BENEFITS OF HAVELOCK WOOL

Improves Indoor Air Quality
Wool absorbs harmful chemicals such as formaldehyde, NOx and SO2.

Manages moisture
Wool absorbs and releases moisture and will not support the growth of mold.

Absorbs Sound
Wool exceeds other forms of insulation as an acoustic buffer.

Improves the Environment
Wool is sustainable, renewable and removes carbon from the atmosphere.

Basic Use
Havelock Wool is used in residential and commercial construction as thermal and acoustic insulation. It can be used in open attic areas, enclosed walls, floors, ceilings, basements and crawl spaces.

Composition & Materials
Havelock Wool insulation is 100% wool with no synthetic mix or chemical binders.

Durability
Havelock Wool insulation will last the life of the structure.

Warranty
50 year warranty against material defect; product to be of stated quality and R-value

Certifications

BUREAU OF HOUSEHOLD GOODS AND SERVICES · Declare. · hpdc · LEED CERTIFIED · U.S. GREEN BUILDING COUNCIL USGBC · ASTM INTERNATIONAL

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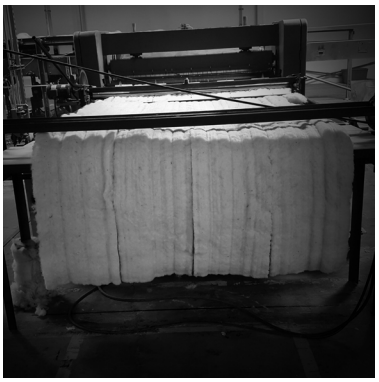
BATT INSULATION COVERAGE



R Value	Thickness	Width	S/F per Bag
7	2"	16" O/C	100
13	3.5"	16" O/C, 24" O/C	90, 120
20	5.5"	16" O/C, 24" O/C	60, 80

General

Installation procedures and techniques must be as recommended by Havelock Wool. Batts are typically cut at 48" and may need to be stretched slightly upon removal from packaging. Unfaced batts are applied with friction. A staple may be added at the installers discretion. Wire may be used in a ceiling joist or with steel framing.

Consistency

Batts are made with a needle punch; there is no bonding agent. This proves useful in installation as batts are somewhat malleable, as opposed to rigid and difficult to manipulate. This softer texture does require a bit of care in handling. Installers should be careful to grab the whole batt with an emphasis on the needled side, which should face out from the cavity.

A quick note on reloft

Wool does not appreciate compression. Clearly we need to use some in our packaging and shipping efforts. Each of our batts are the desired height when they are born. We have never seen a batt not regain its loft over time. Environmental conditions eg moisture levels can impact the process.

Detailed

Slice the bag open from top to bottom. Grab a grouping of batts and remove them from the bag; do not pull batts from the bag one at a time. Place as desired in the cavity with no gaps; apply a staple or 'lightning rod'. For simple cutting source a blade from bullet tools called the CenterFire Insulation Knife Kit. A link is here.

Link to Helpful Videos

Visit Havelock Wool Insulation's YouTube page for useful videos. Vist our YouTube page.

TECHNICAL DATA

PHYSICAL PROPERTIES

Property	Performance	Tests
Surface Burning	Flame Spread (Class A)	ASTM E-84
Fire Hazard	Smoke Developed (Class A)	ASTM E-84
Thermal Conductivity	Resistance Value (see previous charts)	ASTM C-518
Acoustics	Sound Absorption Coefficient (see below)	ASTM C-423
Water Vapor Transmission	108 ng/Pa•s•m	ASTM E-96
Moisture Storage Function	Moisture content 10% at 50% RH	ASTM C-1498
Fungi Resistance (Mold)	Pass	ASTM C-1338

SOUND ABSORPTION COEFFICIENTS AT 3.5 INCHES

Batts

125	250	500	1000	2000	4000	NRC
.72	0.94	0.91	0.85	0.93	0.98	0.90

*The Noise Reduction Coefficient (commonly abbreviated NRC) is a scalar representation of the amount of sound energy absorbed upon striking a particular surface. An NRC of 0 indicates perfect reflection; an NRC of 1 indicates perfect absorption.