superior energy saving performance, Nu-Wool Premium Cellulose Insulation is without question the GREENEST insulation product in the market place.

Sixty years ago, Nu-Wool Co., Inc. began using recycled newspaper to manufacture its environmentally safe and effective cellulose insulation. Converting recycled paper to insulation used in the walls, attics and floors of buildings helps keep it out of landfills, where it has the potential to pollute the environment. Recycling paper also reduces the number of trees used to produce new paper. The amount of Nu-Wool Premium Cellulose Insulation in an average-sized new home is the equivalent of 39 trees!

Nu-Wool processes over 150 tons of recycled paper each business day. That's the equivalent of 2,550 trees per day!

Using Nu-Wool Premium Cellulose Insulation is more than a smart choice for its comfort and savings benefit, it is environmentally friendly even in the manufacturing process. Cellulose Insulation is produced by processing recycled paper through electrically driven mills. Fiberglass insulation is made by melting sand and recovered glass in gas-fired furnaces. It takes at least 10 times more energy to manufacture fiberglass insulation and at least 40 times more energy to manufacture polyiso (foam) insulation than to produce cellulose insulation.

When you choose Nu-Wool Premium Cellulose Insulation, you are also choosing to reduce air-pollutants from electrical power and on-site combustion known to produce acid-rain and smog. Since less energy is used to manufacture cellulose insulation, and less fuel is consumed in buildings insulated with cellulose insulation, greenhouse emissions are greatly reduced.

Nu-Wool Premium Cellulose Insulation is without question the "GREENEST" insulation product in the marketplace.

Zero Waste Application

Unlike fiberglass insulation and spray foam insulation, the application process of Nu-Wool Premium Cellulose Insulation is also GREEN, because there is zero waste in its application. After spraying Nu-Wool Premium Cellulose Insulation into the wall cavity, all excess sprayed insulation is brushed off the wall and then vacuumed up to be reused, resulting in no product waste. Even the product packaging can be recycled! Fiberglass and foam insulation scrap and waste end up in landfills, where they have the potential to pollute the environment.

The Benefits of Nu-Wool

Superior Energy Savings – Saving you GREEN

A cellulose insulated building will obtain better performance under real-world conditions than a fiberglass insulated building of otherwise similar construction, according to university and independent studies.

In addition to energy savings from using Nu-Wool Premium Cellulose Insulation, heating and cooling equipment can be "right-sized". Since right-sized equipment is usually smaller and costs less, you can save valuable construction dollars and can extend the operating life of the equipment. Oversized heating and cooling units are inefficient and costly. Nu-Wool Co., Inc. provides HVAC sizing calculations for builders, architects and designers.

Because Nu-Wool Premium Cellulose Insulation reduces air infiltration better than conventional insulation materials, installing Nu-Wool and a right-sized HVAC system will result in improved comfort and efficiency, and longer HVAC life. Visit www.nuwool.com for more information on HVAC sizing.

Competitively Priced

Nu-Wool WALLSEAL delivers increased energy savings and superior sound control. Competitively priced compared to fiberglass insulation, it is one of the best values in the insulation market.

Nu-Wool Premium Cellulose Insulation creates quiet, comfortable, draft-free homes that are energy efficient and cost-saving

The Nu-Wool Guarantee

The performance of Nu-Wool Premium Cellulose Insulation is so consistent that Nu-Wool Co., Inc. guarantees the quality of its product and the amount of the heating and cooling bills in houses insulated with Nu-Wool Premium Cellulose Insulation.

Guaranteed Energy Program

Nu-Wool Co., Inc., through certified Nu-Wool WALLSEAL Dealers, offers a Guaranteed Energy Program for new homes insulated with Nu-Wool Premium Cellulose Insulation, at no cost to the homeowner or builder. This energy guarantee not only ensures savings on fuel bills, it can help home buyers add upgrades to their home without adding costs. Under this program, a home's heating and/or cooling bill is guaranteed for a period of three years. If energy bills exceed the guaranteed amount, Nu-Wool Co., Inc. will reimburse the homeowner 50% of the overage. For information on qualifying for the program, please contact your local Nu-Wool WALLSEAL dealer or visit www.nuwool.com.

