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News Release
For Immediate Release

Revolution of the Insulation

AK-Green Dot 225TM EPS

The Only Trustworthy Choice!

While polyurethane has long been considered the favored insulation for low temperature applications, a closer look reveals that *AK-Green Dot 225 Ultra Hi-Density EPSTM proprietary AmeriKooler insulation is the trustworthy choice.* AK-Green Dot 225 Ultra Hi-Density EPSTM guarantees that its' R-Value will remain constant from day one for the life of the product and AmeriKooler provides a 20 year constant R-value written warranty to back it up. This is significant because since January 1, 2005 the Environmental Protection Agency (EPA) mandated the use of a new blowing agent. No polyurethane panel manufacturer can guarantee their R-Value past six months. It is public knowledge and widely known that polyurethane loses up to 30% of its R-Value and slowly continues to drop due to thermal drifting. *The Design In-Service R-Value* thermal performance of polyurethane foam insulation has been increasingly debated among industry professionals. The term R-Value by itself has become meaningless because as more sophisticated materials and higher technology manufacturing methods are introduced into the cold storage industry we find that the R-Value of a material does not tell the whole story.

The term R-Value was developed to represent an insulation materials ability to restrict heat flow. There are other important factors that affect the performance of insulation products after they are manufactured. Depending on the insulation material used, the R-Value can slowly be reduced over-time as the material ages. This should be considered when the designer, engineer, and consultant calculate the expected performance for the time in use of the insulation material that they are recommending. Polyurethane foam insulation materials use blowing agents that have a high resistance to heat flow causing the insulation to have an *abnormally high R-Value at the time of manufacture.* It is known that these blowing agents diffuse from the cellular structure of the foam until a level of equilibrium is reached many years after it is manufactured.

As the abnormally high R-Value gases diffuse out of the cellular structure, the ability of the polyurethane insulation to prevent heat transfer is reduced, losing up to 30% of its original insulating ability and continues to deteriorate. AK-Green Dot 225 Ultra Hi-Density EPS™ does not use these types of blowing agents; therefore, its insulation performance remains stable over its entire life. As technology improves and our understanding of thermal performance increases we now know that there are many more factors to consider than just R-Value. Defrost cycles, air and humidity infiltration, empty pockets, poor formulation, poor dimensional stability, and poor density all are factors that contribute to the poor thermal performance of a insulation system beyond R-Value.

When polyurethane manufacturing companies provide R-Values of 30 to 34 for 4” insulation, they are providing what is called *initial* R-Values; the R-Value it has at time of pouring in place at a mean temperature of 75°F (which is an ambient temperature of 100°F and interior temperature of 50°F which is not based on real conditions). These initial R-Values may also be based on banned blowing agents, such as HCFC-141b, which the U.S. Environmental Protection Agency (EPA) took *final action* in 2004 to *change the listing from acceptable to unacceptable for use of foam blowing agent* under the Significant Alternatives Policy (SNAP) Program under section 612 of the Clean Air Act for Class I substances.

AK-Green Dot 225 Ultra Hi-Density EPS™ insulation has an R-Value of 5.5 per inch, for a freezer inside temperature of -10°F with an ambient temperature of 75°F. This equates to a mean temperature of 32.5°F as in real life applications; once again without any loss of the Design In-Service R-Value for the life of the product. You will not experience any energy use increases because AK-Green Dot 225 Ultra Hi-Density EPS™ guarantees its short and long term thermal resistance (LTTR) will remain constant for 20 years. Polyurethane drops its initial R-Value in the short and long term which will increase the amount of energy dollars used to operate the refrigeration system which will have to work harder and have a shorter life. You will also experience product loss because the box will not be able to hold temperature.

What people know as Expanded Polystyrene (EPS) is what is called TYPE I, low density, recycled (30%) material which is used for packaging, light weight concrete roofing and certain companies use it for walk in cooler (4” thick) panels. This type of insulation has an R-Value of 4.1 per inch or approximately 16.40 for a 4” panel. AmeriKooler only uses this type of expanded polystyrene exclusively for packaging.

In order to make a fair comparison on the purchase of a walk-in cooler or freezer you will have to take many factors into consideration. The first would be the type of insulation, its R-Value and for how long does the insulation R-Value remain constant. Second, what type of refrigeration system will be required based on the BTU load calculation required for the specific use and location. Third if the refrigeration system is semi-hermetic or hermetic. Fourth what voltage, single or three phase and whether it is 50 cycle or 60 cycle (we de-rate the refrigeration equipment to match the 50 cycle operation as required). If the refrigeration system comes with all loose components or pre-wired, pre-assembled condensing unit only with its matching evaporator coil with loose accessories,

or both the condensing unit and evaporator coil completely pre-wired and pre-assembled (no loose accessories). AmeriKooler provides Heatcraft, Climate Control refrigeration systems. The condensing units are more efficient and provide more BTU's due to the fact of the increase of the condenser surface, and fan motor CFM size. Every 50 cycle system is provided with an evaporator coil with PSC wired fan motor for optimizing motor life and minimizing energy consumption of the entire refrigeration system.

AmeriKooler was established on principles that do not change: Integrity, reliability, responsibility, and quality products. We incorporate these principles and commitments in all phases of our operations and in the continued striving for improvement in all our activities. Our 210,000 square foot facility is the product of our commitment to continuous improvement, and extensive research and development. As a result, we have the most sophisticated integrated network of proprietary robotic CAD-CAM machines and custom software in the industry. Our goal is to be recognized as the best possible panel manufacturer and a leader in the cold storage industry.

In conclusion, with all the controversy surrounding the *aged* (180 days) test R-Value of polyurethane insulation, can you really know what R-Value you're getting? Wouldn't it make a lot more sense to use AK-Green Dot 225 Ultra Hi-Density EPS™ insulation with a written 20 year Design In-Service Constant R-Value warranty?

Sincerely,

Gian Carlo Alonso

Vice President
AmeriKooler Inc.

...home of the [20-Year R-Value Warranty!](#)

...we sell the difference!