



Alufoil keeps you warm in winter

— *unique properties combine well with other technologies to keep out the cold*

Traditionally keeping out the winter cold has meant adding extra layers of clothes, eating and drinking appropriately and turning up the heating. Governments and other advisory bodies now offer lists of 'do's and don'ts'. But with the cost of both food and heating soaring it is more important than ever to look at effective, less wasteful ways to stay warm.

Alufoil's contribution to this 'hot' topic is considerable and comes in a surprising variety of ways. It is present in domestic, commercial and industrial applications, as its unique properties, plus the ability to combine with other materials, means more sophisticated and cost effective solutions are now possible.

When it comes to food and drink, winter has always been a time to tuck in to some of the food preserved from summer crops or making warm, nourishing soups and stews as well as sipping on hot tea or other beverages. In this area alufoil has helped to revolutionise our winter diets and bring convenience without loss of quality, while adding to the variety of available products.

Smooth walled containers and foil lined cartons are now used to preserve many kinds of 'shelf-stable' products and are compact, can be portion sized and easy to open and prepare. Single portion



pouches and sachets make it easy to make very nourishing and warming beverages or soups and to consume these instantly or 'on the move' without fuss or waste.

In technical applications, such as modern insulation, aluminium foil's highly reflective surface

makes it indispensable in the insulation of homes, offices, factories and warehouses. Alufoil's versatility as a laminate and the ability to shape it and coat it with protective lacquer makes it a cleaner and a highly effective material.

Continued on following pages ///

Confidence for 2011 remains at high level

The strong growth rates seen over the past few quarters were consolidated in a very robust performance for the sector in the first half of 2011. With no clear recovery in sight for many Western economies the results show a very resilient core market for alufoil products. Figures for aluminium foil deliveries in the period to June 30 dipped by just 0.9% to 419,000 tonnes, according to data published by the European Aluminium Foil Association (EAFA).

Thicker alufoil gauges, used mainly for semi-rigid foil trays and technical applications, rose by 1.2%, while thinner gauges used mainly in flexible packaging and household foil, fell by 4.5%. Exports outside the EAFA region grew by almost 10%.

EAFA President François Coëffic remains confident: "After a destocking phase, especially at converter level, we expect 2011 to remain on track to be one of best years in alufoil's history." // www.alufoil.org

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Keeping warm in winter



Perfect partners for insulation

Aluminium foil supplied by Amcor is being used as a cover layer for thermal insulation boards made from rigid polyurethane foam (PUR/PIR), extensively used in building construction. As a result both the weight and thickness of the boards is significantly reduced. They are also totally recyclable.

In addition to excellent thermal properties the foil acts as a vapour barrier which helps to prevent mould forming on the interlayers. The alufoil cover also prevents out gassing of the porous PUR/PIR from oxygen, which increases the lifespan of the boards to 50 years and reduces the fire risk. ///

Caring for cables

Today underground cables carry many vital services supplying energy and communications. In the winter months heat and the ability to contact isolated or stranded people is potentially life saving.

The perfect material for protecting cables is alufoil. It is ideal for insulating energy cables due to its high conductivity and light weight; especially important for heavy, high voltage cables. Also it can prevent electric shocks from damaged cables.

Alufoil ensures electromagnetic compatibility and can be used to locate damage. Its barrier properties protect optic fibres against moisture and provide an electromagnetic field for communication cables.

Suppliers like Novelis, Carcano and Assan Aluminium produce plain and coated foil for a range of cable applications. ///



Reflecting excellence

Just as humans lose considerable heat through their head, all buildings tend to 'leak' significant amounts of heat through roof spaces. In the winter the majority of the radiant heat generated to keep us comfortable is lost through the ceiling.

Up to 93% of heat transfer is radiant and fibreglass and cellulose insulation do not slow down radiant heat loss.

Because aluminium foil reflects 97% of radiant heat its performance as an insulation material is unrivalled. Also it can be shaped, laminated and coated with protective lacquer to make it a truly multi-purpose material.



Various kinds of alufoil material are now on the market. One example is bubble foil insulation which uses a combination of reflective alufoil along with a single layer of bubble insulation or a double layer of bubble insulation to reflect heat.

Radiant barrier insulation is generally manufactured in two versions: Perforated and Solid. Perforated incorporates tiny holes which are evenly spaced across the surface of the reflective alufoil, allowing air to pass and eliminate the build up of condensation from the extreme temperature differences on each side. This insulation is usually found under rafters or over the floor of the attic. Solid radiant barrier is used where a vapour barrier is required, such as a basement wall.