More “Sound” Benefits

Sound Control – Notice the “quietness” with Nu-Wool Premium Cellulose Insulation

Rooms are noticeably quieter with Nu-Wool Premium Cellulose Insulation. Nu-Wool deadens the transfer of sound from one room to another. Hotels, motels, apartments, hospitals, nursing homes, schools, churches, and multi-unit complexes use Nu-Wool WALLSEAL in their walls and Nu-Wool Insulation in their floors and attics for sound control. Even sound studios use Nu-Wool WALLSEAL for its superior acoustical properties. Buildings insulated with WALLSEAL have a noticeable "quietness". The sharp sounds that easily transmit through fiberglass insulated structures are subdued by the increased mass of the WALLSEAL system.

Nu-Wool Premium Cellulose Insulation has been tested at Riverbank Acoustical Laboratories for Sound Transmission Classifications (STC). The higher the STC rating[+], the better the wall controls sound transmission The use of Nu-Wool WALLSEAL, a high-density wall insulation, will allow the architect or builder to achieve significant increases in STC ratings without additional cost. High density materials absorb sound better than low density materials. Nu-Wool WALLSEAL has an installed density of 3.0 to 3.5 lbs/ft^3, making it one of the best insulation materials available for sound absorption.

For STC ratings of wall assemblies insulated with Nu-Wool Insulation, please visit www.nuwool.com.

[+] *Sound Transmission Classification (STC) ratings apply to airborne sound only.*

Nu-Wool Premium Cellulose Insulation contains an EPA registered fungicide, making it resistant to the growth of mold

Resistant to the Growth of Mold

Nu-Wool Premium Cellulose Insulation is one of the few insulation products that contains a mold-fighting fungicide registered by the Environmental Protection Agency (EPA). While mold can grow on many different materials in a building, Nu-Wool Premium Cellulose Insulation resists the growth of mold even in conditions favorable to mold growth. The insulation is tested for mold growth by actually inoculating the insulation with the five most common fungi.

Under federal law, a claim of mold resistance can only be made by a product registered with the EPA as a fungicide, or by a product which contains a fungicide registered with the EPA for use in that product. Registration is achieved only after rigorous testing to ensure that the borate-based fungicide makes Nu-Wool Insulation resistant to the growth of mold, even when exposed to conditions favorable to the mold growth.

For more information about mold and moisture management, visit www.nuwool.com

Nu-Wool's Effective R-value

R-value -- 3.8 per inch

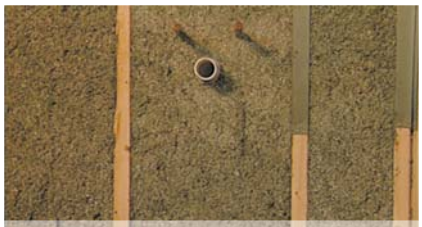
R-value is the measure of how well an insulation product resists the flow of heat and cold through it. A machine in a laboratory gives a relative number that can be used to compare products, but a laboratory R-value does not tell everything you need to know about the effectiveness of those products. Insulation in buildings is affected by air movement, and it is also degraded by any convection forces that develop within the insulation material.

Some insulation materials, through installation, may have more leaks, reducing the "Effective R-value." Nu-Wool Premium Cellulose Insulation, when properly installed, greatly reduces air leakage – providing a superior R-value in "real world" environments, where it counts.

GREEN Savings:

Nu-Wool's higher "Effective R-value" results in savings of up to 40%* on heating and cooling costs compared to fiberglass insulation.

Gaps and air pockets are common with fiberglass insulation materials.



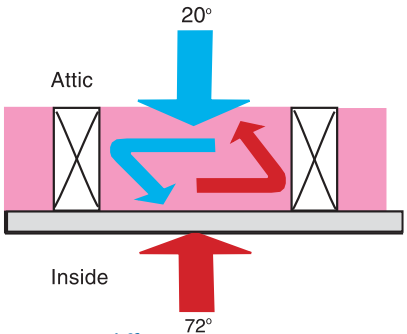
Nu-Wool WALLSEAL eliminates the gaps and air pockets

Nu-Wool reduces air infiltration better than conventional insulation materials, creating energy efficient buildings that feel warmer in the winter and cooler in the summer.

Air Leakage

Research shows that air leakage into and out of the building envelope is a primary factor in moisture accumulation and heat loss.

