

premium products • proven solutions

Uniclass
JJ41
CI/SB
(47) L62

May 2009

Alumasc

Flat Roofing and Waterproofing Systems

Derbigum



Maintaining a Flow of Information

www.alumascwaterproofing.co.uk

The Alumasc waterproofing website provides a wealth of information on all aspects of Flat Roofing, Waterproofing and Green Roof systems and compatible products. Also included are FAQs, file downloads for NBS specification clauses, COSHH information, a CAD library, and much more.



Technical Support

Alumasc Waterproofing Systems are backed up by comprehensive technical literature and by hands-on project support starting with technical and design advice, and extending through site installation to recommendation of appropriate maintenance regimes. Implementation is led by the Alumasc Waterproofing Manager appointed to the project.

Contents

Introduction	
▪ Alumasc	4
▪ Quality and Sustainability	5
▪ Derbigum Superior Performance	6
▪ Why Should I Consider Derbigum Membranes?	7
Derbigum Membranes	
▪ Derbigum Membrane Summary	8
▪ Derbigum Installation Method Summary	9
▪ Derbigum Black	10
▪ Derbigum Mineral	11
▪ Derbibrite	12
▪ Derbigum GC and Derbigum Anti-Root	13
▪ Derbigum Installation Methods	14
Derbigum Systems	
▪ Derbigum Systems Summary	16
▪ Derbigum Built Up	18
▪ Derbigum Single Layer	20
▪ Derbigum for Green Roofs	22
▪ Derbibrite Cool Roofs	24
▪ Derbigum GC Structural Waterproofing	26
Derbigum Project Gallery	28
New Build: Design and Specification	
▪ Design Considerations	30
▪ Specifications and Details	32
Refurbishment: Design and Specification	
▪ Design Considerations	38
▪ Specifications and Details	40
Application Details	46
Accessories and Complementary Products	
▪ Derbigum Accessories	50
▪ Harmer Roof Outlets	51
▪ Harmer Deck/Paving Supports	52
▪ Alumasc Rooflights	53
▪ ROOF-PRO Roofing Products	54
▪ Skyline Coping	55
Alumasc Project Support	56
Approved Contractors and Warranties	57
System Components	58
Alumasc Premium Products	62
Proven Project Track Record	63



Alumasc - An Introduction

Alumasc Exterior Building Products is part of the Alumasc Group plc. The Group has over 900 employees, generating turnover of around £126 million. The aim is to focus on high quality, environmentally responsible building products within the construction arena in order to deliver first class customer service, long-term solutions and lasting relationships.

About Alumasc

Alumasc Exterior Building Products (Alumasc) is a leading supplier of premium products and systems for specification, generating an annual turnover in excess of £30 million. The Company has been a major force in the UK construction industry for over 30 years, during which time Alumasc products and systems have been used on some of Europe's most prestigious buildings.

Alumasc ensures a high quality of product specification and installation, delivering risk-free, zero-defect solutions. The Company's commitment to making ongoing improvements is demonstrated through its accreditation to the ISO 14001:2004 Environmental Management Standard.

By pursuing sustainable building products, systems and manufacturing processes, Alumasc aims to offer specifiers a wide choice of design alternatives, with long-term peace of mind. Recognised brands such as Harmer, Apex, Derbigum, ZinCo, Hydrotech, Armaseam and M.R., together with Alumasc's well-known architectural rainwater range have, in the main, been independently certified, and in some cases have a lifespan of up to 60 years or for the life of the building.

Alumasc brands are divided into distinct but interrelated groups:

- Rainwater
- Drainage
- Waterproofing
- Metal Roofing
- Façades

Services and Support

Alumasc leads the way in the field of construction product and system manufacture and the delivery of proven solutions. This success is founded on four key areas:

Premium Products

A constantly evolving range of quality proven, world class products and systems, fully accredited to UK, European and North American Standards.

Technical Support

Comprehensive data for specification and use of all products and systems is available in published form, and on the company website. This is backed up by pro-active support on a project basis, led by specialist area managers and using the latest CAD and calculation technology.

Approved Contractors

A rigorously trained and monitored installation network for each specialist system to ensure correct application on site.

Warranties

A comprehensive choice of Alumasc warranties, giving protection for up to 25 years, ensuring long-term peace of mind.



Quality and Sustainability

In addition to complying with environmental legislation, Alumasc is committed to developing its own measures to limit the adverse effects of its activities on the environment. To this end, Alumasc operates an environmental policy that fully integrates all aspects of company activities.



Quality

Alumasc operates a quality assurance management system which is independently audited to BS EN ISO 9001:2000. Alumasc extends this quality management to their network of approved installers, for single source accountability and peace of mind.

Individual products and systems are certified by the British Board of Agrément.



ISO 9001: 2000

The ISO 9001 framework governs the management of many aspects of Alumasc support services, manufacturing and transport operations.

Alumasc is committed to continual development and, along with the ISO 14001: 2004 Environmental Management Standard, ISO 9001 provides the tools to monitor and feed back information from all areas of the business to ensure a first class service is maintained.

Sustainability

Alumasc actively pursues sustainability in the full range of products and systems the company offers through its accreditation to the ISO 14001: 2004 Environmental Management Standard. Alumasc, its partners and its suppliers are committed to putting consideration for the built and wider environment at the core of all aspects of their current business and future development.

ISO 14001: 2004

Alumasc's manufacturing sites at St Helens and Burton Latimer are audited by Underwriters Laboratories to the ISO 14001: 2004 Environmental Management Standard.

Alumasc is committed to achieving improvements, not only as a good neighbour to the surroundings of their manufacturing plants, but in the responsible sourcing of raw materials and monitoring of their impact on the environment as a whole.



Development

Alumasc has within its portfolio a bedrock of environmentally sound products.

Development of existing sound products and practices is central to the success of Alumasc and key to the way in which it provides its proven solutions. Equally, the basis for any new and innovative development is grounded in the knowledge and experience Alumasc has of its core manufacturing materials.

'NT' - New Technologies

The evolution of Derbigum systems includes the 'NT' (New Technologies) initiative, which researches and promotes passive energy saving, the use of recycled and recyclable materials, and the increased inclusion of organic raw materials from sustainable sources. These new developments build on the long established Derbigum programmes for reduction of solvent content and production waste and energy in manufacture, application and service.



BRE Green Guide to Specification

Ratings for building materials given in the 2008 BRE Green Guide to Specification allows designers to choose those products or construction methods with the least environmental impact.

Derbigum high performance waterproofing membranes, contribute to a very good generic rating in the Green Guide to Specification dependent on the roof construction into which they are incorporated. This can range from an 'A+' rated warm roof construction on timber and metal decks through to a 'D' rated inverted build up incorporating concrete. The choice of substrate will greatly influence the final construction rating. Most warm roof constructions achieve an 'A+' or 'A'.

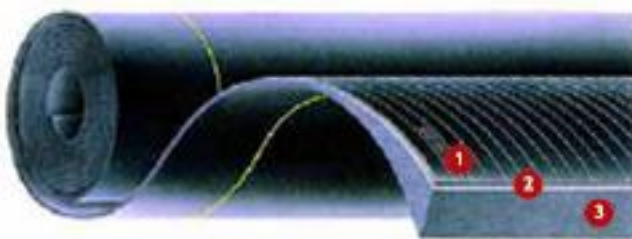
Derbigum Superior Performance

Derbigum has inspired confidence and peace of mind in building surveyors and architects since 1967. Over 600 million square metres have been installed worldwide, including 18 million square metres in the UK, making it the No.1 choice for roof waterproofing.

Introduction

Derbigum is a range of dual-reinforced, APP (Atactic Polypropylene) modified bitumen, high performance roofing and waterproofing membranes with a life expectancy of 30-35 years according to independent assessment. Enhanced performance properties include flexibility, excellent fire ratings, stronger reinforcement and ease of application.

Derbigum is installed only by leading UK contractors, guaranteeing expertise and quality control. Derbigum Approved Contractors work in a formal partnership with Alumasc, ensuring practical and durable solutions for flat roofing and waterproofing projects.



- 1 Glass fibre reinforced weathering surface
- 2 High tensile polyester core
- 3 Built-in heat-activated adhesive underlayer



Derbigum Membranes

APP Polymer Modification

What distinguishes Derbigum from other waterproofing membranes is its unique blend of bitumen mixed with high-grade APP (Atactic Polypropylene) polymers to protect against ageing and UV radiation. The result is a membrane with multiple advantages, designed to last more than 30 years.

Derbigum's excellent life expectancy is a direct result of the application of superior blending technology and an unrivalled understanding of the chemistry of polymer modification driven by 40 years of development and experience.



APP v SBS

APP (Atactic Polypropylene) and SBS (Styrene-Butadiene-Styrene) are the two main polymers used to modify high performance bitumen-based roofing membranes. All Derbigum membranes are modified with APP, which is the highest quality polymer in the polypropylene group of polymers. Its high molecular weight and low crystallinity produce a finished product with:

- Increased resistance to ageing
- The best low temperature flexibility
- Improved adhesion

These features of APP modified bitumen provide a membrane with superior characteristics of performance and longevity compared to SBS modified membranes.

FM Global (Factory Mutual)

Derbigum is also available in an FM Global blend. This has been formulated to meet FM Global requirements and is available to order for projects requiring FM Global approval.

Award Winning

Derbigum was winner of the Flat Roofing Alliance 2004 Product Excellence Award and was commended by the judges for its long-term performance. The FRA recognises the key role played by a particular product/system used with, or incorporated into, a predominantly bituminous built up roof.

Why Should I Consider Derbigum Membranes?

Derbigum membranes offer a number of key benefits and superior performance characteristics to architects, specifiers and contractors.

30-35 Years Life Expectancy

Examinations on roof constructions with a Derbigum upper layer were carried out by BDA Dakaðvies, on roofs aged between 10 and 27 years old. The assessors said 'the quality of these old Derbigum roofs is still such that the remaining lifespan will still be several years. This means that the life expectancy can be adjusted from 30 to 35 years.'

In the Derbigum BBA Certificate 86/1593C, the BBA say 'All available evidence suggests that the product will have a life in excess of 30 years.'

It is also widely acknowledged that the installation of an inverted or green roof build-up will significantly enhance the lifespan of the roofing membrane below.

Durability

Derbigum has a high melt point ensuring stability of the membrane in the hottest weather. It has high tensile strength and its pliability ensures enhanced puncture resistance.

UV Resistance

Derbigum can be installed without any surfacing, regardless of the method of application due to the unique blend of polymers which make Derbigum resistant to UV degradation.

Wind Uplift Testing

Derbigum systems are rigorously tested in-house to ensure security in extreme wind uplift conditions in accordance with BS 6399-2: 1997.



Wind uplift testing

Choice of Installation Method

Five different installation methods are available, ranging from torch application and mechanical attachment to completely heat and flame-free installation.

Recyclable

Derbigum and Derbigum NT can be recycled together using the Macaluser® technique – a unique bitumen waste processor, recycling roof and construction waste.



Derbigum NT itself is supplied in polyethylene-lined drums which are uncontaminated after use and re-usable.

Fire Performance

The highest rating of F,AA is achieved by Derbigum Mineral. Standard Derbigum Black has a fire rating of F,AC to BS 476: Part 3 (EN 1187/4). The use of both Derbigum Black and Derbigum Mineral is unrestricted under the current Building Regulations.

In addition to meeting the above UK fire ratings, Derbigum is also available in formulations that meet all the tests under consideration for the new harmonised European fire rating standard. Derbigum (FR Blend) passes the German (EN 1187/1), the Nordic (EN 1187/2) and the French (EN 1187/3) fire tests. The harmonised European fire test will ultimately be chosen from the above test methods.



German fire test - EN 1187/1



Nordic fire test - EN 1187/2

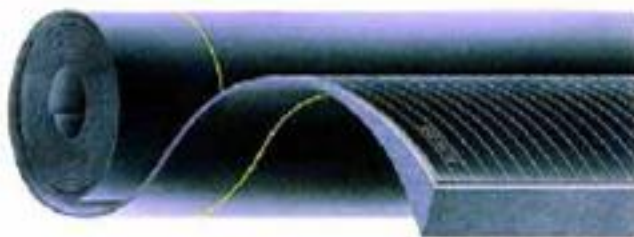


French fire test - EN 1187/3

Derbigum Membrane Summary

Derbigum membranes are suitable for all methods of application, making specification, purchasing and installation simpler for everyone in the building team.

Membrane Options



Derbigum Black

A 4mm Atactic Polypropylene modified roofing membrane with glass fibre reinforced weathering surface and a high tensile polyester core.



