

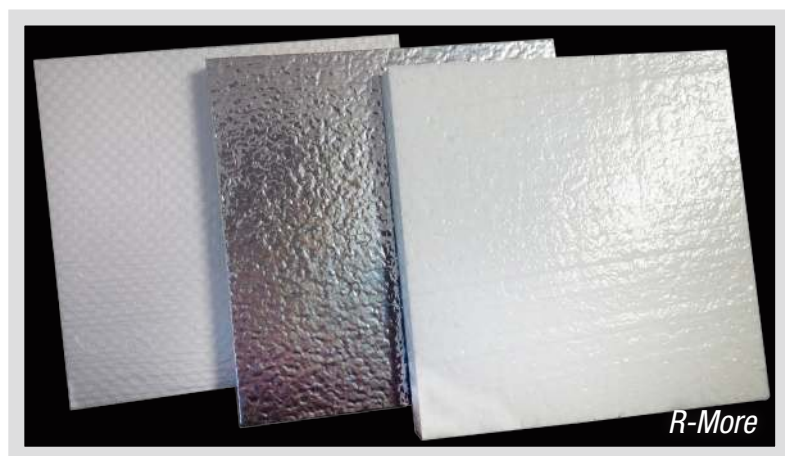


Bead-Fusion Rigid EPS Insulation Sheets

CR Foam offers rigid insulation products that are effective for under-the-slab, below grade applications, roofing, siding, and structural perimeter insulation. Bead-Fusion can offer the same compressive strengths and durability as the blue, pink or yellow extruded board used under grade but at about 50% less cost.

Bead-Fusion 25 & Bead-Fusion 10

| | Bead-Fusion 25 | Bead-Fusion 10 |
|---------------------------------|-----------------------------|-----------------------|
| Compressive Resistance Strength | 25 PSI high density | 10 PSI low density |
| R-Value | 4.36 R/inch | 3.68 R/inch |
| Dimensions | 4' x 8' and 4' x 10' sheets | |
| Thickness | 1/2" increments | |

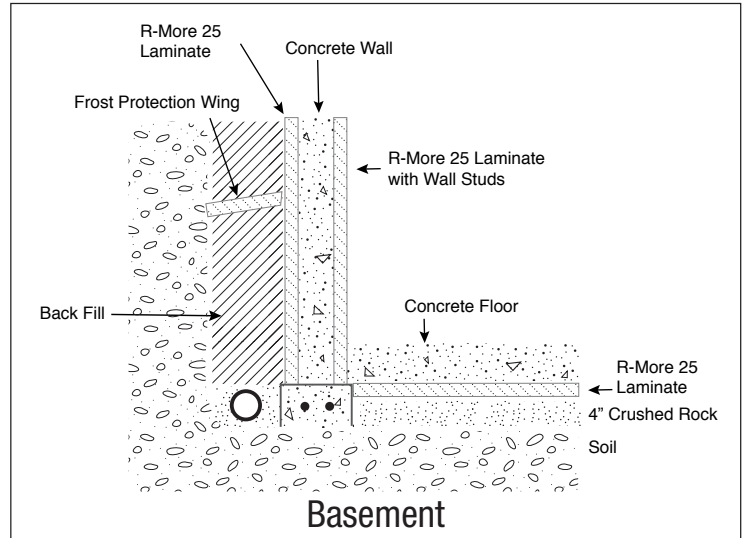
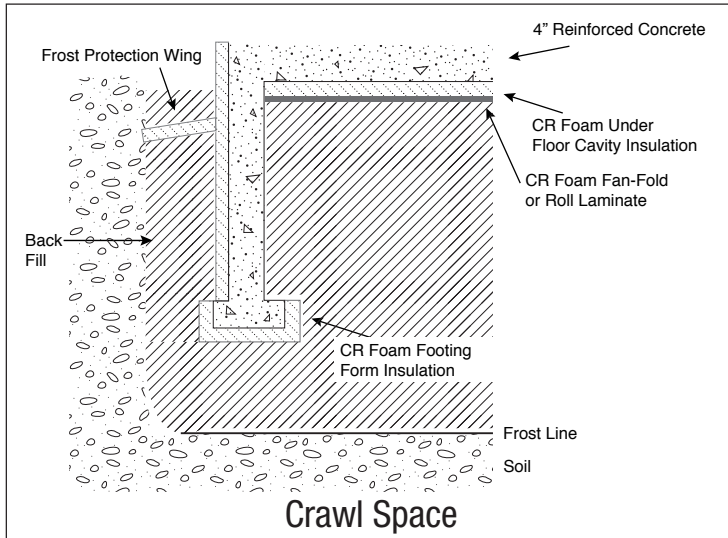


R-More 25 & R-More 10 Laminates

In addition to **Bead-Fusion** sheathing we also offer 4' x 8' or 4' x 10' **R-More 25 & R-More 10** laminated boards. The boards can be ordered in incremental thicknesses of 1/2".