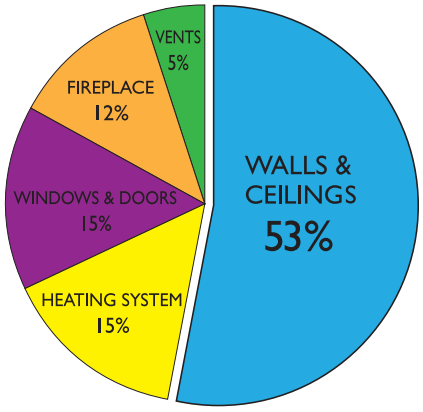
Because air infiltration can account for 25% to 45% of the total heat loss in a typical house, the R-value of an insulation material alone is not a true measure of its effectiveness.



Dramatic differences in air temperature create convective loops in fiberglass insulation. Because of its density, Nu-Wool Premium Cellulose Insulation reduces convective loops and the resulting heat loss.

Convective Loops

A convective loop, whether inside a wall cavity or in another part of the building structure, occurs when air rises along a warm surface and falls along a cold surface, creating a circular movement of warm and cold air.



House air leakage distribution

A convective loop transfers heat through the building assembly, requiring more energy to replace the lost heat in heating seasons and the lost cool air in cooling seasons.

Improper installation of fiberglass insulation, light density blown-in insulation and structural items such as a drop soffit in the kitchen can create a convective loop.

When properly installed, Nu-Wool Premium Cellulose Insulation greatly reduces air leakage - providing superior R-value in "real world" environments, where it counts.

GREEN and Code Compliant

Nu-Wool and LEED Certification

Designing today with future generations in mind, Nu-Wool Premium Cellulose Insulation is one the leading GREEN products available in today's market at cost-effective prices. The best choice for sound, fire and thermal protection, Nu-Wool helps LEED projects benefit with both additional qualifying points and unmatched economic savings year after year.

Because of Nu-Wool's high post consumer recycled content and energy efficient properties, projects using Nu-Wool Premium Cellulose Insulation can earn significant points towards LEED certification.

To see what LEED points Nu-Wool Premium Cellulose Insulation qualifies for, visit www.nuwool.com and click on the Architects link.

Dollar for Dollar, Nu-Wool provides up to 20 times more post-consumer recycled content than fiberglass

EXAMPLE	NU-WOOL	FIBERGLASS
Cost of Insulation	$15,000	$15,000
Post consumer recycled content	80%	4%
Dollar value to project	$12,750	$600

NAHB Green Building Standard

The National Association of Homebuilders has developed an ANSI approved green building standard for residential design, development and construction. Much like the LEED program, all facets of construction and development are looked at from an environmental sustainability and building performance perspective. Nu-Wool Premium Cellulose Insulation can help contribute points in several categories. Recycled content, locally produced and a preferred insulation as demonstrated by life cycle analysis are just a few of the areas where Nu-Wool Premium Cellulose Insulation excels.

The best choice for sound, fire and thermal protection, Nu-Wool helps LEED projects benefit with both additional qualifying points and unmatched economic savings year after year

Nu-Wool Premium Cellulose Insulation meets building code requirements

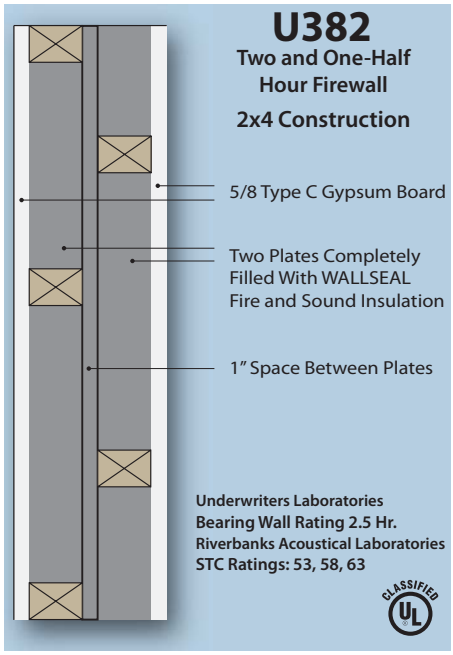
ES Report: ESR-2217

ICC Evaluation Service, Inc. (ICC-ES) is a nonprofit, public-benefit corporation that does technical evaluations of building products, components, methods, and materials. The evaluation process culminates with the issuance of technical reports that, because they directly address the issue of code compliance, are extremely useful to both regulatory agencies and building-product manufacturers. ICC-ES evaluation reports provide evidence that products and systems meet code requirements (www.icc-es.org). The complete ESR-2217 report of Nu-Wool Premium Cellulose Insulation is available at www.nuwool.com or www.icc-es.org.