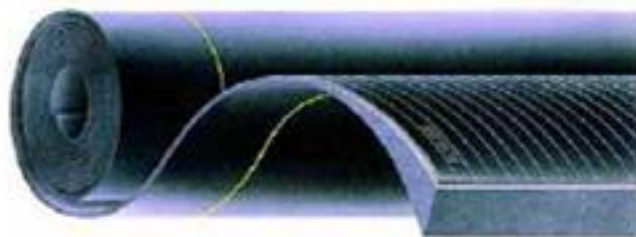
Derbigum Mineral

A 4mm Atactic Polypropylene modified roofing membrane with a composite polyester/glass reinforcement and a finish of fine mineral granules in a choice of five colours.



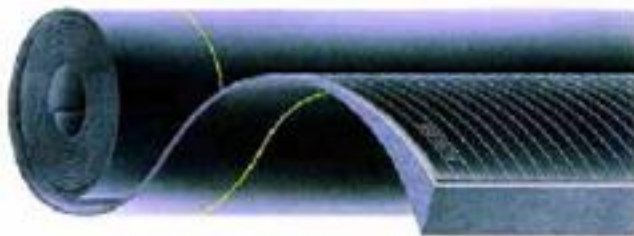
Derbibrite

A 3mm acrylic-faced roofing membrane with a highly reflective white surface that reflects the sun's rays for 'cool roof' applications, as well as being grease and fungus resistant with pH neutral water run-off. Manufactured from a modified co-polymer bitumen for optimum pliability and performance.



Derbigum GC

A tougher, heavier duty version of Derbigum Black for use under podium decks and roadways, and in tunnels, bridges and underground car parks etc. When installed by torch application it can receive hot-rolled asphalt directly.



Derbigum Anti-Root

Has the same composition as Derbigum Black plus a root-resistant additive, allowing it to be safely used under green roofs. An Anti-Root version of Derbigum GC is also available. Complies with the requirements of EN 13948: Determination of resistance to root penetration.

Derbigum Installation Method Summary

Derbigum can be installed using five different methods, to meet varying needs, including speed of application and site safety. Derbigum single layer applications achieve high performance combined with rapid application and economy. Alternatively, Derbigum can be applied as a high performance cap sheet in a built-up roofing system.

Installation options	Torch Fully bonded by torching	Rapido Cold-applied with torch-sealed laps	No Flame Cold-applied with hot air-sealed laps	Cold Total cold application	Mechanically Fixed Single layer/ fast track
Suitable for new build and refurbishment work	✓	✓	✓	✓	✓
Flat roofs - below 10°	✓	✓	✓	✓	✓
Sloping roofs - over 10°	✓	✓	✓	✓	✓
Flame-free application	—	—	✓	✓	Optional
Cold adhesive - no heat	—	—	—	✓	Optional

Installation Method Options



Torch

Fully bonded application by torching.



Rapido

Fully bonded in Derbibond NT cold adhesive with laps and details torch bonded.



Cold

Fully bonded in Derbibond NT cold adhesive with laps and details sealed with Derbiseal S cold adhesive.



No Flame

Fully bonded in Derbibond NT cold adhesive with laps and details hot air welded.



Mechanically Fixed

Fastened through the insulation layer into the deck, with laps torch sealed.

Spray Application Options

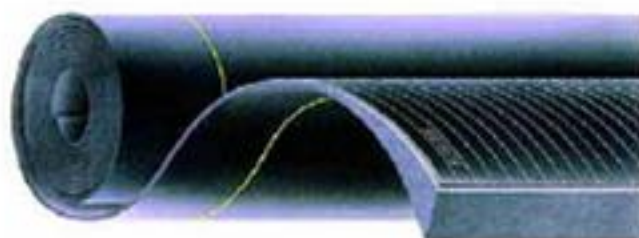
For Large Projects

For increased speed of application with Rapido, No Flame and Cold techniques, the Derbibond NT cold adhesive may be spray applied.

A purpose built spraygun assembly rig is employed to maximise output.



Derbigum Membrane - Derbigum Black



A 4mm high performance membrane with unrivalled durability and fire resistance, in natural black.



Characteristics

- A blend of APP modified bitumen and dual polyester and glass reinforcement
- The glass fibre reinforced weathering surface provides dimensional stability along with heat and UV resistance
- The high tensile polyester core ensures resistance to impact and tearing
- Fire resistance to F.A.C to BS 476: Part 3 (ENV 1187/4)
- Manufacture certified ISO 9001: 2000 and ISO 14001: 2004 Quality and Environmental Management Standards

Colour Options

- Natural black
- Can be painted with **Derbipaint E** (5 colours) a two-coat, matt acrylic emulsion, applied by brush, roller or airless spray
- Can also be painted with **Derbisilver S** (Silver) a bitumen-based aluminium paint for aesthetic purposes or minimisation of solar gain

Derbipaint E



Green: RAL 6026



Med Grey: RAL 7037



Terracotta: RAL 8023



Black: RAL 9017



Light Grey: RAL 7035



Silver: RAL 9006

Derbisilver S



Derbigum Membrane - Derbigum Mineral



A 4mm high performance membrane with a protective mineral finish.



Characteristics

- A blend of APP modified bitumen and dual polyester and glass reinforcement
- Additional protective and decorative mineral top coat
- The high tensile polyester core ensures resistance to impact and tearing
- Fire resistance to F,AA to BS 476: Part 3 (ENV 1187/4)
- Manufacture certified ISO 9001: 2000 and ISO 14001: 2004 Quality and Environmental Management Standards

Colour Options

- 5 mineral surfaces available



Rust



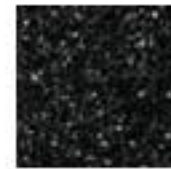
Ivory



Light grey



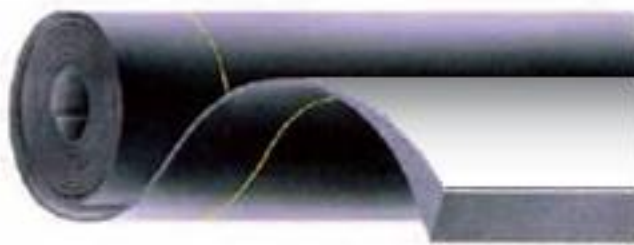
Charcoal



Anthracite



Derbigum Membrane - Derbibrite



A unique 3mm white acrylic-faced durable membrane that is highly reflective for energy saving 'cool roof' applications and formulated for the direct application of photovoltaic panels.

Characteristics

- Solar reflectivity of greater than 70%
- Reduces carbon emissions through passive energy saving
- Available with integral photovoltaic surfacing
- Integral acrylic coating guaranteed to last as long as 3 layers of ceramic paint
- Has no effect on the pH level of water run-off
- Fire resistant
- Resistant to grease, fungi and erosion
- Easy to clean
- Manufacture certified ISO 9001: 2000
- Environmentally certified EMAS and ISO 14001: 2004

Derbibrite and Derbisolar

Derbibrite is engineered to maximise the potential of 'cool roof' designs in regulating the internal temperature and therefore heating, ventilation and air conditioning loadings of a building. Derbibrite's high reflectivity is also designed to substantially increase the efficiency of solar panel installations.

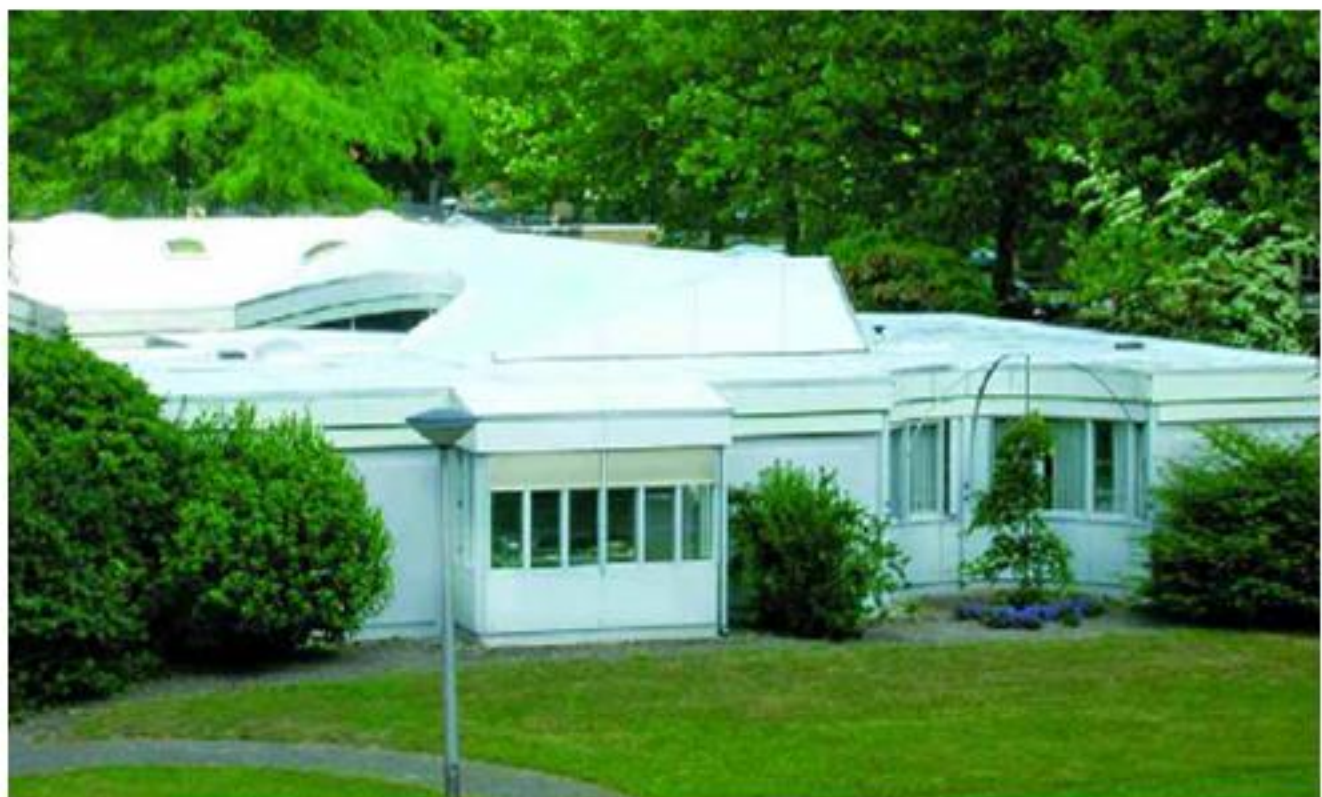
Derbibrite is available with integral Derbisolar photovoltaic panels. These are amorphous silicon - thin film technology panels that are directly adhered before or after installation of the Derbibrite membrane to produce electrical energy for direct usage or storage. Alternative solar technologies are also compatible with the Derbibrite membrane.



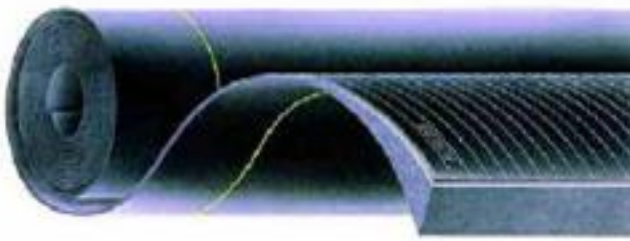
Derbisolar panels



Free-standing panels



Derbigum Membranes - Derbigum GC/Derbigum Anti-Root

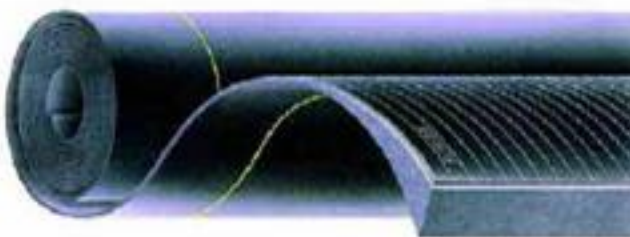


Derbigum GC is a tough, extra heavy duty version of Derbigum Black for use under podium decks and roadways, and in tunnels, bridges and underground car parks etc.



Characteristics

- Increased performance levels for structural waterproofing applications
- The high tensile polyester core ensures resistance to impact and tearing
- Manufacture certified ISO 9001: 2000 and ISO 14001: 2004 Quality and Environmental Management Standards
- Torch applied version can accept hot rolled asphalt directly



Derbigum Anti-Root is based on Derbigum Black but also contains a root-resistant additive, allowing it to be safely used under green roofs.