R-More 25 & R-More 10 give you the same outstanding performance properties as Bead-Fusion sheathing but comes with a durable metal, woven or clear polypropylene laminated facer.

Bead-Fusion Sheathing & R-More Laminate Applications



EPS and XPS Lab Control Moisture Tests

Don't let the XPS industry confuse you with lab control moisture absorption tests. When exposed long-term to ground water, all rigid insulation will eventually take on water. The higher the moisture content within the board results in a loss of R-value.

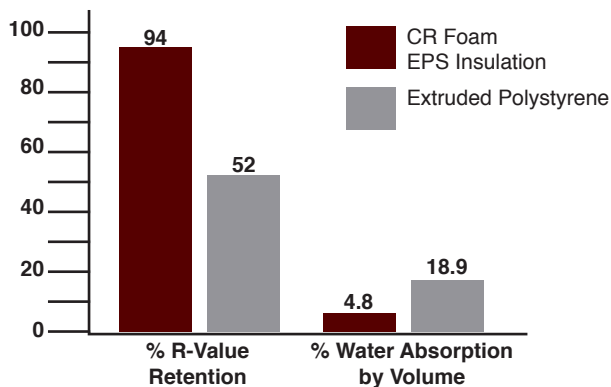
What is important to understand is that XPS's water absorption data are from tests performed on the XPS exposed to moisture over a 24 hour period. However, this is not a real life simulation for permanent below grade applications.

When XPS and EPS buried side-by-side for a period of 15 years were dug up and evaluated scientists found that EPS actually absorbed less water than XPS.

In fact, XPS took on 18.9% moisture while EPS absorbed 4.8% in the same period of time! Under these conditions the same study showed that the EPS retained 94% of it's original R-value while the XPS retained a little more than half or 52%. The same lab studies proved that EPS dried out faster than XPS and regained its full R-value quicker.

Note: All tests were conducted by an independent, accredited, third party labratory.

Water Absorption & R-Value Retention



R-More 450 Fan-Fold and R-More 472 Rolled Laminates

R-More 450 Fan-Fold & R-More 472 Rolls do have an insulation value however it is designed as underlayment insulation to help reduce or prevent energy loss through thermal conduction or seams and cracks in a wall or structure. When installed correctly, also helps to manage surface condensation on metal walls and ceilings.

The US Department of Energy at the Oak Ridge National Laboratories has led the building industry in defining “the whole wall R-value”, an increasingly popular metric that tests the thermal resistance of an entire wall.

For example a 2” x 6” wall with R-19 fiberglass insulation turns out to be R-13.7 when the thermal bridging of studs and fasteners every 24 inches is considered. Used as an outside underlayment **R-More 450 Fan-Fold & R-More 472 Rolls** will help prevent R-value loss and give you an additional 1.9 R in doing so.

R-More 450 Fan-Fold & R-More 472 Rolls

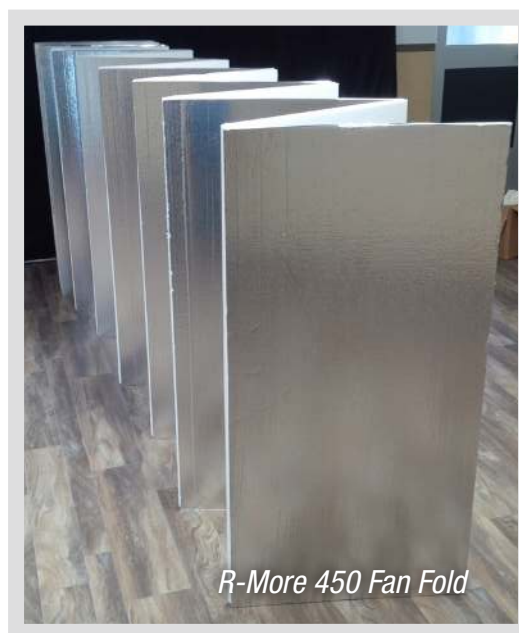
| | R-More 450 Fan-Fold | R-More 472 Rolls |
|-----------------------|---|--|
| R-Value | R-1.9 when installed correctly. | |
| Size | 25 panels, 2' x 4' | 4' x 72' rolls |
| Thickness | 1/4" & 1/2" available | |
| Laminate Facer | Durable metal, woven or clear polypropylene | |
| Installation | Designed to lay flat during installation. | Ideal for in between the metal wall/roof panels and the red iron frame in heated and non-heated buildings. |