Roof insulation for large buildings such as warehouses, which incorporate alufoil, makes fitting faster and more efficient due to its light weight and ease of handling. Health and safety is also improved as there are no hazardous fibres.

Additionally efficient wall insulation can save costs and also increase floor space. A foil-base insulation layer inside a foil-foam lining can avoid the need for an inner brick skin; the inner surface is an insulated framed dry lining. ///



The heat is on!

Heat exchangers are now a vital component of many heating (and cooling) applications. Their use extends across many aspects of everyday life, but particularly climate control in buildings and vehicles. Yet they are often unseen, as alufoil has transformed the shape and size of units so they can be tucked away in convenient corners of a structure or engine cavity

Previously heat exchangers were predominantly made of copper, but are now almost entirely made using aluminium or aluminium foil. Alloys which offer excellent heat conductivity combined with much less weight have revolutionised the design and use of these units.

As well as the development of different alloys, new brazing techniques and other joining methods together with the introduction of 'clad' materials, which com-



Picture: Hydro

bine strength and surface durability with ease of bonding, have ensured that aluminium foil is now the material of choice.

Automobile engines and climate control equipment rely on the lightness and conductivity of finned aluminium heat exchangers. As they save weight the 'knock on' benefit is reduced fuel demand, while the improved performance means smaller, more efficient radiators. ///

Keeping warm in winter

The inside story

— *Keeping warm is about what you eat and drink too – alufoil makes it easier!*

The way we prepare and consume hot soup and beverages has changed dramatically in the last two decades. People still need the comfort of being warmed up from the inside in cold weather. But they can now enjoy it instantly thanks to packaging made from aluminium foil.

Hot soups are an instant success

For soup the big pot on the stove was replaced by the can and this, in turn, has increasingly given way to pouches and sachets which offer a perfect package with lightweight aluminium foil providing a protective barrier, convenience and resource efficiency.

Dry soups in sachets are well established, but continuous development has improved customer convenience and product quality. For wet soups,



sterilisable stand-up pouches are an ideal solution, being attractive, helping to increase the variety of products available and having a long shelf life without refrigeration.

As the packs made by Huhtamaki illustrate, the variety of products and their packaging is considerable. The eye-catching, but also convenient shapes and pack types provide excellent storage life. Food-on-the-go options can be carried around in a bag or briefcase and the tear strip makes it simple to open.

A recent Lifecycle Analysis (LCA) undertaken for EAFA on a stand-up alufoil laminate pouch containing goulash soup demonstrated the minimal environmental impact of this packaging. Pouches have opened up the range of possibilities for consumers in the wet soup flavours and ingredients. ///

From capsule to cup

The term 'instant coffee' can now mean anything from latte to espresso, or even the traditional Americano, perfectly prepared in seconds. While tea in an abundance of flavours and colours is ready to consume in the time it takes to pour water over the contents of the single serve sachet. All this warming liquid is made possible using alufoil technology.

Ancor Flexibles Rorschach has worked with Nestle on a single serve extraction capsule for its Special T brand. Aluminium foil capsules are coloured, heat-seal lacquered on the inside and individual stove lacquered on the outside. The lid is embossed alufoil which is, again, heat-seal lacquered.



Currently available in France and Switzerland the complete system is sold via the Internet. Up to 25 different beverage varieties are available, identified by the lacquers which are visible to the consumer as a coloured ribbon, used in combination with the outside capsule colour. ///

Just plug in for hot meals on wheels

A new carbon heater system, made in Germany and sold exclusively by Novelis OHLER Packaging Systems, can keep ready meals in alufoil containers at the perfect temperature while the food is in transit to its destination.

The system consists of an insulated meal transport box with a thermal mat at the bottom which main-

tains a constant 75°C automatically. It can run from both mains electricity at 230 volt or off a 12 volt system available for delivery vans and cars.

Ideal for meals in alufoil containers the mat is only a few millimetres thick and weighs just 300g. Also it contains an aluminium foil layer laminated with other materials to ensure perfect conductivity. ///



Food without fuss

Enjoying dinner with friends and family on a cold winter evening is something special but the preparation and cooking can be time consuming. Now some of the fuss and effort could be a thing of the past, thanks to microwave shielding technology recently developed by NORDENIA.

The NOR®Guardit pouch incorporates an alufoil based grid, applied in register between a PE or PP sealant film and a reverse printed PET film. In operation the grid reflects the microwave energy and improves cooking through reduced moisture loss and the elimination of 'hot' or 'cool' spots, in effect providing a controlled shielding from microwaves. The technology prevents uncooked or burned spots on large or unevenly shaped food.