Characteristics

- Chemically impregnated to prevent root growth penetration
- The high tensile polyester core ensures resistance to impact and tearing
- Manufacture certified ISO 9001: 2000 and ISO 14001: 2004 Quality and Environmental Management Standards
- Complies with the requirements of EN 13948: *Determination of resistance to root penetration*

Derbigum Installation Methods

Derbigum can be installed using five different methods, to meet varying needs, including speed of application and site safety. Derbigum single layer applications achieve high performance combined with rapid application and economy. Alternatively, Derbigum can be applied as a high performance cap sheet in a built-up roofing system.

Membrane Application Methods

Torch Application



- Provides a fully bonded system suitable for all new and refurbishment projects
- Ensures direct and immediate adherence of the membrane
- Bonding is achieved by melting the lower surface of Derbigum by torching
- Set-up and installation can be done quickly and efficiently
- Where required, the substrate is primed using Alumasc Bitumen Primer

Cold Bonding



- A quick application method with no flame required, offering increased site safety
- Derbigum is rolled into fresh, cold applied Derbigum NT
- The cold adhesive is either poured onto the prepared surface and spread using a squeegee or spray applied with an airless spray gun



Squeegee applied

Spray applied

Mechanical Fixing



- A quick and clean installation method that does not use adhesives
- Typically a vapour control layer is loose laid, with sealed laps, over the structural deck, insulation boards are then installed, mechanically attached
- Not suitable for tapered insulation
- Derbigum is installed over the insulation with side laps of 130mm and end laps of 150mm
- Mechanical fasteners are fixed within the lap through the insulation and into the deck

Lap Sealing Methods

Torched Laps



Torch sealed and pressure rolled using a lap roller.

Hot Air Welded Laps



Hot air welded and pressure rolled using a lap roller.

Cold Applied Adhesive



Cold applied Derbiseal S adhesive, pressure rolled using a lap roller.

Derbigum Installation Methods



DERBIGUM®
MAKING BUILDINGS SMART

Installation Methods Summary

Installation Method	Appropriate Membranes	Membrane Application	Lap Sealing	Side/End Laps
Torch-On A fully bonded, torch-on application	Derbigum Black Derbigum Mineral Derbigum GC Derbigum Anti-Root	Torch applied	Torch sealed laps	<ul style="list-style-type: none"> ■ Side laps 100mm overlap ■ End laps 150mm minimum overlap
Rapido Fully bonded in cold adhesive with laps and details torch bonded	Derbigum Black Derbigum Mineral Derbibrite Derbigum GC Derbigum Anti-Root	Cold bonding (Derbibond NT)	Torch sealed laps	<ul style="list-style-type: none"> ■ Side laps 100mm minimum overlap ■ End laps 150mm minimum overlap
No Flame Fully bonded in cold adhesive with laps and details hot air welded	Derbigum Black Derbibrite Derbigum GC Derbigum Anti-Root	Cold bonding (Derbibond NT)	Hot air welded laps	<ul style="list-style-type: none"> ■ Side laps 100mm minimum overlap ■ End laps 150mm minimum overlap ■ Flashing pieces are applied using Derbiseal S, with angles and overlaps formed by hot air welding
Cold Fully bonded in cold adhesive with laps and details sealed in cold Derbiseal S	Derbigum Black Derbibrite Derbigum GC Derbigum Anti-Root	Cold bonding (Derbibond NT)	Cold applied adhesive (Derbiseal S)	<ul style="list-style-type: none"> ■ Lap joints and details are sealed with Derbiseal S ■ Side laps 100mm minimum overlap ■ End laps 150mm minimum overlap
Mechanically Fixed Derbigum is installed over and fastened through the insulation layer into the deck with laps torch sealed	Derbigum Black Derbigum Mineral Derbigum Anti-Root	Mechanically fixed	Torch sealed laps Optional cold applied adhesive	<ul style="list-style-type: none"> ■ Side laps 130mm overlap ■ End laps 150mm overlap

Installation options	Torch Fully bonded by torching	Rapido Cold-applied with torch-sealed laps	No Flame Cold-applied with hot air-sealed laps	Cold Total cold application	Mechanically Fixed Single layer/ fast track
Suitable for new build and refurbishment work	✓	✓	✓	✓	✓
Flat roofs - below 10°	✓	✓	✓	✓	✓
Sloping roofs - over 10°	✓	✓	✓	✓	✓
Flame-free application	–	–	✓	✓	Optional
Cold adhesive - no heat	–	–	–	✓	Optional

Derbigum Systems Summary

Alumasc Derbigum Flat Roofing and Waterproofing systems can be selected via a number of routes, be it project type, specification requirements or individual product or system. The information on these pages can be read in conjunction with the product selection tools available on our website.



DERBIGUM®
MAKING BUILDINGS SMART

Typical New Build and Refurbishment Specifications can be found on pages 30-37 and 38-45 respectively.

Alternatively, use the NBS specification builder at www.alumascwaterproofing.co.uk or contact Alumasc Technical Services on +44 (0)1744 648400.



Derbigum Built Up (See pages 18-19)

Roof Type

Warm Roof: Metal, Plywood, Concrete Deck,
Inverted Roof: Concrete Deck

Membranes

Derbigum Black, Derbigum Mineral

Membrane Installation Options

Torch Applied

Lap Sealing Options

Torch

Insulation Options

Dependent on roof type. Can include PIR (Derbifoam), Mineral Wool (Derbirock), Cork (Korklite), Cork/Rigid Urethane Composite (Korklite Plus) and Extruded Polystyrene (Alumasc Roofmate TF-X or TF-A) for inverted roofs



Derbigum Single Layer (See pages 20-21)

Roof Type

Warm Roof: Metal, Plywood, Concrete Deck

Membranes

Derbigum Black, Derbigum Mineral

Membrane Installation Options

Cold Bonded (Derbibond NT)

Lap Sealing Options

Torch, Hot Air (No Flame), Cold Adhesive (Derbiseal S)

Insulation Options

Dependent on roof type. Can include PIR (Derbifoam), Mineral Wool (Derbirock)

Derbigum Systems Summary



Derbigum for Green Roofs (See pages 22-23)

Roof Type

Warm Roof: Metal, Plywood, Concrete Deck
Inverted Roof - Concrete Deck

Membranes

Derbigum Anti-Root

Membrane Installation Options

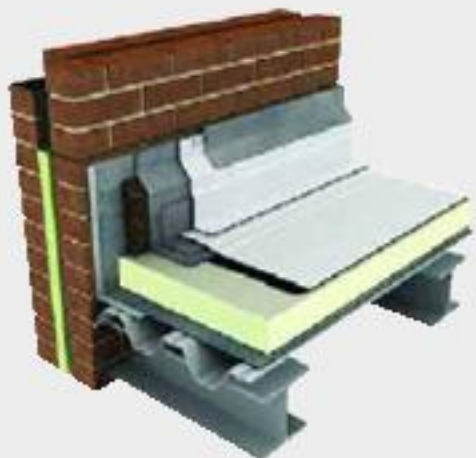
Torch Applied or Cold Bonded (Derbibond NT)

Lap Sealing Options

Torch, Hot Air (No Flame), Cold Adhesive (Derbiseal S)

Insulation Options

Dependent on roof type. Can include PIR (Derbifoam), Mineral Wool (Derbirock), Cork (Korklite), Cork/PIR Composite (Korklite Plus) and Extruded Polystyrene (Alumasc Roofmate TF-X or TF-A) for inverted roofs



Derbibrute Cool Roofs (See pages 24-25)

Roof Type

Warm Roof: Metal, Plywood, Concrete Deck

Membranes

Derbibrute, Derbisolar (with photovoltaic surface)

Membrane Installation Options

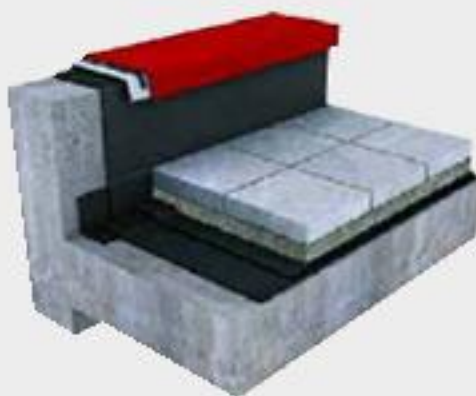
Cold Bonded (Derbibond NT)

Lap Sealing Options

Torch or Hot Air

Insulation Options

PIR (Derbifoam), Mineral Wool (Derbirock)



Derbigum GC Structural Waterproofing (See pages 26-27)

Applications

Concrete Basements, Podiums, Plaza Decks, Water Features, Tunnels and Roadways etc

Membranes

Derbigum GC

Membrane Installation Options

Torch Applied, Cold Bonded (Derbibond NT)

Lap Sealing Options

Torch

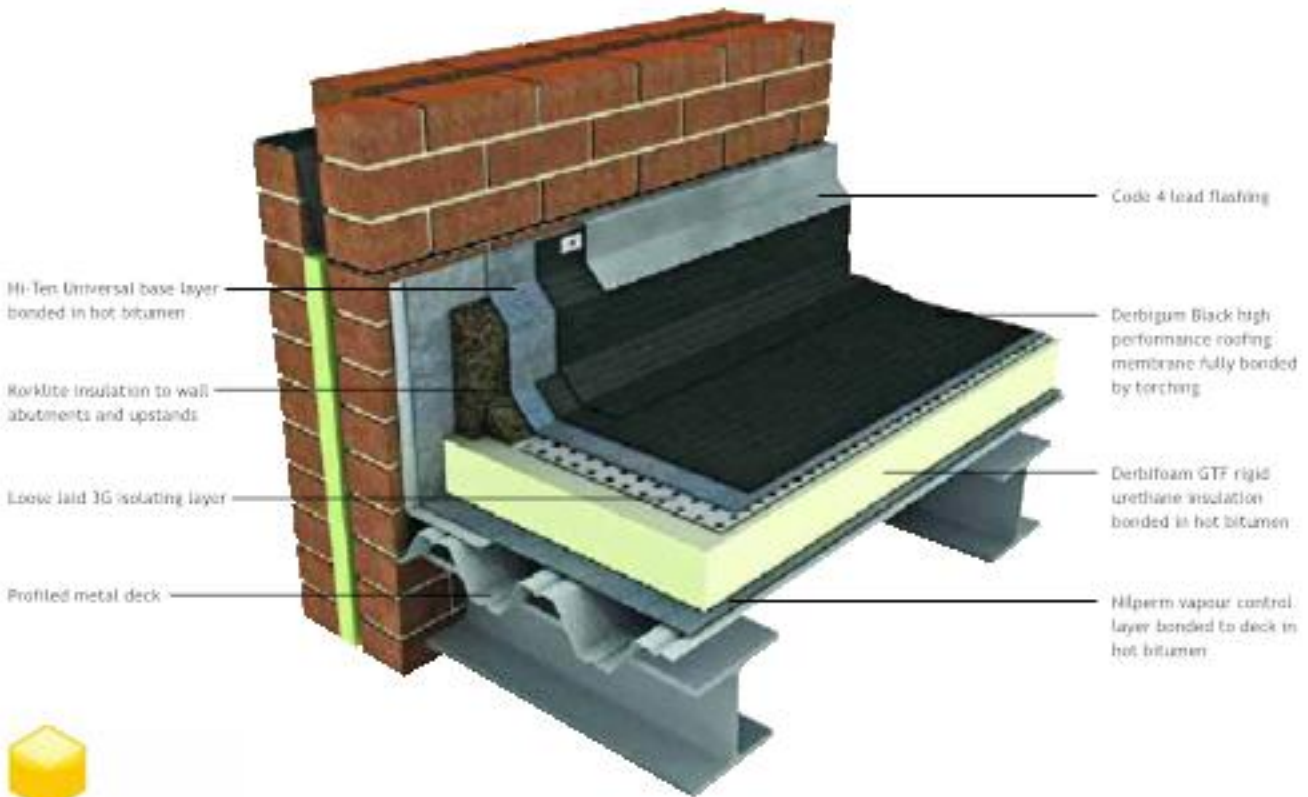
Insulation Options

Generally uninsulated but can be used for inverted constructions with Extruded Polystyrene (Alumasc Roofmate TF-X or TF-A)

NB: Hot rolled asphalt surfacing must only be used in conjunction with torch applied membrane

Derbigum Built Up

Derbigum Built Up Systems combine the unsurpassed performance and longevity of Derbigum Mineral and Derbigum Black waterproofing membranes, with a choice of base layers to provide built-up roofing solutions superior to traditional products in all key areas.



