HUNTSMAN

BUILDING SOLUTIONS

HEATLOK® SOYA HFO™

FOR A DURABLE, PROBLEM-FREE ROOF

The most important part of a building envelope is the roof. It protects us from rain, snow and harsh weather. The roof is also where the greatest heat loss occurs, which is why the Building Code requires the highest insulation value for this part of the building envelope. The roof is also a building part that frequently causes problems: poor ventilation, heat loss, ice dams, condensation, mold, water infiltration, etc. For both residential and commercial roofing, HEATLOK SOYA HFO is a simple, effective and lasting solution for insulating roofs and avoiding all of these problems.

With an average R-value of R-6/inch, HEATLOK SOYA HFO can be applied to the required thickness to meet the Building Code[1] requirements. Depending on the location of the project or the type of energy efficiency program chosen, an effective R-value may be required. The HBS team is available to make the calculation since the effective R-value is calculated specifically for each assembly. The product can be sprayed from the interior or exterior and offers seamless, continuous insulation. As per National Building Code[1], foam plastic insulation can function as the vapour barrier. The product, applied to a depth of only 1 ¼" (32 mm), acts as a vapour barrier, making an additional vapour barrier (polyethylene) unnecessary (an additional vapor barrier is required where the interior relative humidity is high, for example for indoor pools). Considering the many features and details in a roof, for instance: skylights, recessed lights, plumbing vents and chimneys, air and vapour barrier continuity – in short, envelope continuity – is often difficult to achieve. HEATLOK SOYA HFO expands 30 times its initial volume in 5 seconds and self-seals all these joints. Consequently, whether a new construction or a renovation, a cathedral ceiling, or a flat roof, HEATLOK SOYA HFO is the ideal choice.

NEW BUILDINGS-APPLICATION FROM THE INTERIOR

In most cases, insulation is sprayed from the inside. For a cathedral roof or flat roof, HEATLOK SOYA HFO is the ideal solution. Cathedral roofs are often problematic: not enough space to insulate, poor ventilation, condensation, etc. HEATLOK SOYA HFO adheres completely to the surface, preventing condensation from forming. Furthermore, the product will not pack down or shift over time. It will maintain its properties during the lifetime of the building.

If the roof structure and geometry allow space for venting, simply mount a rigid support panel (vent baffle) between the roof rafters, leaving at least 2.5" (65 mm) above the panel, for ventilation. HEATLOK SOYA HFO can then be sprayed directly to the underside of the rigid vent baffle. Continuity of the air barrier is key in this application. See HBS typical details for more information.

If there isn't enough space for venting, or if the roof geometry is too complex for adequate venting, the product can be sprayed directly onto the roof sheathing or, in the case of a flat roof, to the membrane substrate. This creates an unvented roof assembly. HEATLOK SOYA HFO acts as both air barrier and vapour barrier, fully sealing the roof in addition to providing maximum insulation. Numerous studies demonstrate the good performance of these types of roofs[2,3,4,5]. It is always recommended that an inspection of the roof be performed at least every two years to detect any deficiency in the shingles or roof membrane to prevent water damage.

For a roof with an attic or flat roof, the product can be applied from inside of the attic, directly to the interior sheathing or ceiling finish. The attic will then be vented and unheated.