Industry Leading, Cost Saving Firewalls

The U382 firewall from Nu-Wool :: 2.5 or 3 hours of Full Load Bearing Fire Protection

UL design U382 Firewall is a Nu-Wool proprietary design that is fully load bearing and offers two and one half hours of protection with only one layer of 5/8" Type C Drywall on each side. This design costs significantly less than other solutions on the market.



The U382 meets all the requirements of ASTM-E-119 and UL 263. The U382 also meets the requirements of shaft wall assemblies, and the independently loaded double wall assembly maintains its integrity beyond the nominal one-hour per side, giving the U382 a two and one half hour or three hour rating (depending on the number of layers of gypsum wallboard).

Each row of studs has a load of 10,932 pounds applied vertically to achieve the maximum working stress of wood studs in accordance with 2005 National Design Specifications for wood studs.

Nu-Wool Co., Inc. has developed WALLSEAL Fire and Sound Insulation specifically for use in the U382 firewall assembly. Green in color, WALLSEAL Fire and Sound Insulation has the same superior thermal and sound control properties of Nu-Wool WALLSEAL.

Cost Saving Two and One Half Hour Firewall

Using Only 2 layers 5/8 in. Type C Gypsum Wallboard
Design No. U382 - Underwriters Laboratories
Bearing Wall Rating 2.5 Hr.
Riverbank Acoustical Laboratories
STC Ratings: 53, 58, 63

STC tests were done on three configurations of the U382 assembly using:

1 layer of gypsum board per side: STC Rating 53
1 additional layer of gypsum board to one side: STC Rating 58
1 additional layer of gypsum board to each side : STC Rating 63

Better design, better protection, for less money. And it's UL tested!

Additional Firewalls from Nu-Wool

UL Design U360 is a 2-hour, load-bearing firewall that needs only three layers of 5/8" type X drywall, resulting in savings of 25% on drywall labor and materials. Sound-absorbing UL design U369 has a high STC rating of 58 making it the design choice for sound control.

All three of these innovative firewalls with limited layers of drywall successfully pass the stringent requirements of ANSI/UL 263 and ASTM E-119 because of the high density of Nu-Wool WALLSEAL, which slows the spread of fire by restricting the availability of oxygen. Nu-Wool WALLSEAL has also been approved for use in at least 50 additional UL approved firewalls.

Sound Absorbing Two-Hour Firewall

Using 4 layers 5/8 in. Type X Gypsum Wallboard
Design No. U369 - Underwriters Laboratories
Bearing Wall Rating 2 Hr.
Riverbank Acoustical Laboratories
STC Rating: 58

Cost Saving Two-Hour Firewall

Using Only 3 layers 5/8 in. Type X Gypsum Wallboard
Design No. U360 - Underwriters Laboratories
Bearing Wall Rating 2 Hr.
Riverbank Acoustical Laboratories
STC Rating: 51

Complete listing of all additional UL approved firewall designs that Nu-Wool WALLSEAL has been approved for are listed on page 12 of this publication.

The Specs on Nu-Wool

Cathedral Ceilings

Cathedral ceiling construction is inherently more prone to moisture damage than open attic construction, because cathedral ceiling construction may create isolated air spaces in rafter cavities. Although providing effective ventilation to attics with simple geometric, i.e. straight pitched, roofs is relatively easy and inexpensive, providing soffit and ridge ventilation to each individual cavity in today's cathedral ceilings may be impractical, and in many cases, impossible. For many years now, all across the country, the filling of cathedral ceilings has become quite common.

Packing insulation into cathedral ceilings with high-density insulation eliminates both the air pockets that cause moisture problems and the need for getting rid of condensation. The bulk of moisture moving into any insulated cavity is driven primarily by air. Stopping air movement should be the primary focus in insulating cathedral ceiling assemblies. High-density insulation, installed at greater than 3.0 lbs/ft^3, eliminates the voids and restricts the movement of air through the insulation.

Nu-Wool's Cathedral Ceiling Guarantee

When Nu-Wool Insulation is properly installed to a density of 3.0 lbs/ft^3 or greater in cathedral ceilings which are at least 10 inches in depth and use gypsum wallboard, Nu-Wool Co., Inc. guarantees those dense packed cathedral ceilings will perform without the need for air spaces above the insulation. The Nu-Wool warranty is in effect for any condition caused by properly installing Nu-Wool Insulation in this manner. Dense packed cathedral ceilings using gypsum wallboard, given adequate thickness, do not need to be ventilated. For cathedral ceilings other than gypsum wallboard, contact the Nu-Wool Technical Services Department.