DERBIGUM®
MAKING BUILDINGS SMART



Derbigum Built Up



Applications

- A tried and tested, traditional roofing installation
- Suitable for use on warm roofs with metal, concrete or plywood decks and inverted roofs with concrete deck
- Equally suited to re-roofing or new build projects

Performance

- 30-year-plus, BBA accredited, life expectancy available with up to 25-year warranties
- Manufactured under ISO 9000: 2000 and ISO 14001: 2004 Quality and Environmental Management Systems
- APP polymer modification protects against UV degradation and oxidisation
- High melt point ensures stability of the membrane in the hottest weather
- The polyester and glass fibre reinforcement provide excellent resistance to tear and puncture, through high tensile strength

Membrane Options

- Derbigum Black, Derbigum Mineral, Derbigum Anti-Root



Installation Options

- Torch Applied application of membrane
- Laps sealed by torch
- Installed by a long-established network of Derbigum Approved Contractors

Insulation Options

- Available with a range of insulations, to suit differing deck and U-value parameters
- PIR (Derbifoam), Mineral Wool (Derbirock), Cork (Korklite), Cork/PIR Composite (Korklite Plus), Extruded Polystyrene (Alumasc Roofmate TF-X or TF-A)

Maintenance and Warranty Options

- Requires minimal routine maintenance
- Comprehensive warranty options of 12, 15, 20 or 25 years, depending on the choice of specification

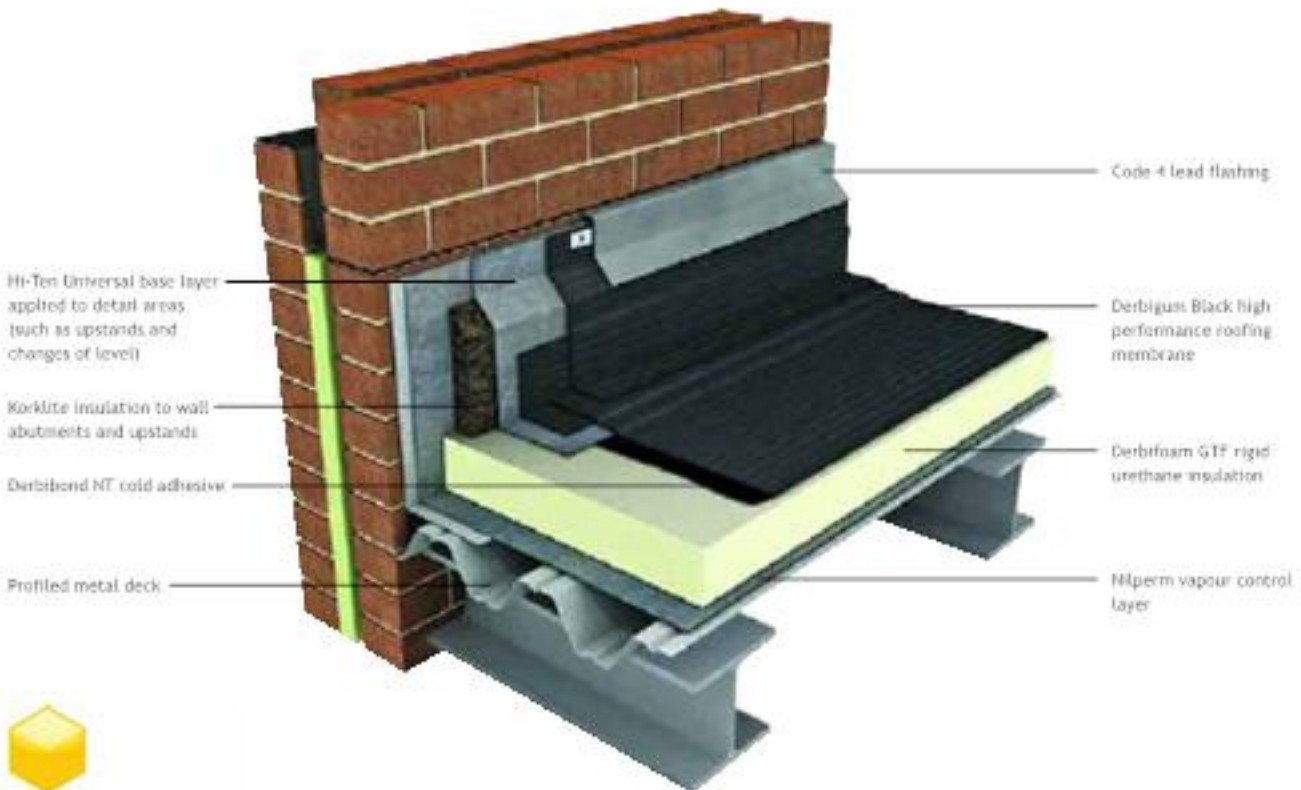


MBS Clauses can be downloaded from the Alumasc website

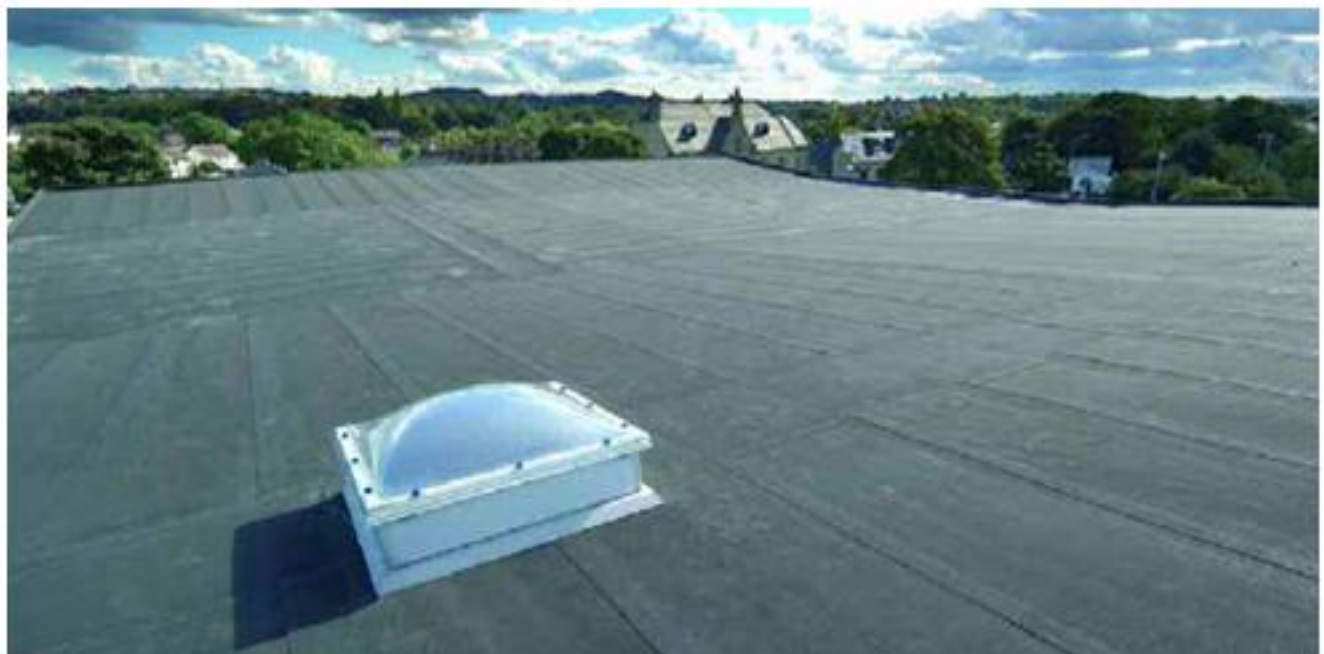


Derbigum Single Layer

Derbigum Single Layer Systems combine proven durability with speed and ease of installation. Options for completely flame-free application, high speed spray installation (in excess of 1000m² per day) and mechanical fixing are available in a BBA approved and fully warranted system.



DERBIGUM
MAKING BUILDINGS SMART



Derbigum Single Layer



Applications

- A higher performance alternative to PVC single ply
- A cost effective alternative to traditional felt systems
- Suitable for use on warm roofs with metal, concrete or plywood decks
- Equally suited to re-roofing or new build projects
- Designed for situations where enhanced speed of installation is required
- Suitable for flame-free and cold application

Performance

- 30-year-plus, BBA accredited, life expectancy available with up to 25-year warranties
- Manufactured under ISO 9000: 2000 and ISO 14001: 2004 Quality and Environmental Management Systems
- APP polymer modification protects against UV degradation and oxidation
- High melt point ensures stability of the membrane in the hottest weather
- The polyester and glass fibre reinforcement provides excellent resistance to tear and puncture, through high tensile strength

Membrane Options

- Derbigum Black, Derbigum Mineral, Derbibrite



Installation Options

- Cold Bonded (Derbibond NT) application of membrane or Mechanically Fixed
- Suitable for spray application of adhesive
- Laps can be sealed by Torch, Hot Air (No Flame), Cold Adhesive (Derbiseal S)
- Installed by a long-established network of Derbigum Approved Contractors

Insulation Options

- Available with a range of insulations, to suit differing deck and U-value parameters
- PIR (Derbifoam), Mineral Wool (Derbirock), Cork (Korklite), Cork/PIR Composite (Korklite Plus)

Maintenance and Warranty Options

- Requires minimal routine maintenance
- Comprehensive warranty options of 12, 15, 20 or 25 years, depending on the choice of specification



MBS Clauses can be downloaded from the Alumarac website



Derbigum for Green Roofs

Green roofs offer many advantages for building developers, owners and users. They benefit the wider environment through their positive impact on sustainability, biodiversity and the attenuation of storm water. Green roofs improve the quality of life for the building users whilst providing a payback for the environment and can have wide ranging long-term financial benefits.



DERBIGUM
MAKING BUILDINGS SMART



Derbigum for Green Roofs



Applications

- For use as the waterproofing for all green roof types
- Suitable for use on warm roofs with metal, concrete or plywood decks and inverted roofs with concrete deck
- Equally suited to re-roofing or new build projects
- Suitable for flame-free and cold application

Performance

- 30-year-plus, BBA accredited, life expectancy available with up to 25-year warranties
- Manufactured under ISO 9000: 2000 and ISO 14001: 2004 Quality and Environmental Management Systems
- APP polymer modification protects against UV degradation and oxidation
- High melt point ensures stability of the membrane in the hottest weather
- The polyester and glass fibre reinforcement provide excellent resistance to tear and puncture, through high tensile strength

Membrane Options

- Derbigum Anti-Root, Derbigum GC Anti-Root

Installation Options

- Torch Applied application of membrane or Cold Bonded (Derbibond NT)
- Laps sealed by Torch or Hot Air
- Installed by a long-established network of Derbigum Approved Contractors

Insulation Options

- Available with a range of insulations, to suit differing deck and U-value parameters
- PIR (Derbifoam), Mineral Wool (Derbirock), Cork (Korklite), Cork/PIR Composite (Korklite Plus), Extruded Polystyrene (Alumasc Roofmate TF-X or TF-A)

Maintenance and Warranty Options

- Requires minimal routine maintenance
- Comprehensive warranty options of 12, 15, 20 or 25 years, depending on the choice of specification
- Additional green roof warranty available on selected projects