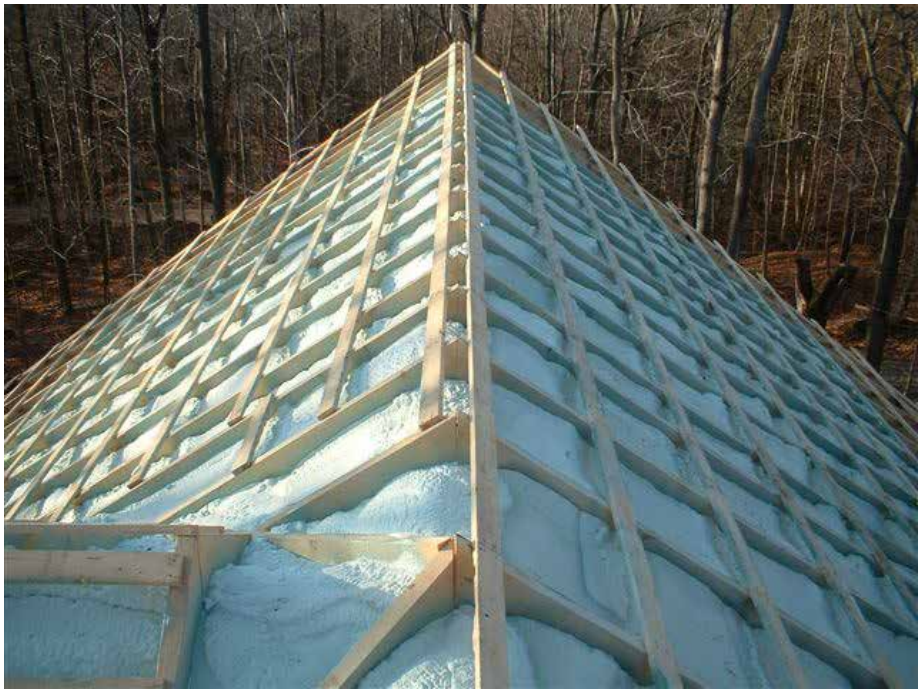
If you want a heated attic to use for storage, to install mechanical ventilation systems, or even to turn your attic into a living space, HEATLOK SOYA HFO can be sprayed directly onto the roof deck, with no venting. The soffits will have to be sealed and the attic will then be heated and completely sealed from the outside air. The same concept can be applied to a flat roof. Venting between HEATLOK SOYA HFO and the plywood sheathing is optional.

PROBLEM-FREE ROOF

Roofs like these are frequently the source of problems, inside the structure and in the materials. The cause is often inadequate insulation and/or a discontinuity in the air barrier system.

APPLICATION FROM THE OUTSIDE

Before installing the shingles and roof decking on a cathedral roof or flat roof, it is possible to spray HEATLOK SOYA HFO directly onto the interior finish. When insulation is sprayed from the outside, the roof must always be vented. The minimum space recommended for ventilation in the Building Code is 2 ½" (65 mm). There must be an intake vent (soffit) as well as an exhaust vent (ridge vent or Maximum vent).



ADVANTAGES

- High R value per inch - Lower energy cost and reduce the space needed for the insulation
- Perfect seal – Eliminates heat loss and air infiltration and exfiltration
- Good adhesion over the entire surface - Will not sag or move over time
- Quickness of installation – Saves time for project's completion
- Suitable for all roof structures – fewer complications, simple application
- Fungi resistant – Has been tested for fungi and does not develop any
- Durable - Will not deteriorate over time
- CCMC Evaluation 14078-L
- Greenguard Gold certified for indoor air quality
- Installed by certified applicators
- Exceed CAN/ULC S705.1

GREENGUARD GOLD

RENOVATION

Whether you are renovating the inside or the outside, by replacing the shingles and decking, the interior ceiling, or want to make your home more energy-efficient, it is possible to insulate an existing roof sufficiently, even when space is limited. All of the techniques described previously can apply in a roof renovation as well. Heatlok Soya HFO's advantage in a renovation is its high R-value per inch. Indeed, the structure of old buildings often does not allow enough space to apply a thick layer of insulation; but with Heatlok Soya HFO, it is now very simple to insulate an old roof to meet modern standards.

HEATLOK® SOYA HFO, for a durable and energy efficient roof.

On the market since 2006, HEATLOK SOYA is produced in Quebec from 22% of recycled and renewable content. Annually, Huntsman Building Solutions recycles more than 250,000,000 plastic bottles. The product's application generates no job-site waste. It is sold in liquid form, in returnable or recyclable containers. HEATLOK SOYA HFO can be used on all buildings types. Furthermore, the product has a specific Type III EPD (Environmental Product Declaration) produced and verified by a third party in accordance with ISO 14025.

REFERENCES

1. National and Provincial Building Codes 2010 and 2015
2. Building Science Digest 102, Understanding Attic Ventilation;
3. Building Science Digest 149, Unvented Roof Assemblies for All Climates;
4. SPFA, AY 141, Spray Polyurethane Foam in Unvented Cathedral Ceilings and Cathedralized Attics;
5. CMHC, About Your House Fact Sheet 62082, Attic Venting, Attic Moisture and Ice Dams;

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