ANTIBLAZE® FIRE RETARDANT BUILDING FOILS TYPES 990,760 AND WHITECAP®

Introduction

Duroid® Antiblaze® reflective foil insulation is a product range of fire retardant, double sided, scuff resistant aluminium laminates with high mechanical strength. Ideal for a variety of applications within the building industry they are primarily designed for use as radiant heat and vapour barriers. The fire retardant characteristics of these products are essential to protect against the spread of fires in modern buildings.

Antiblaze® Whitecap® is a fire retardant laminate with one face of reflective aluminium foil and the other face consisting of a white polypropylene sheet. Installed with the white surface facing downwards Whitecap® offers an aesthetic appearance and increased light reflection as well as a barrier to heat and vapour.

Architects can easily incorporate Antiblaze® and Whitecap® into the design of any structure creating highly cost effective protection against heat build-up within a structure. This brochure gives advice and details to assist with selection and use of this range of products:

Antiblaze® 990 Heavy Weight Self Supporting
Antiblaze® 760 Medium Weight
Antiblaze® Whitecap Medium Weight

Compliance to International Standards

- AS 1530 Part 2 Test for Flammability of Materials: Flammability Index: 5
- AS 1530 Part 3 Early Fire Hazard Properties of Materials.
- BS 476 Part 6: 1989 and Part 7: 1997 PSB Certificate of Conformity: Class O.
- BS 476 Part 6: 1989 and Part 7: 1997 Warrington Fire Research UK: Class O.
- BS 476 Part 12: 1991. Test for Ignitability of Products by Direct Flame Impingement. Warrington Fire Research UK.
- UL 723 Surface Burning Characteristics. Omega Point Laboratories Inc.
- ASTM E96 Water Vapour Permanence and Water Vapour Flow Resistance.
- ASTM E 408 Test for Surface Emittance.

Quality Assured Company

General Applications

Product selection/specification varies according to the end use of product. Only double sided, fire retardant, fully reinforced materials should be used, especially for roofing and vapour barrier applications where mechanical strength is essential and to obtain maximum efficiency.

When installed according to manufacturer's specifications the aluminium surface of the Antiblaze® range can reflect away up to 97% of the radiated heat which falls upon its surface. By incorporating Antiblaze® into the ceilings and walls of a structure it provides an effective barrier to the suns heat.

The white surface of Antiblaze® Whitecap® provides an aesthetic appearance from the underside and excellent internal light reflectivity and dispersion, thereby increasing lighting efficiency and potentially reducing energy costs. The white polypropylene surface is also resistant to corrosion and chemicals.

Antiblaze® foil insulation is highly impermable to moisture vapours. Thus, it is an effective vapour barrier membrane which when installed correctly can protect against condensation and mildew. When installed as a vapour barrier overlapped edges and openings should be sealed with self adhesive aluminium tape to complete the vapour seal. On air-conditioning ductwork glues and/or mechanical fixing should be the primary support for joins in the foil laminate, with aluminium tape forming the vapour seal.

Recommended Product Applications

Antiblaze® 990: Designed for use as a self supporting radiant heat and vapour barrier in industrial and commercial roofs and walls. Use for all high quality, heavy duty work requiring excellent mechanical strength.

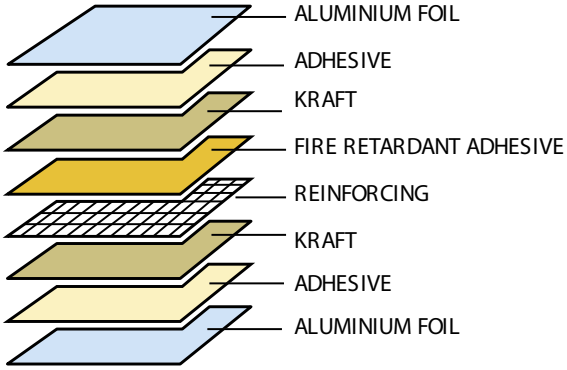
Antiblaze® 760: Designed for use in residential housing and when a vapour barrier is required in air-conditioning duct wrapping.

Antiblaze® Whitecap®: Designed for commercial and industrial buildings as a roofing underlay or as a vapour barrier where an attractive white surface is required. Thermal insulation is considered a secondary function after serving primarily as a vapour barrier and providing an aesthetically pleasing surface.

