



Standard & Hi-Perm Hybrid Insulation System

HY-Fi® Hybrid Insulation System

- High System R-Values at Lower Cost
- Less Waste - No Shaving Foam
- Building Code Compliant
- Improved Productivity
- LEED and other Green Building Credits

Fi-Foil's innovative HY-Fi hybrid insulation system enhances the thermal performance of any air space in the building envelope. It is compatible with all types of insulation including spray foam and fiberglass batts.





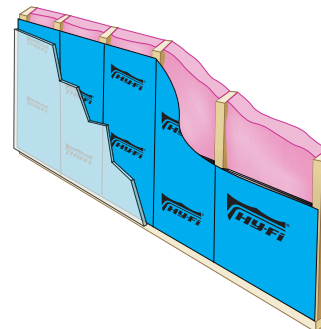
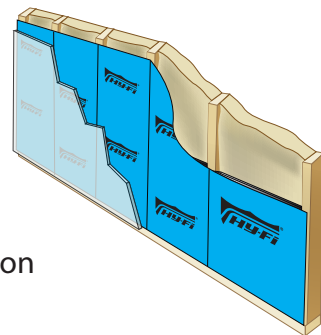
A multi-layer reflective insulation intended for use with mass insulation for high performance in wall cavities.

What is a Hybrid Insulation System?

Hybrid refers to an insulation system that combines the best properties of different insulating products or technologies to create a superior insulating system. Mass insulation in conjunction with reflective insulation addresses the most dominant forms of heat transfer.

HY-Fi vs. other Hybrid Systems

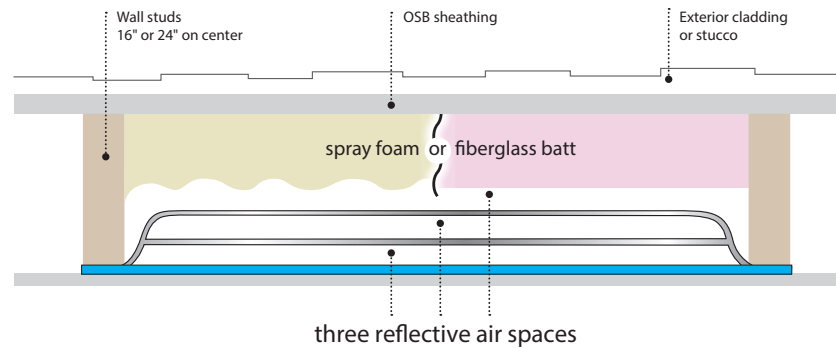
Mass insulation in conjunction with reflective insulation addresses the most dominant forms of heat transfer, convection and radiation.



How Does it Work?

HY-Fi enhances the performance of the building envelope by maximizing open air spaces in the wall cavity. HY-Fi insulation addresses the dominant form of heat transfer, radiation, with layers of high reflectance and low emittance materials. In addition to reducing heat flow by radiation, HY-Fi's multiple layers also reduce convective heat transfer.

Air based mass insulation products ("open cell" spray foam, fiberglass batts, cellulose, etc.) address heat transfer in the building envelope by reducing convection. Gas-based ("closed cell") spray foam products can also reduce conduction. All of these types of products however have high emittance surfaces which do not reduce radiant heat transfer. Spray foam and high density batts also have a high cost per R-value. Combining HY-Fi's superior radiation protection with traditional insulation in a hybrid system creates superior resistance to heat transfer and also reduces material costs.



With Open and Closed Cell Foam

HY-Fi works exceptionally well with all types of spray foam insulation and reduces the amount of spray foam insulation required to achieve the desired R-value. For example, HY-Fi can be combined with 2" of medium density spray foam to achieve R-21 in 2" x 4" wall cavities, significantly reducing framing costs. HY-Fi can also be combined with 4" of 0.5 lb. foam in a 2" x 6" wall cavity to achieve R-21.

With Fiberglass, and other Insulation

HY-Fi is highly complementary to fiberglass batt insulation due to its unique thermal and radiant insulation properties. For example, Instead of high density fiberglass batts in 2" x 6" walls, HY-Fi can be combined with standard un-faced fiberglass R-13 batts to achieve R-21. In addition, the HY-Fi fiberglass hybrid system gives installers the option of a vapor retarder.

For additional system R-value examples and calculations, visit our website.

Spray Foam Application

four step process...

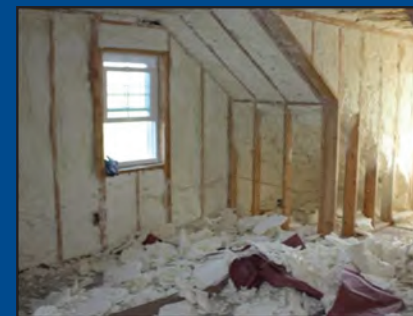
Over-spray



Shave



Clean-up



Dispose



Stop the Waste...

Save Time, Labor, & Cost...

Only two steps - Spray & Install HY-Fi



Easy Installation

HY-Fi's easy installation process enables any crew to properly install the system. Once rolled out and cut to size, the sheets are attached by staples to the face of the framing. After installation, the wallboard is then applied.

Vapor Retarder Options

HY-Fi is available in both perforated and non-perforated versions to comply with building codes and address the building envelope design requirements. The perforated version allows vapor transmission. The standard or non-perforated version of HY-Fi meets building code as a vapor retarder. See specification sheet for details pertaining to the perm ratings.