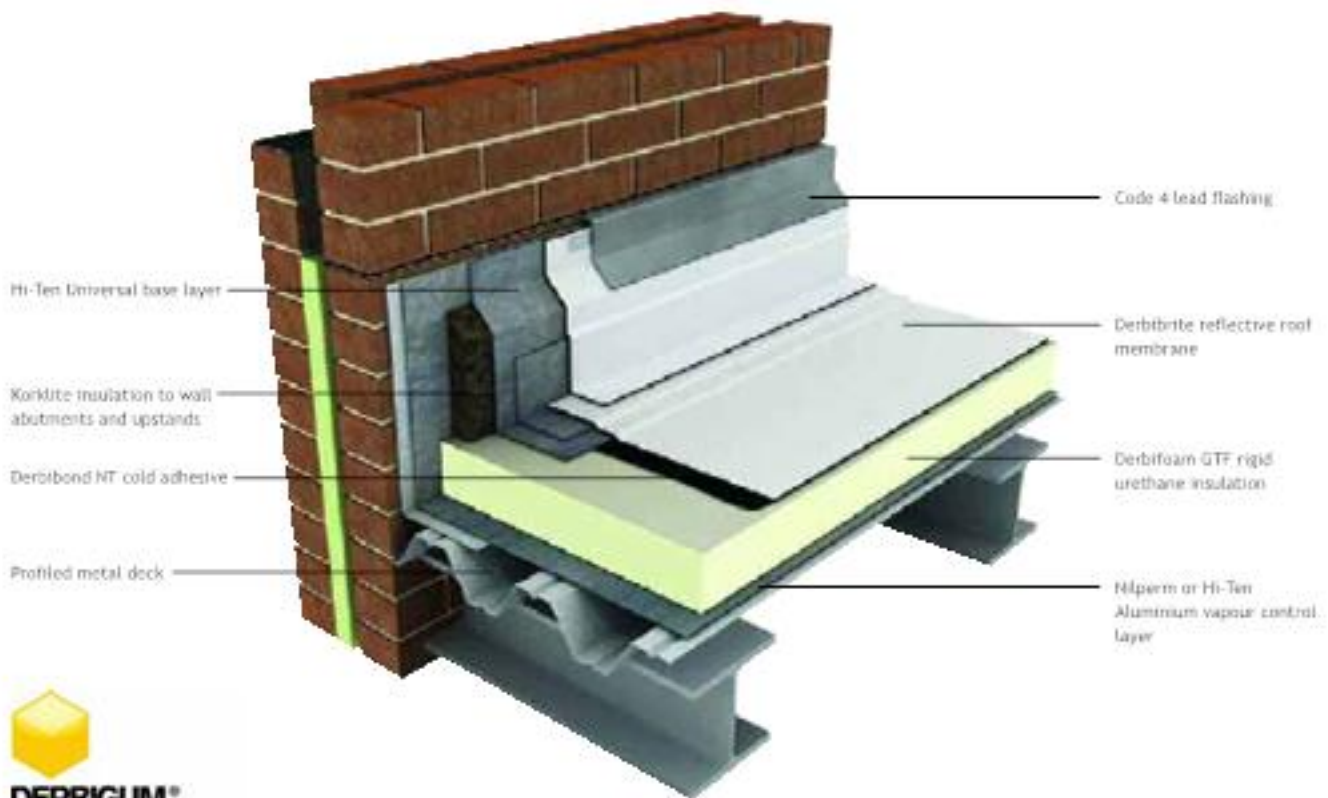


MBS Clauses can be downloaded from the Alumasc website



Derbibrite Cool Roofs

Derbibrite is the revolutionary energy saving 'cool roof' waterproofing membrane from the same family of membranes as the award winning Derbigum. The highly reflective, acrylic top coat helps reduce carbon emissions and the urban heat island effect around buildings to which it is applied. Derbibrite lowers internal building temperatures and is formulated to allow direct bonding of Derbisolar photovoltaic panels.



DERBIGUM®
MAKING BUILDINGS SMART



Derbibrite Cool Roofs



Applications

- The white membrane is a key component in producing a 'cool roof' scheme
- The reflective surface finish reduces heating/cooling load on the building interior
- Reduces carbon emissions through passive energy saving
- A higher performance alternative to PVC single ply
- Suitable for use on warm roofs with metal, concrete or plywood decks
- Equally suited to re-roofing or new build projects
- Formulated to accept direct bonding of thin film photovoltaic panels

Performance

- 30-year life expectancy available with a 25-year warranty
- Manufactured under ISO 9000: 2000 and ISO 14001: 2004 Quality and Environmental Management Systems
- Surface finish has a neutral effect on rainwater pH levels so as not to adversely affect rainwater harvesting or contaminate discharge
- High melt point ensures stability of the membrane in the hottest weather
- The composite polyester/glass reinforcement provides excellent resistance to tear and puncture, through high tensile strength



Membrane Options

- Derbibrite 'cool roof' membrane only
- Derbibrite with Derbisolar photovoltaic surface

Installation Options

- Cold Bonded (Derbibond NT) application of membrane
- Suitable for spray application of adhesive
- Laps sealed by Torch or Hot Air
- Installed by a long-established network of Derbigum Approved Contractors

Insulation Options

- Available with a range of insulations, to suit differing deck and U-value parameters
- PIR (Derbifoam), Mineral Wool (Derbirock), Cork (Korklite), Cork/PIR Composite (Korklite Plus)



Maintenance and Warranty Options

- Requires minimal routine maintenance to maintain reflectivity
- Comprehensive warranty options of 12, 15, 20 or 25 years, depending on the choice of specification

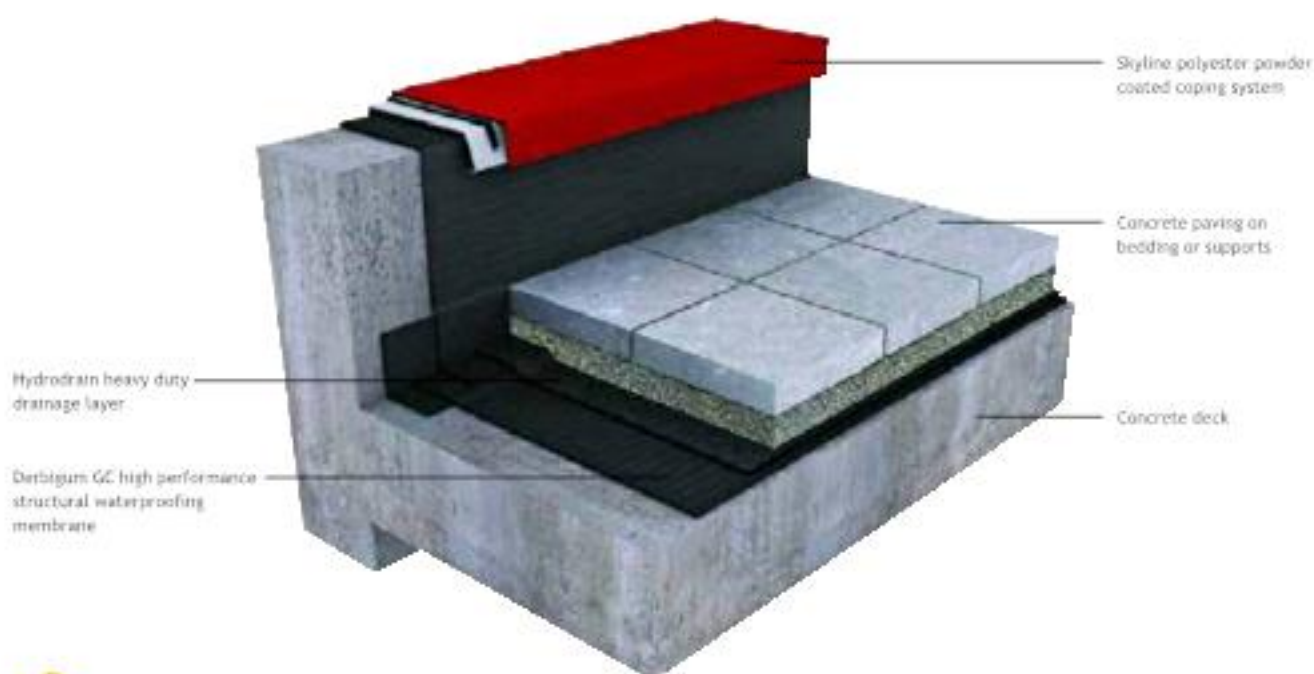


MBS Clauses can be downloaded from the Alumasac website



Derbigum GC Structural Waterproofing

Derbigum GC provides a cost effective single layer alternative for structural waterproofing on podium decks and civil engineering projects. Derbigum GC is either torch applied or cold bonded, with options for completely flame-free application, and high speed spray installation (in excess of 1000m² per day) in a fully warranted system.



DERBIGUM
MAKING BUILDINGS SMART



Derbigum GC Structural Waterproofing



Applications

- Suitable for a variety of civil engineering applications such as on concrete basements, podiums, plaza decks, water features and roadways
- A first choice for waterproofing inverted podium green roofs in new build applications
- Able to cope with complex waterproofing and water feature details

Performance

- 30-year-plus life expectancy available with up to 25-year warranties
- Manufactured under ISO 9000: 2000 and ISO 14001: 2004 Quality and Environmental Management Systems
- APP polymer modification protects against UV degradation and oxidation
- High melt point ensures stability of the membrane in the hottest weather
- The polyester and glass fibre reinforcement provide excellent resistance to tear and puncture, through high tensile strength

Membrane Options

- Derbigum GC – hard landscape and podium deck details



Installation Options

- Torch Applied or Cold Bonded (Derbibond NT) application of membrane
- Suitable for spray application of adhesive
- Laps sealed by Torch
- Installed by a long-established network of Derbigum Approved Contractors
- When torch applied, can accept hot rolled asphalt directly

Insulation Options

- Available with a range of insulations to suit inverted decks
- Extruded Polystyrene (Alumasc Roofmate TF-X or TF-A)

Maintenance and Warranty Options

- Requires minimal routine maintenance
- Comprehensive warranty options of 12, 15, 20 or 25 years, depending on the choice of specification



MBS Clauses can be downloaded from the Alumasc website



Derbigum Project Gallery

Alumasc's fully warranted Derbigum waterproofing systems offer optimum solutions for all types of buildings.

Derbigum has a proven track record of meeting requirements for waterproofing performance, life expectancy and budget.



Marlowe Academy, Derbigum Mineral



Cumberland School, Derbigum Mineral



Harrts Academy, Derbigum Black



Nantes, Derbigum-Black



North Haringay School, Derbigum Anti-Root

Derbigum Project Gallery



Kastrup, Derbigum Mineral and Derbilist



Kings Court, Derbigum Black



Stoke Mandeville Hospital, Derbigum Black



Lierde, Derbibrite



Thorpe Park, Derbigum Black

Design Considerations - New Build



Alumasc waterproofing solutions are based on extensive experience of UK construction projects. This expertise is fed back into the design process at all project stages by our sales and technical support teams. Consider the following key areas when specifying.

Construction Type

Derbigum in its various forms is suitable for use in:

- Warm deck roofs
- Cold deck roofs
- Inverted ballasted roofs
- Green roofs
- Structural waterproofing

Excellent pliability, tensile strength and high melt point make Derbigum Black and Mineral ideal for use on exposed warm deck roofs, whilst heavy duty Derbigum GC and Anti-Root are the obvious choice for Structural Waterproofing and Green roofs.

Structural Deck

There are suitable specifications for applying Derbigum systems to concrete, timber and metal decks, or directly to insulation boards. Concrete decks, screeds and metal decks should be primed with Alumasc Bitumen Primer. This ensures a good bond between the deck and the waterproofing system. On plywood decks, all board joints should be taped with Hi-Ten Universal taping strips. On close-boarded timber decks, a base layer of Hi-Ten Universal should be nailed to the deck.

Membrane Specification

Derbigum can be applied as a single layer membrane for high performance, combined with rapid application and economy. Alternatively, it may be applied as the cap sheet layer in a traditional built-up high performance roofing system.

Derbibrite with its highly reflective surface finish can be used for 'cool' roof constructions or to enhance the efficiency of photovoltaic panels.

Alternative Fixing Methods

Derbigum can be installed using five different application techniques, to meet varying needs, including speed of application and site safety:

- Torch applied system - fully bonded by torching
- Rapido - fully bonded in cold Derbibond NT with laps and details torch bonded
- No Flame - fully bonded in cold Derbibond NT with laps and details hot air welded
- Cold - fully bonded in cold Derbibond NT with laps and details sealed with cold Derbiseal S
- Mechanically fixed - fastened through the insulation layer into the deck, with laps torch sealed



DERBIGUM®
MAKING BUILDINGS SMART

Specification Service

Alumasc provide a comprehensive roof waterproofing design and specification service by:

- Identifying performance requirements
- Providing thermal calculations
- Analysing condensation risk
- Assessing wind uplift resistance
- Advising on details and interface issues
- Giving guidance on BREEAM/ environmental ratings
- Rainwater outlet flow calculations

Warranty

Each Derbigum installation is covered by the comprehensive Derbigum warranty of 12, 15, 20 or 25 years, depending on the choice of specification.

Design Considerations - New Build

The summary below illustrates the most common options for new build applications.

More comprehensive information can be found on pages 32-37.

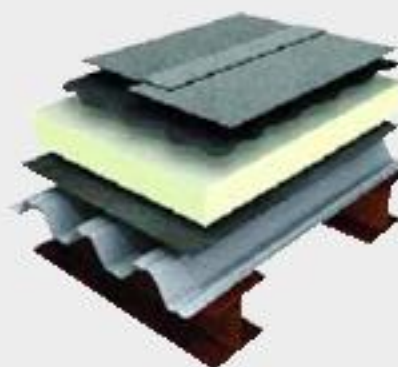
Alumasc Technical Services will advise on the most appropriate specification for your project.