Product Composition

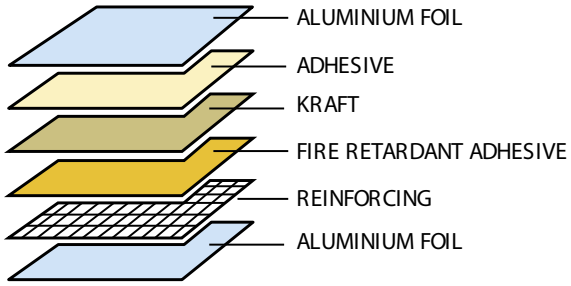
The Antiblaze® range consist of two faces of pure polished aluminium foil laminated with fire retardant thermosetting adhesives to high density kraft paper and incorporating multidirectal inert fibre reinforcing for superior mechanical and tensile strength. The products are supplied in standard rolls of 75m^2, roll measurements are: 1.35m x 56m

Antiblaze® 990



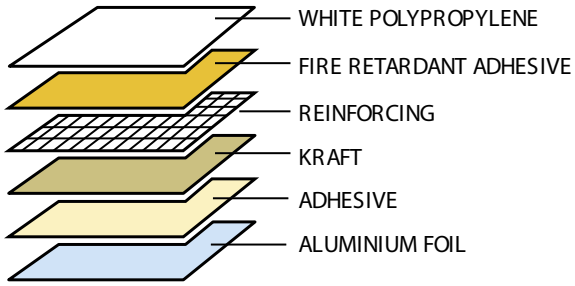
Antiblaze® 990 is a heavy weight 8 layer laminate consisting of two non scuff Albar faces. The exceptionally high tensile strength of Antiblaze® 990 allows installation aross spans of up to 1200mm without requiring a supporting mesh.

Antiblaze® 760



Antiblaze 760 is a medium weight 6 layer laminate with one non scuff Albar surface. A supporting mesh is required when installing Antiblaze 760 across spans greater than 600mm.

Antiblaze® Whitecap®



Antiblaze® Whitecap® is a medium weight 6 layer laminate consisting of one non scuff aluminium surface and one non scuff white polypropylene laminate.

Performance

As a Radiant Barrier
The efficiency of the product is based on the characteristics of pure aluminium. Pure aluminium installed alongside an air space will reflect more than 95% and will emit only 5% of radiated heat. This means that any air gap adjacent to the product will become a highly resistant barrier to the transfer of heat. This is the most effective and economic method of reducing the transfer of heat into a building.

Just as heat radiated from the sun travels the many millions of kilometres to earth, radiated heat passes with ease into any structure not protected by a radiant heat barrier. Radiated heat accounts for more than 90% of the heat that enters your home, and by installing Antiblaze® reflective heat barriers you can block 95% of the flow of radiated heat.

Radiant barriers are perfect for use in tropical environments where protection is required from heat flowing downward into the structure. By installing Antiblaze® fire retardant heat barriers alongside still air spaces, very high thermal insulation values can be achieved, often much more effectively that with mass insulation. The airspace required must be a minimum of 50mm.

As a Vapour Barrier
In tropical environments where humidity is high and the use of air conditioning is common condensation and mould problems can often occur if vapour barriers are not used to seal out the hot humid air. In walls/roofs where moisture related problems are expected use only Antiblaze® 990.

Due to their low permeability Antiblaze® products are ideal for preventing moisture entering mass insulation materials which loose their insulating properties when moist. For this reason Antiblaze® is useful for air-conditioning duct wrapping by acting as a vapour barrier to prevent moisture penetrating the mass insulation and by providing high mechanical strength.

For a complete vapour barrier seal all lap joints (150mm) and openings with pressure-sensitive adhesive tape. The very low permeability of the membrane is of no value if a complete seal does not exist.

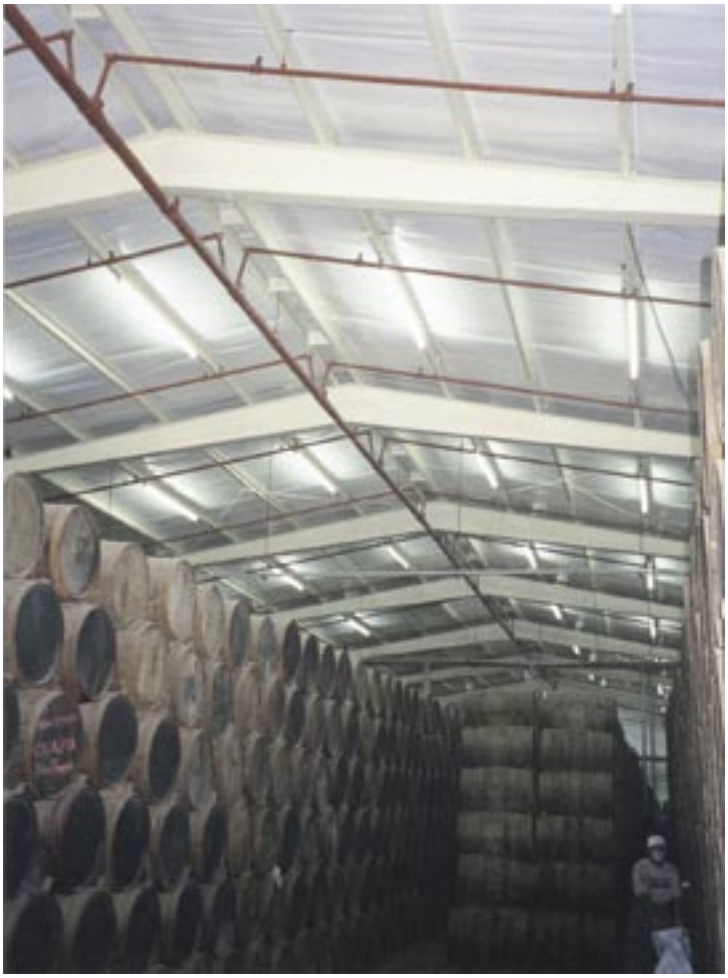
Product Characteristics

The properties of Antiblaze® foils make them ideal for all applications where fire retardant membranes are required as functional elements in buildings.
Features include:

