

PRODUCT KNOWLEDGE TRAINING

Learn the common features and uses of each product.

PK DESCRIPTIONS

1. Loose-Fill Insulation



- Comes compacted in bags and is poured or blown into walls and between joists of the attic floor.
- Good for retrofitting insulation into previously uninsulated homes.
- Each bag is labeled according to federal specifications for both mineral wool and cellulose. Left column lists the R-value, or RSI, second column tells how many bags are needed to cover 1,000 square feet of attic floor area, the third column gives the minimum thickness after completing the job.
- Some manufacturers have two columns on thickness for loose-fill and cellulose insulation. The second of these is labeled “settled density”. This is important since cellulose settles quickly.
- Types include fibreglass rock wool and cellulose. Cellulose is made from waste paper that has been treated to be fire retardant. It is also less likely to cause skin irritation.

2. Roll Insulation

- Comes in continuous rolls that vary in width and thickness.



- Usually installed between open ceiling joists and wall studs.
- Has a vapour barrier that should be installed with the vapour barrier toward the interior or heated area. Mend torn vapour barriers with tape.
- Available in R-values of R-11 (RSI 1.9), R-13 (RSI 2.3), R-19 (RSI 3.3) and R-25 (RSI 4.4). Thicknesses range from 3-1/2" to 8".

3. Batt Insulation



- Sold in either pre-cut or perforated into shorter lengths.
- Use is similar to roll insulation, but best for use where there are many cross beams or other obstructions.
- Available in R-values of R-11 (RSI 1.9), R-13 (RSI 2.3), R-15 (RSI 2.6), R-19 (RSI 3.3), R-21 (RSI 3.7), R-22 (RSI 3.8), R-30 (RSI 5.25) and R-38 (RSI 6.7). Thicknesses range from 3-1/2" to 12".
- Batts installed in wall should not be compressed to fit. Also, do not stuff behind wires. Rather, cut to fit around them.

4. Encapsulated Insulation



- Batt and roll insulation encapsulated for easier handling.
- Encapsulation enables the insulation to breathe and prevents condensation build-up.
- Easier to handle by reducing dust and other irritants associated with insulation installation.
- The non-woven type tends to stay in place better than plastic-wrap insulation. This product must meet all building code requirements for flame spread resistance, as it is flammable.

5. Rigid Insulation



- Can be used on the interior or exterior of the house, or on basement walls.
- Usually comes in board form in a variety of sizes ranging from 8" squares to 4' x 12' sheets.
- Some types are made of fibreboard and are popular because of their durability and low cost. Fibreboard repels water, while the asphalt coating eliminates the need for building paper.
- Another type is made of extruded poly-

- styrene. It is very resistant to moisture and is most highly recommended for below-ground use.
- Moulded polystyrene board is another type that dissipates water well.
- Another type is polyisocyanurate sheathing that is available with aluminum foil or glass fibre mat facers. This type has the highest R-value per inch of thickness of all insulation products.

6. Foam Insulation



- Comes in a liquid spray form that quickly foams and hardens.
- May have a higher insulating value than blown-in materials, but is more expensive and still subject to shrinking.
- For use only on closed, properly vented exterior wall cavities. It should be sealed from exposure to the interior with vapour- and fume-resistant paints.
- Also suited for sealing cracks around windows, doors and constructions seams.
- Best for professional installation.

7. Foam Sealant



- Installs similar to foam insulation, but comes in an aerosol can and is best for do-it-yourself use.

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- Best choice for permanently sealing irregular gaps around the home, such as plumbing feed-thrus, electrical outlets, vents, etc.
- After curing, it can be trimmed, sanded and painted.
- When installing, only fill the area about 33 percent and the expanding foam will fill and seal the rest of the area.
- Formulations include triple-expanding for general-purpose sealing and insulating; minimal-expanding for windows and door frames; and fast drying for multi-step projects such as filling a crack before painting.
- Wear gloves and eye protection when applying.
- Remove wet foam with acetone or acetone-based nail polish remover. Cured foam is difficult to remove from skin and clothes.

8. Reflective Foil Insulation



- One type is made of foil and poly to trap air between the sheets of foil, generally using bubble pack.
- A second type expands when installed between stud spaces. The resistance to heat flow depends on the heat flow direction. This type of insulation is most effective in reducing downward heat flow.
- Comes in long rolls of various widths.
- May be used in conjunction with many different building materials and cut to fit any shape.
- Typically installed between roof rafters,

- floor joists or wall studs.
- When a single reflective surface is used alone and faces an open space such as an attic, then it is called a radiant barrier.