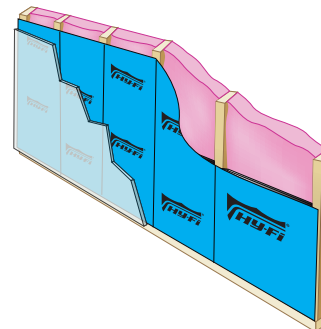
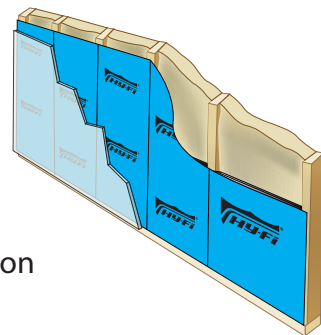
A multi-layer reflective insulation intended for use with mass insulation for high performance in wall cavities.

What is a Hybrid Insulation System?

Hybrid refers to an insulation system that combines the best properties of different insulating products or technologies to create a superior insulating system. Mass insulation in conjunction with reflective insulation addresses the most dominant forms of heat transfer.

HY-Fi vs. other Hybrid Systems

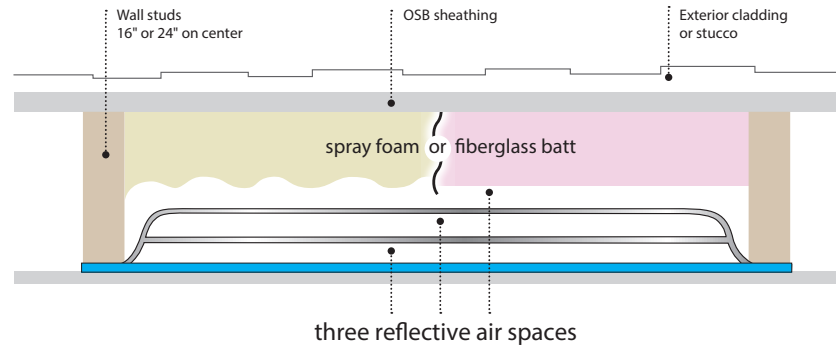
Mass insulation in conjunction with reflective insulation addresses the most dominant forms of heat transfer, convection and radiation.



How Does it Work?

HY-Fi enhances the performance of the building envelope by maximizing open air spaces in the wall cavity. HY-Fi insulation addresses the dominant form of heat transfer, radiation, with layers of high reflectance and low emittance materials. In addition to reducing heat flow by radiation, HY-Fi's multiple layers also reduce convective heat transfer.

Air based mass insulation products ("open cell" spray foam, fiberglass batts, cellulose, etc.) address heat transfer in the building envelope by reducing convection. Gas-based ("closed cell") spray foam products can also reduce conduction. All of these types of products however have high emittance surfaces which do not reduce radiant heat transfer. Spray foam and high density batts also have a high cost per R-value. Combining HY-Fi's superior radiation protection with traditional insulation in a hybrid system creates superior resistance to heat transfer and also reduces material costs.



With Open and Closed Cell Foam

HY-Fi works exceptionally well with all types of spray foam insulation and reduces the amount of spray foam insulation required to achieve the desired R-value. For example, HY-Fi can be combined with 2" of medium density spray foam to achieve R-21 in 2" x 4" wall cavities, significantly reducing framing costs. HY-Fi can also be combined with 4" of 0.5 lb. foam in a 2" x 6" wall cavity to achieve R-21.

With Fiberglass, and other Insulation

HY-Fi is highly complementary to fiberglass batt insulation due to its unique thermal and radiant insulation properties. For example, Instead of high density fiberglass batts in 2" x 6" walls, HY-Fi can be combined with standard un-faced fiberglass R-13 batts to achieve R-21. In addition, the HY-Fi fiberglass hybrid system gives installers the option of a vapor retarder.

For additional system R-value examples and calculations, visit our website.

Spray Foam Application

four step process...

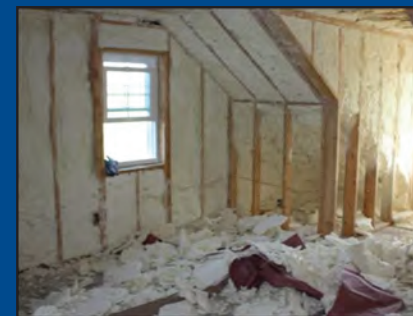
Over-spray



Shave



Clean-up



Dispose



Stop the Waste...

Save Time, Labor, & Cost...

Only two steps - Spray & Install HY-Fi



Easy Installation

HY-Fi's easy installation process enables any crew to properly install the system. Once rolled out and cut to size, the sheets are attached by staples to the face of the framing. After installation, the wallboard is then applied.

Vapor Retarder Options

HY-Fi is available in both perforated and non-perforated versions to comply with building codes and address the building envelope design requirements. The perforated version allows vapor transmission. The standard or non-perforated version of HY-Fi meets building code as a vapor retarder. See specification sheet for details pertaining to the perm ratings.

Hybrid Case Studies



Project Name:
Zylstra Harley Davidson
Contractor Name:
Lord Corporation



"I have personally selected Fi-Foil's product for years on both commercial and resident projects across the United States. I would recommend HY-Fi to any builder or specifier looking to substantially increase building envelope conditioned air space performance. Exceptional innovative construction product based on a justifiable value."

Robert Lord



Project Name:
Phil Rice Residence
Contractor Name:
Rice Insulation & Glass



"We will achieve Air Sealing with the foam, and higher R-value with the HY-Fi system. With HY-Fi, we will Reduce Waste (no shaving of SPF required), which saves cost. Plus combined with the proper sizing and efficiency of the HVAC unit, the energy efficiency will save energy usage for the life of the home.."

Phil Rice



Project Name:
VA Military Housing
Contractor Name:
Quality Building Products



"We Chose Fi-Foil's high performance product HY-Fi, to maximize our efficiency. Not only did it save us time and labor, the product was easy to install and looked great."

Fred Shelor

Single Family

Multi Family

Commercial



FiFoil.com