- Highly Fire Retardant
- Flexible, Pliable
- Reinforced for puncture, tear resistance
- Reflect light and heat
- Clean and Dust Free
- Highly impermeable to moisture vapour
- High Mechanical strength

Durability: Established use of reflective foil laminates over many years indicates durability for the life of the building if contamination is prevented.

Light Reflectance: The white surface of Whitecap® reflective foil insulation reflects up to 82% of visible light, in comparison to aluminium surfaces which reflect only 58% of visible light.



Compatibility: Avoid contact with moisture and alkaline surfaces such as concrete. Contact with copper or run off from copper, sea air, high levels of humidity or acidic environments will reduce life expectancy of the product. Keep dry in service. Please consult distributor if in doubt. Toxic fumes in some industrial situations such a tanneries, fertiliser works and mushroom sheds may affect aluminium surfaces.

Installation

Rolls should be kept dry until used. Pre cutting the length required can save placement problems where a full roll may be difficult to handle, especially on roofs. Foil laminate may be run vertically or horizontally but horizontally is preferred for tile roofs. Any damage from wind or following sub trades must be repaired with aluminium foil tape before closing in. If vapour barrier effect is required, all laps and openings must be sealed with alumiunium tape and inspected before closing in. Correct installation is vital.

Fixing

In many floor, wall and roof situations only light or temporary fixing is required until rigid sheets are applied over the foil laminate. Polypropylene strip with staples or disk type pronged fixings may be used on exposed sites if required.

For air-conditioning ductwork and cold water pipes, the mass insulation material should be close butted and independently held secure in position. Antiblaze® vapour barrier can then be installed with all laps glued or mechanically fixed before taping. Lap joints must be 100mm minimum.

Accessories: A variety of self adhesive aluminium tapes are available for sealing laps and openings where vapour barrier effect is required. Contact adhesive can be used to fix laps in place before sealing with tape.

Supply

Current prices and roll sizes for all Duroid products are readily available from local distributors. Product availability is assured by Duroid. In case of any difficulty please contact Tasman Insulation New Zealand Ltd, Auckland, New Zealand.

Technical Services

Overseas enquiries are welcome. Product selection advice, consultancy, and samples, are available free to all architects and specifiers. For futher information please contact your local distributor or Tasman Insulation New Zealand Ltd. Tasman Insulation New Zealand exports its products to more than 30 countries worldwide and has experience to draw on for the benefit of all users.

Distributed by:

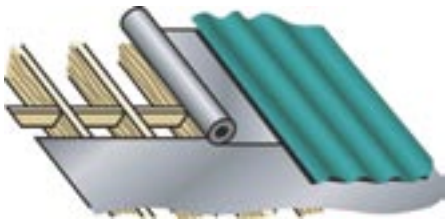
www.tasmaninsulation.com

Tasman Insulation New Zealand Limited
P.O Box 12-069, Penrose, Auckland, New Zealand
Tel: 64 9 579 6789, Fax: 64 9 579 5130

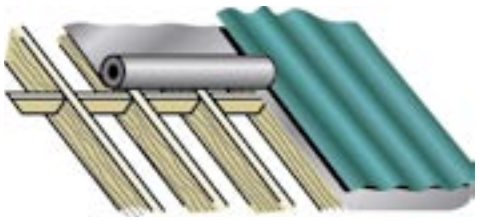
Suggested Brief Specification Notes

Roofs

Lay Antiblaze® horizontally starting at the gutter line and lapping 150mm up the roof slope (for vapour barrier specify seal laps and openings). Vertical application i.e. laying the membrane on the ridge to gutter direction is an option with sheet and strip roofing.



Start at gutter and layer moving up roof slope.



Vertical application is an option with sheet roofing.

Walls

Fix Antiblaze® to external side of wall studs (for vapour barrier specify seal laps and openings). In walls where no mass insulation material is used and the foil membrane is not used as a vapour barrier, fixing Antiblaze® foil at vertical mid-line of stud cavity gives two still air spaces and thus improves thermal insulation performance.

Fix Antiblaze® to wall studs.

Air-conditioning Ductwork and Coldwater Pipes

The contractor may choose method of applying i.e. laminating Antiblaze® to mass insulation material before total application, or wrapping after mass insulation material is in place. In all cases 100mm minimum lap joints are required.

Particular attention shall be given to sealing laps and junctions. Self adhesive tape shall be used for sealing laps, taking care to obtain complete adhesion. The Antiblaze® shall be placed with its main reinforcing pattern to the inside.

Thorough and neat professional workmanship is required to achieve the complete air/moisture vapour barrier.