9. Pipe Insulation



- For insulating water pipes from freezing in the winter. It also helps control heat loss when pipes carry hot water and controls condensation and dripping.
- Available in preformed insulating tubes that fit over the pipe.
- Another type comes in batt form, which can be wrapped around the pipe.

10. Felt Weather Strip



- Least expensive type of weather stripping, but also has the shortest life.
- Installs by gluing, nailing or stapling to the frame or moulding around doors so the door will close snugly and quietly against it.
- A good choice when appearance is no concern.
- Available in a variety of widths, thicknesses and quality.
- Reinforced felt weather strip is sturdier and designed to last longer.



11. Adhesive-Backed Foam Tape

- Installed by pressing into position and sticking

- permanently. Requires no nails or tools.
- One type, pressure-sensitive sponge rubber tape, is suited for larger problem areas.
- Another type, pressure-sensitive vinyl foam or felt, is for average sealing.
- Closed-cell PVC foam compresses to fill irregular gaps and can be used outdoors.
- Open-cell foam is for inside use only.
- High-density foam is extremely durable and long lasting.

12. V-Type Weather Strip



- Once the door is closed, the open ends of the V shape close together, with one end of the V touching the door and the other adhered to the door.
- Forms an airtight seal.
- Spring-metal tension strips are more difficult to install than adhesive-backed tension strips made of vinyl, but are the best permanent type.

13. Caulking Cord



- Temporarily fills large gaps around windows.
- Consists of soft, rope-like strands of weather strip with the consistency of modeling clay.
- Easily applied by hand and remains pliable so it can be removed when the weather warms.
- Paintable and will not harden or dry out.

14. Vinyl Gasket Weather Strip



- Weather stripping that cushions as it seals.
- Can be used in places with warping or irregularities.

15. Door Jamb Weather Strip



- Used to seal the sides and top of a door to shut out drafts and insects.
- Available in a variety of forms, including roll-formed and extruded aluminum with vinyl bulbs or flaps.

16. Door Sweep



- Seals the bottom of an exterior door, preventing drafts, water, noise, light and insects.
- Usually made of aluminum extrusions with vinyl flaps.
- Screws into the lower part of door.
- Some types lift automatically when the door is raised.
- Another type is an aluminum extrusion with a rain-drip flange to prevent the flow of water off a door from collecting on a threshold and flowing under a door.
- Another type is an adhesive-backed plastic door sweep.

17. Door Shoe

- Made of extruded aluminum and vinyl.
- Attached to the bottom of a door to help

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form a seal between the door and the threshold.

- Used primarily in conjunction with a smooth top aluminum threshold to form a proper seal.
- More durable and provides a better weather seal than a door sweep.

ANATOMY OF A DOOR THRESHOLD WITH INSULATION

The **Door Shoe** attaches to the bottom of the door and aligns with the door edge for a tight fit. The aluminum **Retainer and Rain Drip** helps shed water away from the door. The **Vinyl Gasket** provides a tight seal between the bottom of the door and the **Threshold**.

OTHER TRAINING TIPS

Designed to give you confidence on the salesfloor!
This section is for retail skills training specific to this core product category.

FAQs

Q: How do I know how much loose-fill insulation to buy to insulate my attic?
A: First measure the attic floor area, and then divide that by 1,000. For example, if the dimensions are 30' x 40', or 1,200 square feet, you divide that number by 1,000 and get 1.2. The label on the bag of

insulation will tell you how many bags you need to cover 1,000 square feet. Multiply that number by 1.2.

Q: What should I use to insulate the top and sides of my garage door?

A: Aluminum and vinyl weather stripping is available for this. There is also a weather strip made specifically for garage door bottoms.

Q: What does the R-value (RSI) on insulation mean?

A: R refers to resistance to heat flow. The higher the R-value, the greater the effectiveness of the insulation. The R-value depends on the type of material, its thickness and density.

Q: What's the difference between R-value and RSI?

A: Insulation effectiveness is measured by an "RSI" value, metric measurement and/or an "R" value Imperial measurement. The higher the "RSI" or "R" value, the greater the insulation effectiveness. Conversion from the imperial system to the metric system of units can be calculated using the formula $RSI=R$ multiplied by 0.175.

Q: Can I stack insulation to get a higher R-value?

A: Yes. For example, two R-19 (RSI 3.3) batts can be stacked upon each other to create R-38 (RSI 6.6) insulation. You also can add loose-fill insulation on top of a bottom

layer of batts.

Q: I already have some loose-fill insulation in my attic. How do I know if I need more?