Specifying Nu-Wool on your plans ensures performance and energy savings throughout the life of your structure.

Vapor Retarder

Due to the unique ability of Nu-Wool Premium Cellulose Insulation to resist air movement, and therefore, the transmission of moisture, Nu-Wool Co. Inc., advises that a vapor retarder is not necessary with the Nu-Wool WALLSEAL system in walls using gypsum wallboard. The installed density of Nu-Wool WALLSEAL far exceeds the installed density of fiberglass insulation products. This increased mass reduces the flow of water vapor into the insulated assembly, which is the main function of a vapor retarder.

Walls insulated with Nu-Wool WALLSEAL are effectively a vapor retarder when used with ordinary paint on gypsum wallboard. Moisture in the form of water vapor moves both directions through a wall – from the inside to the outside in winter, and from the outside to the inside in summer. Regardless of the season, the mass of Nu-Wool WALLSEAL greatly reduces the movement of water vapor through the wall, and its cellular structure manages any small amounts of moisture that do move into the wall. All of this is accomplished without losing any insulating properties.

Nu-Wool guarantees the proper application of Nu-Wool WALLSEAL without a vapor retarder in buildings with walls using gypsum wallboard and normal relative humidity levels. Vapor retarders are still necessary in buildings with high relative humidity levels, such as those with indoor pools. Many university research studies and building scientists have concluded that the vapor retarder provisions in building codes should be eliminated. Nu-Wool Company, Inc., along with the Department of Energy and others, is involved in work with the International Code Council to promote changes in the building codes relating to vapor retarders.

CSI 3-Part Specification

Product Guide Specification

Specifier Notes: This product guide specification is written according to the Construction Specifications Institute (CSI) 3-Part Format, including *MasterFormat, SectionFormat,* and *PageFormat,* as described in *The Project Resource Manual—CSI Manual of Practice, Fifth Edition.*

This section must be carefully reviewed and edited by the Architect to meet the requirements of the project and local building code. Coordinate this section with other specification sections and the Drawings. Delete all "Specifier Notes" after editing this section.

Section numbers are from *MasterFormat 1995 Edition*, with section numbers from *MasterFormat 2004 Edition* in parentheses. Delete version not required.

SECTION 07210 (07 21 00)
THERMAL INSULATION

Specifier Notes: This section covers Nu-Wool® Company, Inc. Nu-Wool® Premium Cellulose Insulation pneumatically blown dry into attics and floor assemblies and pneumatically sprayed damp into open wall cavities. Consult Nu-Wool Company, Inc. for assistance in editing this section for the specific application.

Nu-Wool Premium Cellulose Insulation may contribute points toward LEED™ certification. Consult Nu-Wool Company, Inc. for more information.

PART 1 GENERAL

1.1 SECTION INCLUDES

Specifier Notes: Edit the following paragraph for the specific application.

A. Cellulose Insulation:
   1. Pneumatically blown dry into attics and floor assemblies.
   2. Pneumatically sprayed damp into open wall cavities.

1.2 REFERENCE STANDARDS

Specifier Notes: List reference standards mentioned in this section, complete with designations and titles. Delete reference standards not included in this edited section. This article does not require compliance with reference standards, but is merely a listing of those used.

A. ASTM C 739 – Standard Specification for Cellulosic Fiber Loose-Fill Thermal Insulation.
B. ASTM E 84 – Standard Test Method for Surface Burning Characteristics of Building Materials.
C. ASTM E 119 – Standard Test Methods for Fire Tests of Building Construction and Materials.
D. CPSC Standard 16 CFR Parts 1209 and 1404.
E. UL 723 – Standard for Test for Surface Burning Characteristics of Building Materials.

1.3 SUBMITTALS

Specifier Notes: Edit submittal requirements as required. Delete submittals not required.

A. Comply with Section 01330 (01 33 00) – Submittal Procedures.
B. Product Data: Submit manufacturer's product data, including installation instructions.
C. Manufacturer's Certification: Submit manufacturer's certification that materials comply with specified requirements and are suitable for intended application.
D. Warranty Documentation: Submit manufacturer's standard warranty.