Highly Effective in These Applications

- Roof Underlayment
- Basement Walls
- Crawl Spaces-Interior Walls
- Waterproofing Protection Board
- Radiant-Heating Floors
- Siding Underlayment
- Stucco Underlayment
- Concrete Slabs
- Wall Sheathing
- Below Grade Insulation
- Ideal for Recovering Application



R-More 472 Roll



R-More 450 Fan Fold



Recovering Application

Bead-Fusion EPS Insulation Performance Properties

Bead-Fusion EPS Insulation compression, thermal, density and flexural properties were tested by *Element Materials Technology*, a third party material testing laboratory located in St Paul, MN. Tests were conducted under the guidance of 5-ASTM test methods including ASTM C518, Standard Specifications for Rigid, Cellular Polystyrene Thermal Insulation.

Thermal Resistance “R” Values ASTM C518:

Under-the-lab (below grade) applications require expanded polystyrene insulation (EPS) to be thick enough to provide an effective thermal resistance or “R Value” so that heat loss or cold creep does not occur through footings, floors or walls. R value is the capacity of an insulation material to resist heat flow. The higher the R-value the greater the insulating power.

Our 1 pound **Bead-Fusion 10** board R Value tested at 3.68 per square inch.

Our 2 pound **Bead-Fusion 25** board R Value tested at 4.36 per square inch.

Our typical 2 inch 2 pound board’s R Value averages around 8.75 R’s.

Compressions Values ASTM C 165:

Under-the-slab applications must have excellent *compression* properties so the EPS can safely withstand the distributed energy load of the concrete slab, footings and structure. The most important mechanical property of EPS insulation for below grade or under-slab is its ability to resist compressive stresses. Bead-Fusion exceeds these requirements. EPS can be designed in compressive strengths of between 10-60 psi. Within that range EPS can be made to meet most strength requirements.

Bead-Fusion test show a higher than typical compressive strength.

1 pound **Bead-Fusion 10** board compression tested at 11.00 psi at 10% strain. (Typical 10 psi)

2 pound **Bead-Fusion 25** board compression tested at 29.7 psi at 10% strain. (Typical 25 psi)

Density Values ASTM C 303:

Board density in under-the-slab applications is the most important mechanical property of EPS. Although density and material compression are closely related the two values can sometimes be misunderstood. The confusion comes when applicators do not adequately account for how a concrete slab or footing distributes load or energy into a concrete slab.

In fact, the concrete slab distributes energy (weight) so evenly over the slab that as much as 90% of the load is distributed into the concrete. This leaves a very small percentage of the load transferring to the EPS below.

Understanding this can help prevent over-engineering a project and saving the end-user money.

Our 1 pound **Bead-Fusion 10** board Density tested at .90 pcf (Typical .90)

Our 2 pound **Bead-Fusion 25** board Density tested at 1.80 pcf (Typical 1.80)

Flexural Values ASTM C 203:

Flex or bend strength is the property that gives the board the strength it needs when it is transported, walked on or applied. High flex strength is important in built-up roof and concrete slab preparation when the load of equipment and foot traffic can be high.

Bead-Fusion EPS Insulation has outstanding flexural properties.

Our 1 pound **Bead-Fusion 10** board tested at 29.6 psi. (Typical 25 psi)

Our 2 pound **Bead-Fusion 25** board tested at 61.4 psi. (Typical 50 psi).

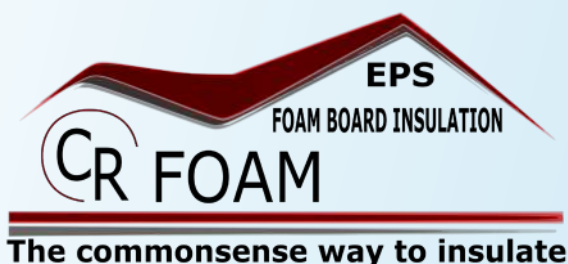
Moisture Absorption ASTM D-2842:

For years expanded polystyrene has been used in ice chests, coolers and swimming pool buoys where exposure to water is direct and for long terms. EPS is a closed-cell structure and this reduces the absorption and/or migration of moisture. The small amount of water absorbed (an average of 0.2% by weight) has little or no effect on the compressive or flexural strength. The EPS insulation retains between 95% and 97% of its thermal R efficiency, as well.