A: Generally, if you have less than 9" of insulation on the attic floor, it needs more.

Q: Is there a type of insulation that won't irritate my skin?

A: Cellulose insulation is made of shredded waste paper. It generally doesn't cause irritation. Also, you can try encapsulated insulation.

Q: Why is a vapour barrier important?

A: A vapour barrier prevents condensation. Condensation occurs when warm air from the inside of the house meets the cold air on the exterior of the house during the winter. The vapour barrier prevents condensation that results from those differing temperatures. Otherwise, condensation builds up in the wall cavity and causes wood to rot and allows mould and mildew to grow over time.

UPSELLING

- If the customer is weatherizing the house, don't forget to mention all of the other types of weatherproofing products, such as caulk.
- For winterizing windows, remind him about special shrink-wrap plastic insulating kits.
- Always offer the more durable types of weather stripping, such as the moulded

vinyl strips or the spring metal or interlocking metal channels. They take more time to install but are more durable and effective.

- Review the typical places to insulate and make sure your customer isn't missing any of them.
- Remind customers to install a vapour barrier if the insulation does not come with one pre-attached.

ADD-ON SALES

- Insulation Blower Rental
- Scissors
- Reflective Tape
- Staple Gun
- Gloves
- Eye Protection
- Respiratory Protection
- Plastic Sheeting
- Insulation Supports
- Tape Measure
- Utility Knife

INSTALLATION TIPS

- Remind customers that the words "fire retardant" on packaging for cellulose insulation don't mean the product is fire proof. It has simply been treated with a chemical to slow combustion.
- Always use a vapour barrier between the heated or air-conditioned part of the house and the attic.
- Some insulation comes with a vapour bar-

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rier pre-attached. If it does not, staple or tack a plastic sheet or polyethylene film under the area where you are planning to pour loose fill.

- If the customer is adding a new layer of insulation on top of old insulation, there should not be a vapour barrier between the two layers.
- When insulating attics, place the vapour barrier face down. When insulating floors, place it face up.
- Do not squeeze or compress insulation, as this will reduce its effectiveness. Add insulation in accordance to the recommended R-value (RSI) of the area of the home.
- Do not insulate on top of recessed lighting fixtures or heat-producing equipment. Keep the insulation at least 3" away from these fixtures.
- When insulating attics, do not cover the eave vents with insulation.
- Be sure there is sufficient attic ventilation to allow moisture to escape.
- Use insulation supports (thin metal rods) to support insulation when insulating floor joists. You can also attach string in a lace pattern across the bottoms of the joists.

MERCHANDISING

- Post diagrams of a typical house showing all of the necessary places to insulate. This will serve as a visual reminder and help the shopper organize his thoughts as he thinks about how much insulation to purchase.

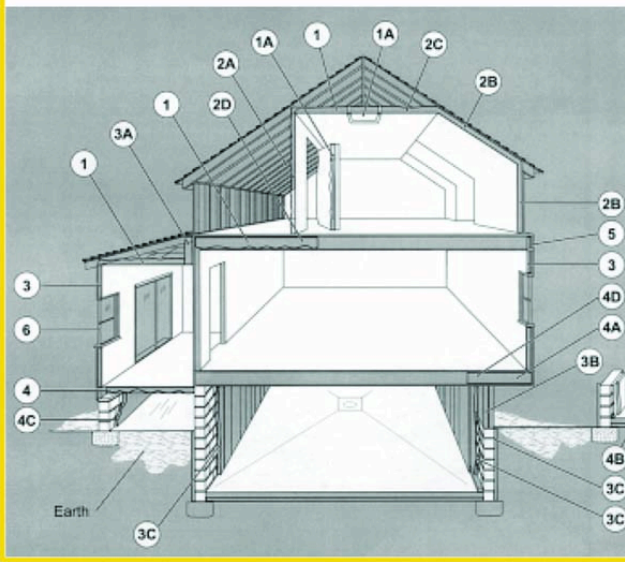
- Display a chart listing recommended R-values for your area. A chart should also list the recommended R-values for different areas of the house.
- If you have a rental department that offers an insulation blower, be sure to advertise it clearly next to bags of loose-fill insulation.
- If you have a delivery service, advertise that clearly next to bagged and roll insulation.
- Cross merchandise pipe insulation in the plumbing department.
- Utility knives are a good item to cross merchandise with roll insulation.