Warm roof, traditional torch-on



(See page 32)

Warm roof, single layer in cold adhesive



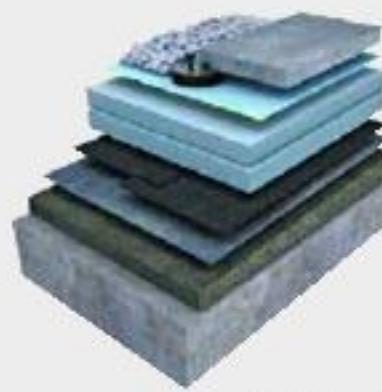
(See page 33)

Inverted green roof, traditional torch-on



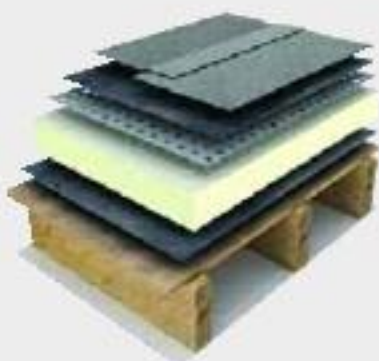
(See page 34)

Inverted ballasted roof, traditional torch-on



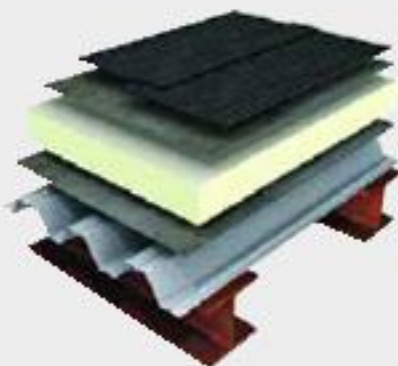
(See page 35)

Warm roof on plywood, traditional torch-on



(See page 36)

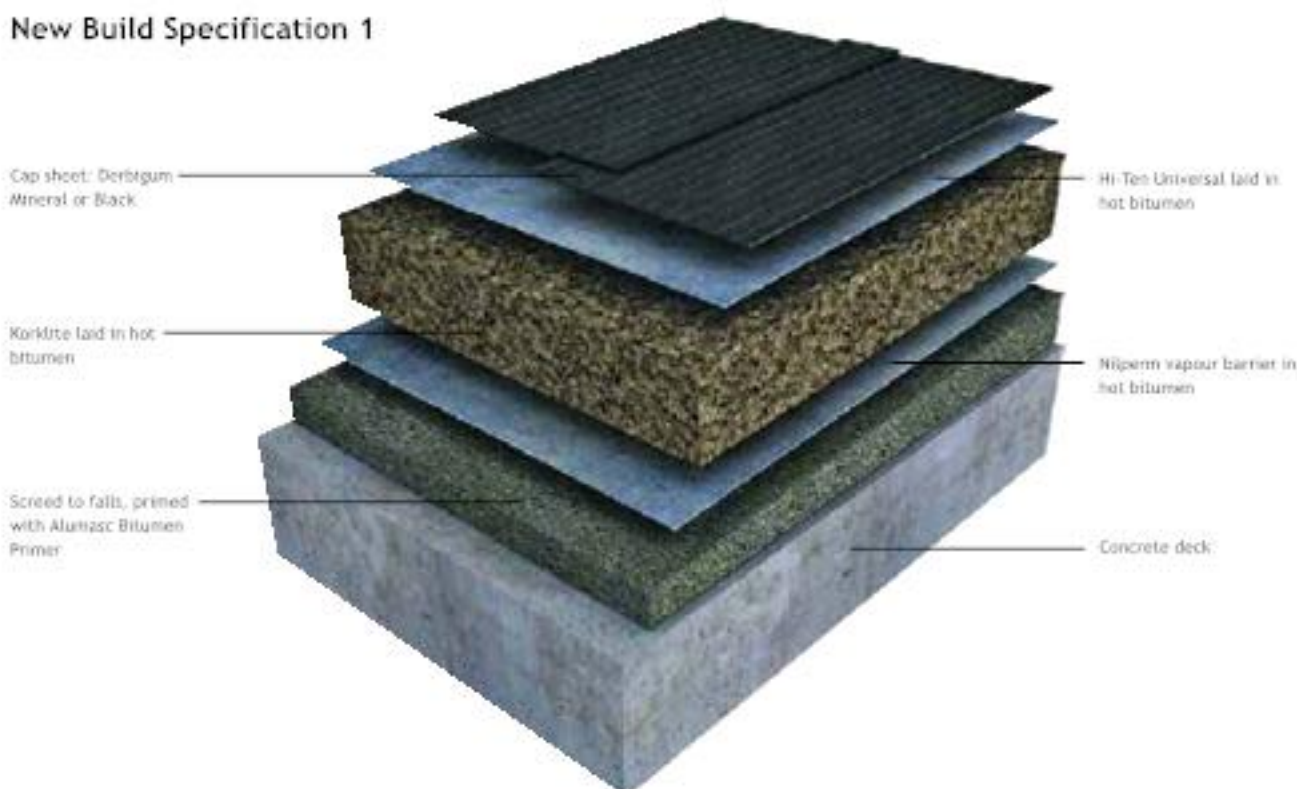
Warm roof, bitumen free, traditional torch-on



(See page 37)

Warm Roof, Traditional Torch-On

New Build Specification 1



Warm Roof on Concrete Deck

Warm roof on concrete decks are able to be waterproofed with the full range of Derbigum membranes and insulation build ups.

Typical Specification

Deck

Concrete deck installed to falls. Prime deck with Alumasc Bitumen Primer and allow to dry.

Vapour Control

Apply vapour barrier of Alumasc Nilperm, bonded in hot bitumen, providing edge protection to the insulation board at all perimeters, openings and projections.

Thermal Insulation

Install Alumasc Korklite insulation system, over the vapour control layer, bonded in hot bitumen. Supply and fix Korklite fillets, 50 x 50mm, at all abutments, bonded in hot bitumen. Suitable alternative insulations can be utilised.

Waterproofing

Install Derbigum High Performance roof membrane system consisting of base layer of Hi-Ten Universal fully bonded in hot bitumen, and the cap sheet finish from the Derbigum range to BBA Certificate 86/1593 fully bonded by torching (including pressure rolled laps).

Detailing

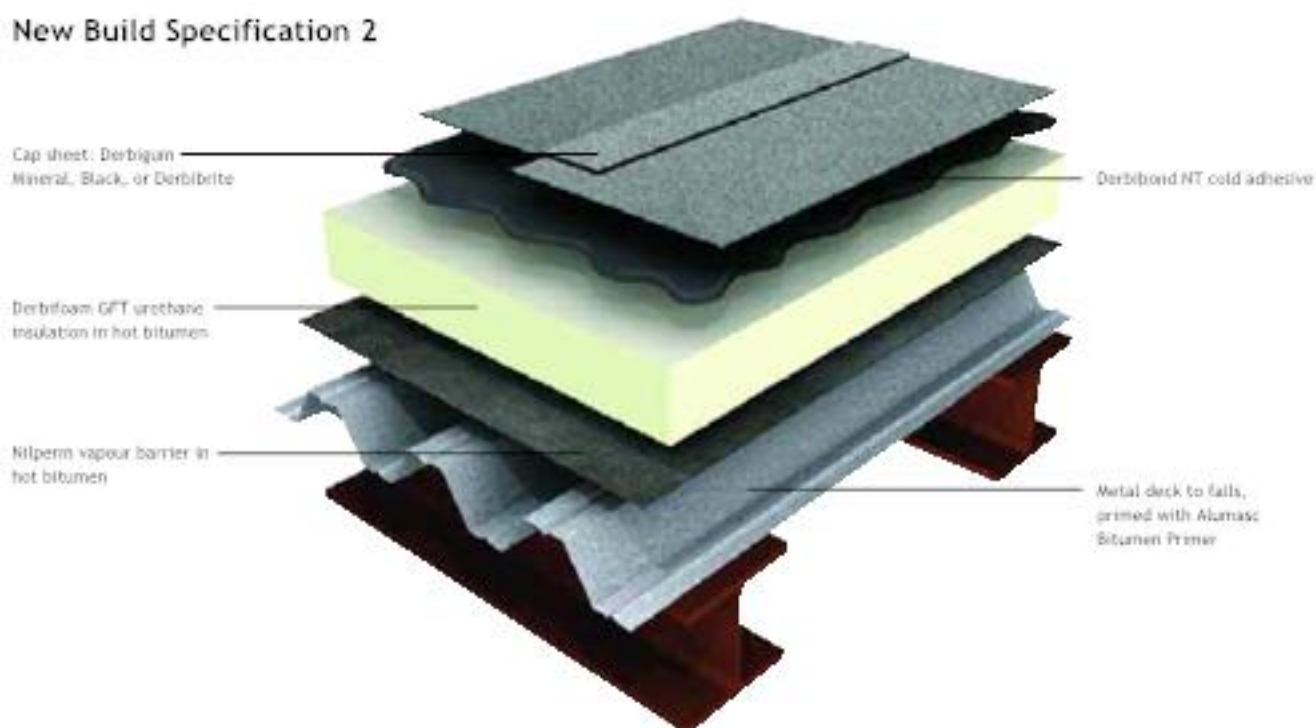
All detail work to be executed in two layers, the base layer of Hi-Ten Universal, fully bonded in hot bitumen and the Derbigum cap sheet fully bonded by torching. All upstands to extend minimum 150mm above finished surface of roof.

Installation and Warranty

Roof system to be installed in full accordance with BS 8217 (2005), BS 8000: Part 4, and manufacturer's installation specification and details. The work to be installed by a Derbigum Approved Contractor, and a Derbigum Certificate of Warranty for a period of ... years (insert 12, 15, 20 or 25, subject to consultation with Alumasc) shall be issued to the Building Owner on completion.

Warm Roof, Single Layer in Cold Adhesive

New Build Specification 2



Warm Roof on Metal Deck

Warm roof on metal decks are able to be waterproofed with the full range of Derbigum membranes and insulation build ups.

Typical Specification

Deck

Metal deck installed to falls or flat to receive tapered insulation. Prime deck with Alumasc Bitumen Primer and allow to dry.

Vapour Control

Apply vapour barrier of Alumasc Nilperm, bonded in hot bitumen, providing edge protection to the insulation board at all perimeters, openings and projections.

Thermal Insulation

Install Alumasc Derbifoam GTF insulation (flat or tapered) bonded in hot bitumen. Suitable alternative insulations can be utilised.

Waterproofing

Install Derbigum High Performance roof membrane from the Derbigum range to BBA Certificate 86/1593 fully bonded in Derbibond NT cold adhesive applied evenly by squeegee or spray gun, with torch sealed pressure rolled laps.