Environmentally Safe:

Bead-Fusion EPS Insulation is 100% recyclable and does not contain or emit any CFCs or HCFCs into the atmosphere during or after the manufacturing process.

Note: Expanded polystyrene should be considered combustible and should not be exposed to sources of ignition. Do not allow highly solvent mastic, coal-tar based products or vapors to come in contact with any EPS.



CR Foam

23064 365th Avenue

Wessington Springs, SD 57382

605-539-1175

www.crfoam.net



R-More 472 Rolls are made with EPS (Expanded Polystyrene) 10 PSI foam and come with a durable foil, woven or clear polypropylene laminated facer. We manufacture EPS foam that meets or exceeds ASTM C578 and ASTM E84 requirements.

Contact us now!



The commonsense way to insulate

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The commonsense way to insulate

R-More 472 Rolls



www.crfoam.net

Agricultural



Commercial



Residential



R-More 472 has a R-Value of approximately 2.08 and is highly effective when used on metal or wooden non-heated or heated buildings in between the wall/roof panels and the red iron or wood frame and can be used for below grade.

- Eliminates Condensation
- Radiant Barrier
- Convection Barrier
- Vapor Barrier
- Minimizes Thermal Bridging
- Adds R-Value
- Maintains R-Value
- Energy Efficient
- Very Cost Efficient
- User Friendly

R-More 472 is a laminated product designed as underlayment insulation with either a durable foil, woven or clear polypropylene laminated facer and comes in thicknesses of 1/4" to 1/2" in rolls of 4' x 72'. Each roll is light weight with protective covers making it easy to unload, handle, apply or store.



The FrostStop Footing Form is made with EPS (Expanded Polystyrene) 25 PSI foam. We manufacture EPS foam that meets or exceeds ASTM C578 and ASTM E84 requirements.

Contact us now!



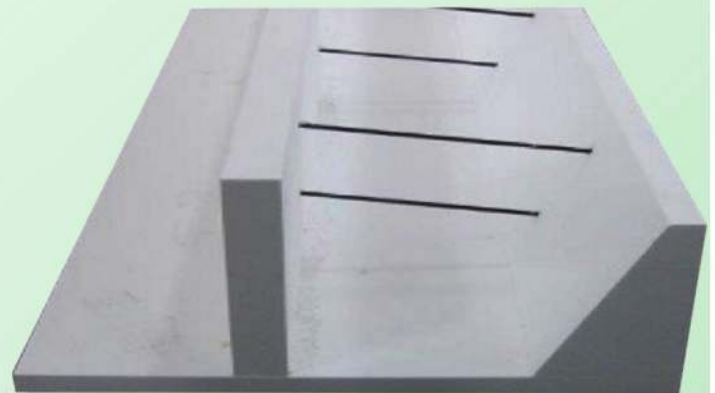
The commonsense way to insulate

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EPS
FOAM BOARD INSULATION
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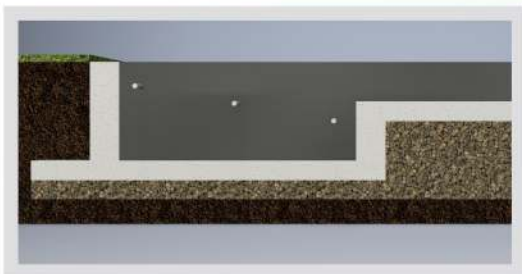
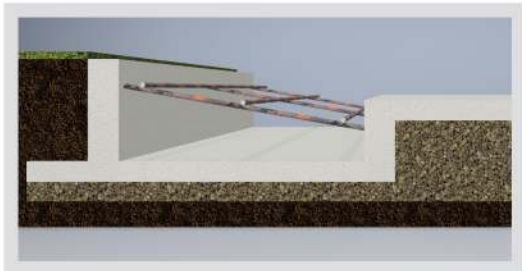
FrostStop Footing Form

**for Shallow Footing
Frost Protection**



**MANUFACTURED
IN THE U.S.A.**

www.crfoam.net



FrostStop Footing Form

We custom make foam forms used for slab on grade shallow footings frost protection.

Our **FrostStop Footing Form** has many benefits:

- Fast & easy to assemble
- Lessons Formwork Construction
- Eliminates removal activities
- Less Earthwork/Backfill
- Less Labor Costs
- Eliminates Frozen Heaving Soil
- Gives you that Thermal Break

For slab on grade the **FrostStop Footing Form** provides a highly insulated footing resulting in a more energy efficient building. Research has proven that the normal ground temperature is at about 50°F. Frost will always freeze down, if the ground is insulated on top it can not freeze below.



Commercial



Residential



Agricultural