1.4 QUALITY ASSURANCE

A. Manufacturer's Qualifications: Manufacturer regularly engaged, for past 10 years, in manufacture of cellulose insulation of similar type to that specified.
B. Installer's Qualifications:
   1. Installer regularly engaged, for past 1 year, in installation of cellulose insulation of similar type to that specified.
   2. Employ persons trained for installation of cellulose insulation.
   3. Installer: Certified by cellulose insulation manufacturer.
   4. Installer's Equipment: Approved by cellulose insulation manufacturer.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Delivery and Acceptance Requirements: Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.
B. Storage and Handling Requirements:
   1. Store and handle materials in accordance with manufacturer's instructions.
   2. Keep materials in manufacturer's original, unopened containers and packaging until installation.
   3. Store materials in clean, dry area indoors.
   4. Protect materials during storage, handling, and installation to prevent damage.

PART 2 PRODUCTS

2.1 MANUFACTURER

A. Nu-Wool Company, Inc., 2472 Port Sheldon Street, Jenison, Michigan 49428. Toll Free (800) 748-0128. Phone (616) 669-0100. Fax (616) 669-2370. Website www.nuwool.com. E-mail info@nuwool.com.

2.2 THERMAL INSULATION

Specifier Notes: Nu-Wool Premium Cellulose Insulation is used for both methods of installation – pneumatically blown dry into attics and floor assemblies and pneumatically sprayed damp into open wall cavities.

A. Cellulose Insulation:
   1. Pneumatically Blown Dry into Attics and Floor Assemblies: Nu-Wool Premium Cellulose Insulation.
   2. Pneumatically Sprayed Damp into Open Wall Cavities: Nu-Wool WALLSEAL Insulation.

B. Material Description:
1. Manufactured from recycled newspapers.
2. Post-Consumer Recycled Content: 85 percent minimum.
3. Fibers: Treated with boric acid and sodium polyborate additives to create permanent flame resistance.
4. Fungicide Additive:
a. EPA registered.
b. Makes insulation resistant to mold growth.
5. Additives:
a. Non-toxic.
b. Non-corrosive.
c. Does not irritate normal skin.
d. Does not give off odor during or after installation.
e. Does not attract vermin or insects.
f. Does not adversely affect other building materials.

C. Compliance:
1. UL classified R-8078.
2. CPSC Standard 16 CFR Parts 1209 and 1404.
3. ASTM C 739.
4. ASTM E 119: Firewalls U382, U369a, U369b, U360.
5. ES Report ESR-2217.

D. Test Results:
1. Settled Density:
a. Maximum density after long-term settling of dry installation: 1.6 lbs per cu ft.
2. Thermal Resistance:
a. Average thermal resistance (R-value) per inch: 3.8.
3. Flammability Characteristics:
a. Critical Radiant Flux: 0.12 W/cm^2 minimum.
b. Smoldering Combustion: No evidence of flaming and weight loss of 15.0 percent maximum.
4. Moisture Vapor Sorption:
a. Moisture Gain in Insulation: 15 percent maximum by weight.
5. Environmental Characteristics:
a. When in contact with steel, copper, aluminum, or galvanized materials: Non-corrosive.
b. Does not support fungal growth.
6. Surface Burning Characteristics, ASTM E 84 and UL 723: Nu-Wool Premium Cellulose Insulation.
a. Flame Spread Index: 15.
b. Smoke Developed Index: 5.

PART 3 EXECUTION

3.1 EXAMINATION

A. Examine areas to receive cellulose insulation.
B. Notify Architect of conditions that would adversely affect installation or subsequent use.
C. Do not begin installation until unacceptable conditions are corrected.

3.2 PREPARATION

A. Protection of In-Place Conditions:
1. Protect adjacent surfaces, electrical boxes, open pipes, and register openings in accordance with manufacturer's instructions.
2. Protect adjacent surfaces from contact with pneumatically blown dry or pneumatically sprayed damp cellulose insulation.
3. Prevent cellulose insulation from plugging soffit vents in attics.

B. Preparation: Ensure mechanical, plumbing, electrical, and other utility installations have been completed before installation of cellulose insulation.