Detailing

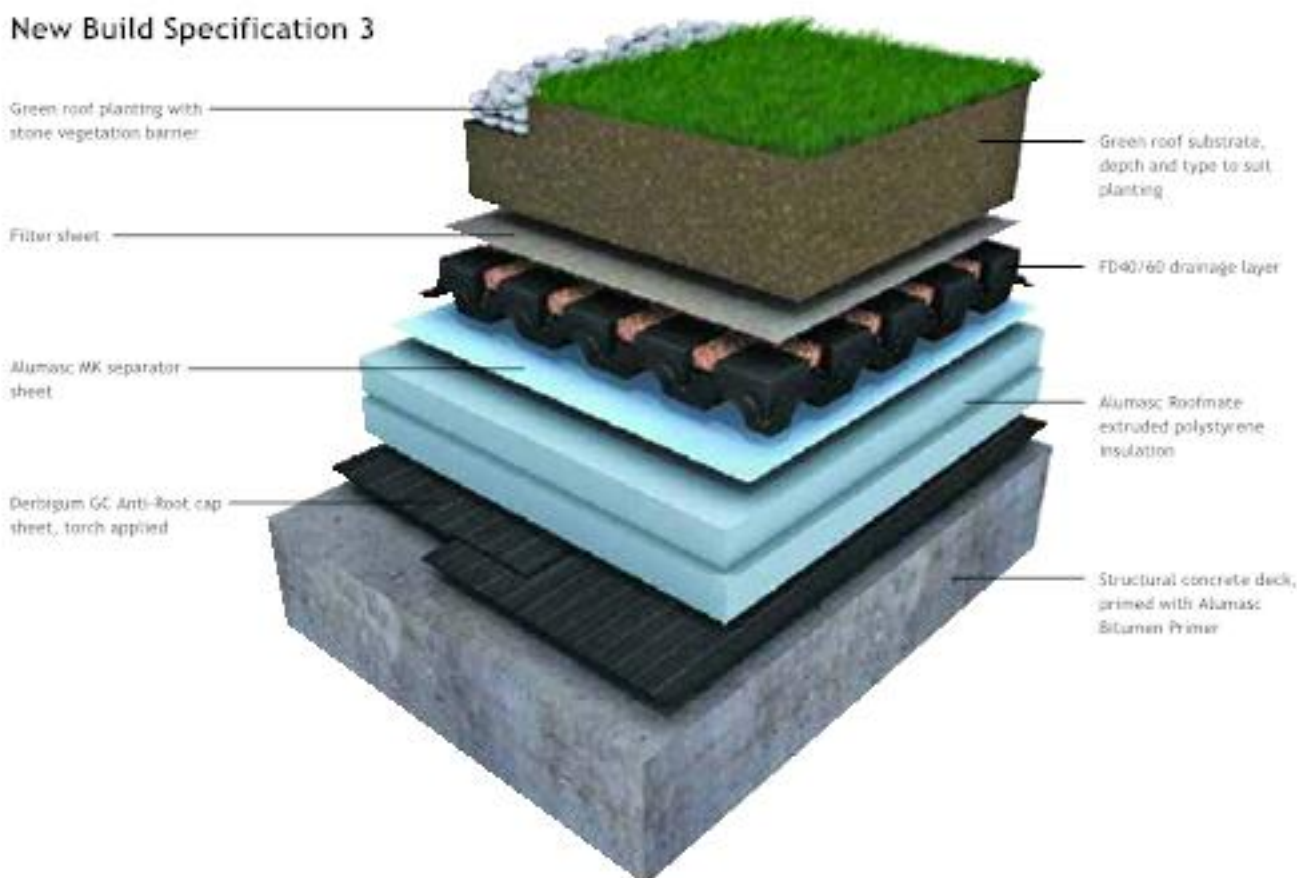
All detail work to be executed in Derbigum, fully bonded by torching. At all upstands install a 100 x 100mm reinforcement strip of Derbigum Black into the angle. The main sheet area must overlap onto the reinforcing strip by the full 100mm. Install a final flashing piece of Derbigum, fully bonded to the upstand and overlapping onto the main horizontal sheet area by a minimum of 100mm.

Installation and Warranty

Roof system to be installed in full accordance with BS 8217 (2005), BS 8000: Part 4, and manufacturer's installation specification and details. The work to be installed by a Derbigum Approved Contractor, and a Derbigum Certificate of Warranty for a period of ... years (insert 12, 15, 20 or 25, subject to consultation with Alumasc) shall be issued to the Building Owner on completion.

Inverted Green Roof, Traditional Torch-On

New Build Specification 3



Inverted Green Roof on Concrete Deck

Inverted decks can be waterproofed in either Derbigum Anti-Root (with Hi-Ten Universal base layer) or Derbigum GC Anti-Root.

Typical Specification

Deck

Install screeded concrete deck to falls. (NB structural deck must be designed to accept the dead loads of green roof build-up).

Waterproofing

Install Derbigum High Performance roof membrane system consisting of Derbigum GC fully bonded by torching, or a base layer of Hi-Ten Universal fully bonded in hot bitumen with a Derbigum Anti-Root cap sheet to BSA Certificate 86/1593 fully bonded by torching (including pressure rolled laps).

Thermal Insulation and Green Roofing

Apply onto the completed waterproof layer Alumasc Roofmate inverted roof insulation, followed by Alumasc MK polyester separator sheet. Green roof build up to be determined by plant type and substrate depth, consisting of Floradrain drainage layer, filter sheet, Zinco lightweight substrate and scheme specific planting or landscaping.

Detailing (Built Up System)

All detail work to be executed in two layers, the base layer of Hi-Ten Universal, fully bonded in hot bitumen and the Derbigum cap sheet fully bonded by torching. All upstands to extend minimum 150mm above finished surface of roof.

Detailing (Derbigum GC System)

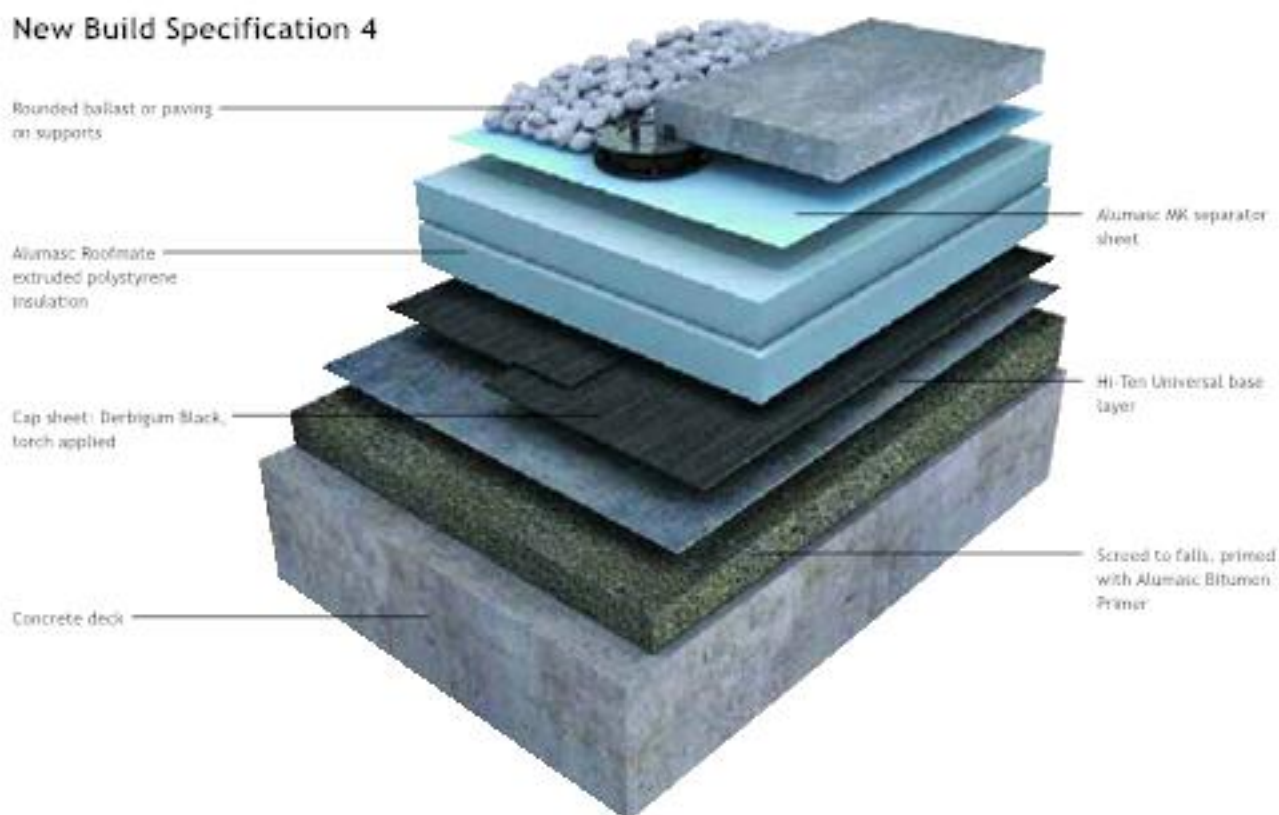
All detail work to be executed in Derbigum GC, fully bonded by torching. At all upstands install a 100 x 100mm reinforcement strip of Derbigum GC into the angle. The main sheet area must overlap onto the reinforcing strip by the full 100mm. Install a final flashing piece of Derbigum GC, fully bonded to the upstand and overlapping onto the main horizontal sheet area by a minimum of 100mm.

Installation and Warranty

Roof system to be installed in full accordance with BS 8217 (2005), BS 8000: Part 4, and manufacturers installation specification and details. The work to be installed by a Derbigum Approved Contractor, and a Derbigum Certificate of Warranty for a period of ... years (insert 12, 15, 20 or 25, subject to consultation with Alumasc) shall be issued to the Building Owner on completion.

Inverted Ballasted Roof, Traditional Torch-On

New Build Specification 4



Inverted Roof on Concrete Deck

Inverted decks can be waterproofed in either Derbigum Black or Derbigum GC. Derbigum GC is also suitable for car park and podium decks.

Typical Specification

Deck

Install screeded concrete deck to falls. (NB structural deck must be designed to accept the dead loads of ballast or paving slabs).

Waterproofing

Install Derbigum High Performance roof membrane system consisting of Derbigum GC fully bonded by torching, or a base layer of Hi-Ten Universal fully bonded in hot bitumen with a Derbigum Black cap sheet to BBA Certificate 86/1593 fully bonded by torching (including pressure rolled laps).

Thermal Insulation and Ballasting/Paving

Apply onto the completed waterproof layer Alumasc Roofmate inverted roof insulation, followed by Alumasc MK polyester separator sheet and ballast. Ballast to comprise 20-40mm river washed ballast or paving slabs. Paving slabs to be 50mm thick to BS7263: Part 1, laid on Harmer Uni-ring or Harmer Modulock adjustable paving supports.

Detailing (Built Up System)

All detail work to be executed in two layers, the base layer of Hi-Ten Universal, fully bonded in hot bitumen and the Derbigum cap sheet fully bonded by torching. All upstands to extend minimum 150mm above finished surface of roof.

Detailing (Derbigum GC System)

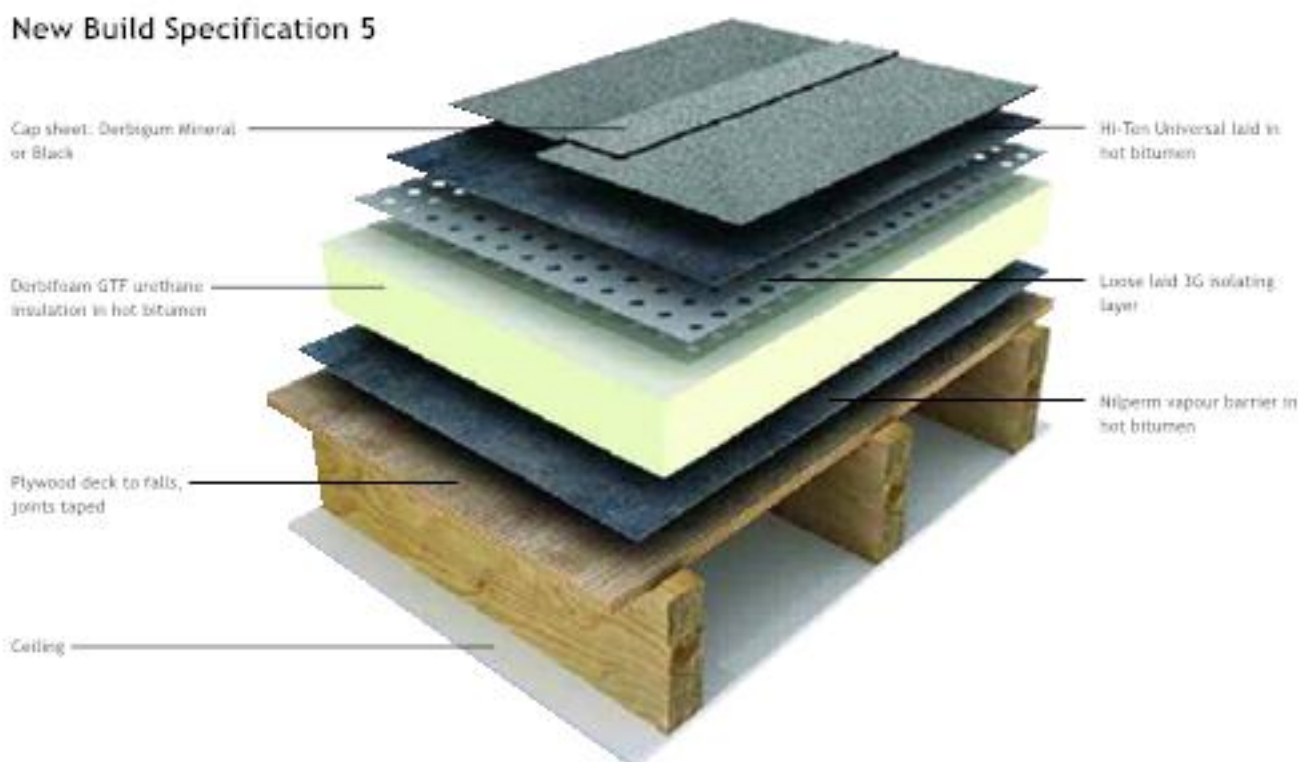
All detail work to be executed in Derbigum GC, fully bonded by torching. At all upstands install a 100 x 100mm reinforcement strip of Derbigum GC into the angle. The main sheet area must overlap onto the reinforcing strip by the full 100mm. Install a final flashing piece of Derbigum GC, fully bonded to the upstand and overlapping onto the main horizontal sheet area by a minimum of 100mm.