WHERE TO INSULATE

1. In unfinished attic spaces, insulate between and over the floor joists to seal off living spaces below.*
1A. attic access door
2. In finished attic rooms with or without dormer, insulate...
2A. between the studs of "knee" walls;
2B. between the studs and rafters of exterior walls and roof;
2C. ceilings with cold spaces above;
2D. extend insulation into joist space to reduce air flows.
3. All exterior walls, including...
3A. walls between living spaces and unheated garages, shed roofs or storage areas;
3B. foundation walls above ground level;
3C. foundation walls in heated basements, full wall either interior or exterior.
4. Floors above cold space, such as vented crawl spaces and unheated garages. Also insulate...
4A. any portion of the floor in a room that is cantilevered beyond the exterior wall below;
4B. slab floors built directly on the ground;**
4C. as an alternative to floor insulation, foundation walls of unvented crawl spaces;
4D. extend insulation into joist space to reduce air flow.
5. Band joists.
6. Replacement or storm windows and caulk and seal around all windows and doors.

* Well-insulated attics, crawl spaces, storage areas and other enclosed cavities should be ventilated to prevent excessive moisture build-up.

** For new construction, slab on grade insulation should be installed to the extent required by building codes, or greater.



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NEW INSULATION RECOMMENDATIONS FOR YOUR AREA



Insulation Recommendations for New Construction
(see above)

Zone	Walls		Basement		Ceiling or Roof		Floor Over Unheated Space	
	RSI	R	RSI	R	RSI	R	RSI	R
1	3.9	22	2.1	12	5.4	31	4.9	28
2	3.9	22	2.1	12	7.0	40	4.9	28
3	3.9	22	2.1	12	7.0	40	4.9	28
4	3.9	22	2.1	12	7.0	40	4.9	28

CANADIAN IMPERIAL AND METRIC MEASUREMENTS

Canadians generally use a mixture of measurement units.

Liquid volumes are typically based on the metric (SI) system. Temperatures and distances are commonly specified using metric terminology. Weights, depending on the type of product, use either the metric or Canadian Imperial system. Lengths and dimensions of construction products, particularly for residential use, are generally in Canadian Imperial measurements. And many of the products we use are manufactured in U.S. measurements.

Canadian building codes are written using metric units. But the construction trades, particularly those in residential construction, typically use the Canadian Imperial system.

This mixture of measurement systems frequently results in many product manufacturers providing information using both systems. Unfortunately, the approaches used in presenting the "converted" measurements are not consistent. Some information is based on "exact" conversion measurements, whereas other information is based on "rounded"

measurements.

From your perspective and in communicating with your

customer, it is important to recognize that in some instances the exact conversion

is necessary and in other instances a more "rounded" conversion is appropriate.

CONVERSION FACTORS

1 inch (in.)	=	25.4 mm	32 fluid ounces - US (oz.)	=	1 US qt.
1 foot (ft.)	=	0.3048 m	40 fluid ounces - Canadian (oz.)	=	1 Canadian qt.
1 yard (yd.)	=	0.9144 m			
1 mile (mi.)	=	1.609 km	1 fluid ounce - US (oz.)	=	29.6 mL
			1 fluid ounce - Canadian (oz.)	=	22.8 mL
1 ounce - avoirdupois (oz.)	=	28.35 g	1 cup - US (cup)	=	236mL
1 pound - avoirdupois (lb.)	=	0.454 kg	1 cup - Canadian (cup)	=	227mL
			1 quart - US (qt)	=	0.946 L
1 pound per square inch (psi)	=	6.895 kN/m ²	1 quart - Canadian (qt)	=	1.136 L
1 pound per square foot (psf)	=	0.04788 kPa	1 gallon - US (gal.)	=	3.785 L
			1 gallon - Canadian (gal.)	=	4.546 L

$$\text{Celsius temperature} = (\text{Fahrenheit temperature} - 32) / 1.8$$

SOME TYPICAL MEASUREMENTS FOR HARDWARE AND FASTENER PRODUCTS

("rounded" conversions)

Length		Length		Length		Length		Weight	
in.	mm	in.	mm	in.	m	ft.	m	lbs	kg
1/32	0.8	1 3/8	35	48	1.2	7.5	2.3	1	0.45
1/8	3.2	1 1/2	38	60	1.5	10	3.0	10	4.5
1/4	6.4	2	51	72	1.8	12	3.7	50	22.7
3/8	9.5	4	102	84	2.1	18	5.5	100	45.4
1/2	12.7	12	305	90	2.3	25	7.6	750	340
5/8	15.9	18	457	120	3.0	50	15.2	1250	567
3/4	19.1	24	610	156	4.0	75	22.9	1900	862
7/8	22.2	30	762	216	5.5	100	30.5	2650	1202
1	25.4	36	914	312	7.9			5000	2268

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