The aluminium grids were specifically designed to reflect 20-40% of the radiation energy. The degree of reflection is controlled by the mesh size of each grid.

In addition, a newly developed steam valve for this package enables the steaming of food in the microwave for the first time. As soon as a certain pressure or temperature is reached the valve emits steam in a controlled manner. Despite the valve, the packaging is sealed in an airtight manner before cooking. ///



interpack 2011

Alufoil makes the grilling great at interpack!

As predicted the "Alufoil BBQ Arena", at the centre of the interpack showground, proved a spectacular success! Professional BBQ teams from all over the world demonstrated just how many different features of aluminium foil can be put to good use for barbecues and grills. Visitors enjoyed a feast of tasty foods five times a day.

The Arena featured teams serving up a variety of creative barbecue dishes, containing meat, fish or vegetables. Aluminium foil featured strongly in the form of classic household foil, barbecue trays, or containers for attractive displays of grilled food; proving it is an omnipresent part of the barbecue experience. All the food samples were served in alufoil containers supplied by Constantia Teich. Additionally, visitors enjoyed their beer in aluminium cans with foil lids provided by Constantia H&N.

Right after interpack the World Grill and Barbecue Championship 2011 were held in Gronau, Germany. The European Aluminium Foil Association (EAFA) was the main sponsor and during the competition 52km of household foil, supplied by Hydro and ITS Foil, was used by the 73 competing teams. They all agreed the excellent foil quality helped them use fewer meters.

Meals for the judges were served exclusively in alufoil trays and containers supplied by Bachmann Aluminium. Throughout the event the alufoil was collected for recycling.

The creative flair of aluminium foil in the world of barbecuing was very much centre stage, showing that it is an ideal partner for protection, convenience and efficiency. ///



... And the Winner is!

Christoph Gollenz and his team Goli & Chef Partie from Austria is the winner of the World Grill & BBQ Championship 2011, sponsored by EAFA and held in Gronau, Germany. ///

Save Food conference reinforces key EAFA messages

The **Save Food Pavilion and Conference** during interpack 2011 sent clear messages concerning the value of packaging in conserving resources, preventing food waste and facilitating sustainable lifestyles. It clearly demonstrated the value of packaging in a resource efficient economy, reinforcing the work of EAFA/FPPE.

Two recent studies were carried out by the Swedish Institute for Food and Biotechnology (SIK). One covered high/medium income countries, the other low-income countries. Seven commodity groups were chosen: cereals; roots and tubers; oil-seeds and pulses; fruit and vegetables; meat and seafood; and dairy products.

One of the five steps covered in the food supply chain research was processing and packaging. Distribution (wholesale and retail) and consumption were also included.

Statistics indicate an average of one-third of food for human consumption gets lost or wasted globally each year, about 1.3 billion tonnes. In low-income countries food loss happens in the early and middle stages of the supply chain; much less is wasted at consumer level.

Per capita food waste by consumers in Europe and North America is 95-115 kg/year (equivalent to 9 - 10% of avg. income); in Sub-Saharan Africa and

South/South East Asia this figure is only 6 - 11 kg/year (but equivalent to 50 - 95% of avg. income)!

It was agreed that the packaging industry's development is key to reducing food loss. Potential exists for more package and machine manufacturing in developing countries, to facilitate food processing nearer production sources and replace imports.

The Declaration signed by all speakers at the event stated "We consider global food losses as one of the most urgent problems for the international community ... In the event food producers, as well as distributors, are able to make a difference, we encourage companies to enable change". ///



Key conference messages:

Modibo Tiemoko Traore, Assistant Director General, Agriculture and Consumer Protection, focused on combating hunger. Food production must increase by 70% by 2050 and 100% in D&E countries with a target to reduce food waste by 50% by 2015.

Prof. Klaus Töpfer, former Executive Director of the UN Environment Programme and Chairman of the Ethics Committee for Atomic Energy said high-income countries need to change their throwaway

and energy-wasting mentality. The packaging industry has done a great job but still has a major obligation to collaborate with other sectors to develop solutions along the food value chain.

Ilse Aigner, German Federal Minister of Food, Agriculture and Consumer Protection said 900 million people globally still suffer with hunger. In Germany 20 million tonnes of food is thrown away annually. ///



EAFA European Aluminium Foil Association

The international body representing foil rollers, container, household foil and flexible packaging manufacturers.



— Find out more about alufoil!

Visit www.alufoil.org where you can find out all about every EAFA member, make business enquiries and see the latest news about alufoil applications and the industry.

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