3.3 INSTALLATION

A. Install cellulose insulation in accordance with manufacturer's instructions at locations indicated on the Drawings.
B. Install cellulose insulation to uniform density without voids, gaps, or air pockets.
C. Install cellulose insulation to density and depth to achieve required R-values.
D. Pneumatically Blown Dry Cellulose Insulation:
1. Pneumatically blow cellulose insulation dry into attics and floor assemblies after mechanical, plumbing, electrical, and other utility installations have been completed.
2. Ensure heat-producing devices in attics have barriers constructed around them to prevent contact with cellulose insulation.
3. Install cellulose insulation to a density of 1.6 lbs. per cu. ft.

E. Pneumatically Sprayed Damp Cellulose Insulation:
1. Pneumatically spray cellulose insulation with controlled water fog for adhesion into open wall cavities after mechanical, plumbing, electrical, and other utility installations have been completed.
2. Install cellulose insulation to a density of 3.0 to 3.5 lbs. per cu. ft to prevent settling in wall cavities.
3. Use quantity of water in installation to ensure proper adhesion into wall cavities and proper density.

Specifier Notes: Insert the section number in the following sentence.

4. Install gypsum board to 2-by-4 walls as specified in Section _____ a minimum of 24 hours after installation of pneumatically sprayed damp cellulose insulation.

3.4 PROTECTION

A. Protect installed cellulose insulation from damage during construction.

END OF SECTION

Underwriters Laboratories Classification

Wall Cavity Insulation

NEW CONSTRUCTION:
Blown in with controlled water fog for adhesion.

DRYING TIME:
Can be covered with drywall in 24 hours. Total drying time, approximately 30 days.

SOUND CONTROL:
Airborne sounds are controlled by the product's density and its ability to completely fill stud cavities. These properties also control air infiltration from the exterior environment.

INSPECTION:
Integrity of insulation in walls can be verified through the use of an infrared survey.

Approved UL Firewall Designs

Nu-Wool WALLSEAL can be used in firewall designs that achieve one hour, two hour and two and one half hour protection.

Nu-Wool WALLSEAL is approved for use in the following UL-approved firewall designs:

U023	U032	U040	U053	U305	U309
U311	U333	U338	U339	U341	U342
U344	U354	U356	U360	U369	U382
U403	U411	U412	U420	U425	U426
U428	U429	U434	U435	U436	U438
U440	U462	U463	U465	U466	U467
U469	U477	U478	U495	U498	U499
U603	U611	U614	U618	U622	U646
U647	V410	V416	V421	V455	V472
V481					

Underwriters Laboratories Inc.
Classified Loose Fill Material R-8078
Classified in accordance with the following ASTM C-739 Characteristics.

Flammability Characteristics:

- Critical Radiant Flux: Greater than or equal to 0.12w/cm^3
- Smoldering Combustion: Less than or equal to 15.0%

Environmental Characteristics:

- Corrosiveness: Acceptable
- Fungal Growth: Acceptable

Physical Characteristics:

- Density (settled): 1.6 pcf
- Thermal Resistance: 3.8 R (in.) (HH-I-515-E)
- Moisture Absorption: Acceptable
- Odor Emission: Acceptable
- Starch Content: Negative

Underwriters Laboratories Inc.
Classified Spray Fiber R-13173

Surface burning characteristics applied to inorganic reinforced cement board with a maximum thickness of 5 inches*

Flame Spread **15**
Smoke Developed **5**

* Must be applied with water in accordance with the application instructions.

Participant in UL Follow-up Program

It is the goal of Nu-Wool Co., Inc. to manufacture a superior performing quality product. Because of the company's dedication to quality, Nu-Wool Co., Inc. participates in the Underwriters Laboratories Inc. follow-up program.

Participation in this program includes monthly inspections by UL staff at Nu-Wool's plant. UL also tests Nu-Wool Premium Cellulose Insulation annually at their laboratories in Northbrook, IL.

Nu-Wool Co., Inc. has continuously worked with UL since 1978, making Nu-Wool Insulation the longest running UL Classified product in the cellulose insulation industry.

Nu-Wool's commitment to UL is to insure customers that the product is tested and monitored by a highly respected third-party testing organization.

NU-WOOL®

PREMIUM CELLULOSE INSULATION

GREEN Since 1949

2472 Port Sheldon Street
Jenison, MI 49428
Call: 800.748.0128
Email: info@nuwool.com
www.nuwool.com

*Savings can vary. Find out why in the seller's fact sheet on R-values. Higher R-values mean greater insulating power.

** R-value testing is regulated by the Federal Trade Commission. The use of R-value tests allows the consumer to make choices based on the relative values for different products.

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