Installation and Warranty

Roof system to be installed in full accordance with BS 8217 (2005), BS 8000: Part 4, and manufacturers installation specification and details. The work to be installed by a Derbigum Approved Contractor, and a Derbigum Certificate of Warranty for a period of ... years (insert 12, 15, 20 or 25, subject to consultation with Alumasc) shall be issued to the Building Owner on completion.

Warm Roof on Plywood, Traditional Torch-On

New Build Specification 5



Warm Roof on Plywood

Warm roofs on plywood decks are able to be waterproofed with the full range of Derbigum membranes and insulation build ups.

Typical Specification

Deck

WBP plywood deck installed to falls or flat to receive tapered insulation. Tape joints of plywood deck with strips of Hi-Ten Universal, loose laid or spot bonded.

Vapour Control

Apply vapour barrier of Alumasc Nilperm, bonded in hot bitumen, providing edge protection to the insulation board at all perimeters, openings and projections.

Thermal Insulation

Install Alumasc Derbifoam GTF insulation (flat or tapered) bonded in hot bitumen. Supply and fix Korklite fillets, 50 x 50mm, at all abutments, bonded in hot bitumen. Suitable alternative insulations can be utilised.

Waterproofing

Install Derbigum High Performance roof membrane system consisting of a loose laid, 3G isolating layer to BS 747, a base layer of Hi-Ten Universal fully bonded in hot bitumen, and the cap sheet finish from the Derbigum range to BBA Certificate 86/1593 fully bonded by torching (including pressure rolled laps).

Detailing

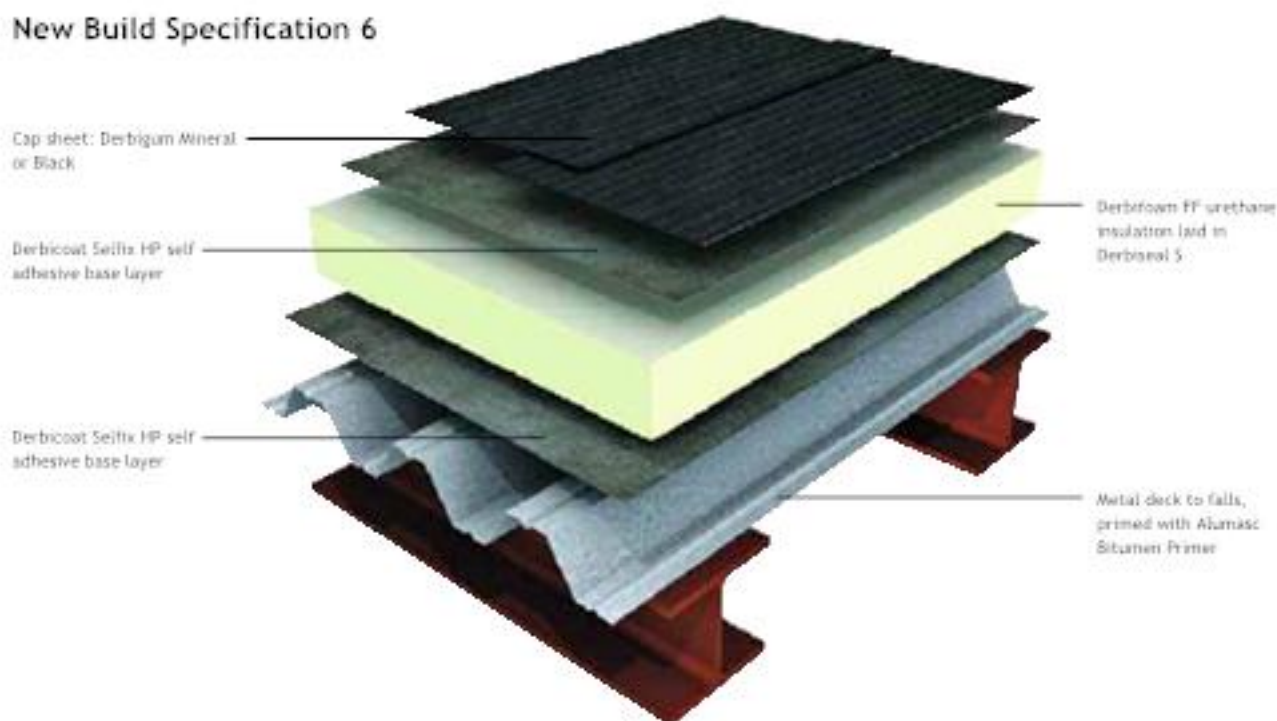
All detail work to be executed in two layers, the base layer of Hi-Ten Universal, fully bonded in hot bitumen and the Derbigum cap sheet fully bonded by torching. All upstands to extend minimum 150mm above finished surface of roof.

Installation and Warranty

Roof system to be installed in full accordance with BS 8217 (2005), BS 8000: Part 4, and manufacturers installation specification and details. The work to be installed by a Derbigum Approved Contractor, and a Derbigum Certificate of Warranty for a period of ... years (insert 12, 15, 20 or 25, subject to consultation with Alumasc) shall be issued to the Building Owner on completion.

Warm Roof, Bitumen Free, Traditional Torch-On

New Build Specification 6



Warm Roof on Metal Deck

Warm roof on metal decks are able to be waterproofed with the full range of Derbigum membranes and insulation build ups.

Typical Specification

Deck

Metal deck installed to falls or flat to receive tapered insulation. Prime deck with Derbiprimer and allow to dry.

Vapour Control

Apply Derbicoat Selfix HP, self adhesive vapour control layer, providing edge protection to the insulation board at all perimeters, openings and projections.

Thermal Insulation

Install Alumasc Derbifoam FF insulation (flat or tapered) bonded in Derbiseal 5. Suitable alternative insulations can be utilised.

Waterproofing

Install Derbigum High Performance roof membrane system consisting of Derbicoat Selfix HP self-adhesive base layer, and the cap sheet finish from the Derbigum range to BBA Certificate 86/1593 fully bonded by torching (including pressure rolled laps).

Detailing

All detail work to be executed in two layers, the base layer of Derbicoat Selfix HP and the Derbigum cap sheet fully bonded by torching. All upstands to extend minimum 150mm above finished surface of roof.

Installation and Warranty

Roof system to be installed in full accordance with BS 8217 (2005), BS 8000: Part 4, and manufacturers installation specification and details. The work to be installed by a Derbigum Approved Contractor, and a Derbigum Certificate of Warranty for a period of ... years (insert 12,15, 20 or 25, subject to consultation with Alumasc) shall be issued to the Building Owner on completion.

Design Considerations - Refurbishment



Every roof is different and requires a specification to suit its particular conditions. This is especially true when dealing with existing buildings. Derbigum systems offer a range of flexible component options which are selected as required to meet your specific project needs.

Derbigum Re-Roofing Systems

In refurbishment projects, thorough site surveys and investigations are the essential foundations for achieving successful re-roofing. Expert members of the Alumasc team experienced in analysing and assessing roof defects carry out this service. This ensures that any existing roof problems, which often have complex and unclear causes, are correctly identified and that the proposed solution is tailored to resolve the problems of each particular roof.

Base layers, thermal insulation, vapour control layers, adhesives and special components combine with Derbigum high performance membranes to form a compatible and durable roof system for all building types. Derbigum can be used as a high performance single layer membrane or as a cap sheet in built-up high performance systems.

Additional thermal insulation to meet the client's requirements may also be incorporated, including tapered systems to improve drainage where necessary, to comply with the requirements of Documents L1 and L2 (England and Wales) Technical Standard J (Scotland) and Part F (Northern Ireland) where deemed appropriate by Building Control.

Choice of Components

Construction Layer Type	System Components
Membrane/Cap Sheet	Derbigum Black, Derbigum Mineral, Derbigum Anti-Root, Derbigum GC, Derbigum Anti-Root
Base Layer	Hi-Ten Universal, Hydrogard TD
Insulation	Derbifoam GTF Flat & Tapered Systems Korklite and Korklite Plus Flat & Tapered Systems
Vapour Barriers	Niperm, Hi-Ten Aluminium

Choice of Installation Method

Derbigum is suitable for a whole range of re-roofing applications and can be applied by torch, cold adhesive or mechanical fixing. Different application methods can be used to combine speed of installation with unbeatable performance and meet health and safety requirements.

In some roofing applications, for example on schools, factories, petrochemical plants and local authority buildings, the use of flame or heat may be prohibited. For these applications, where safety is paramount, laps can be adhesive bonded, entirely eliminating the need for heat or flame on the roof.



DERBIGUM®
MAKING BUILDINGS SMART

Re-Roofing Service

Alumasc provide a comprehensive roof waterproofing design and specification service by:

- Site surveys and reports
- Identifying performance requirements
- Providing thermal calculations
- Analysing condensation risk
- Assessing wind uplift resistance
- Advising on details and interface issues

Quality Assurance and Warranties

Following the initial site survey, Alumasc visit working sites periodically, to ensure that the roof systems are being installed in accordance with the specification and to check the standards of workmanship. On satisfactory final inspection by Alumasc, and receipt of completed warranty application by the Derbigum Approved Contractor, Alumasc will issue the Derbigum warranty to the contractor, who will in turn pass it on to their client.

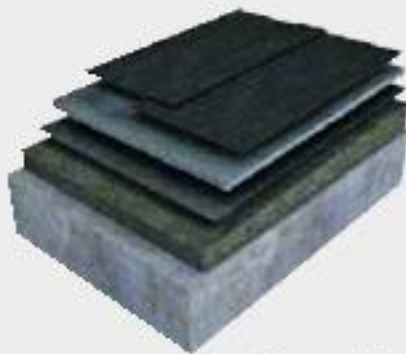
Design Considerations - Refurbishment

The summary below illustrates the most common options for re-roofing applications.

More comprehensive information can be found on pages 40-45.

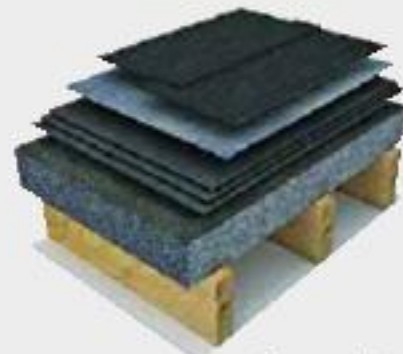
Alumasc Technical Services will advise on the most appropriate specification for your project.

New single layer overlay



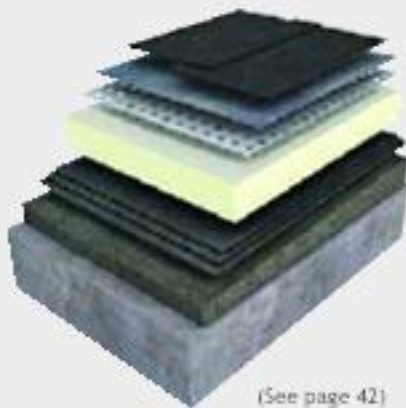
(See page 40)

New two layer overlay



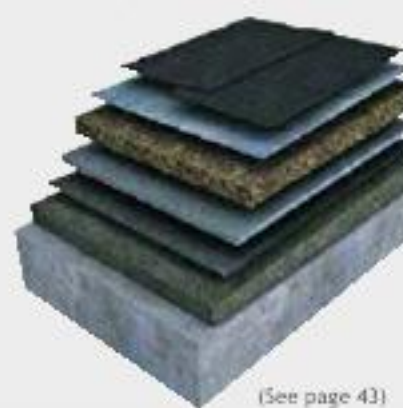
(See page 41)

New insulation and waterproofing



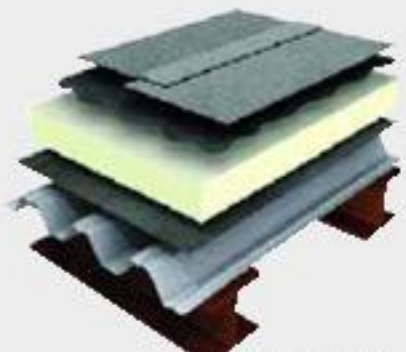
(See page 42)

New insulation, waterproofing and improved drainage



(See page 43)

Total renewal of failed insulation and waterproofing



(See page 44)

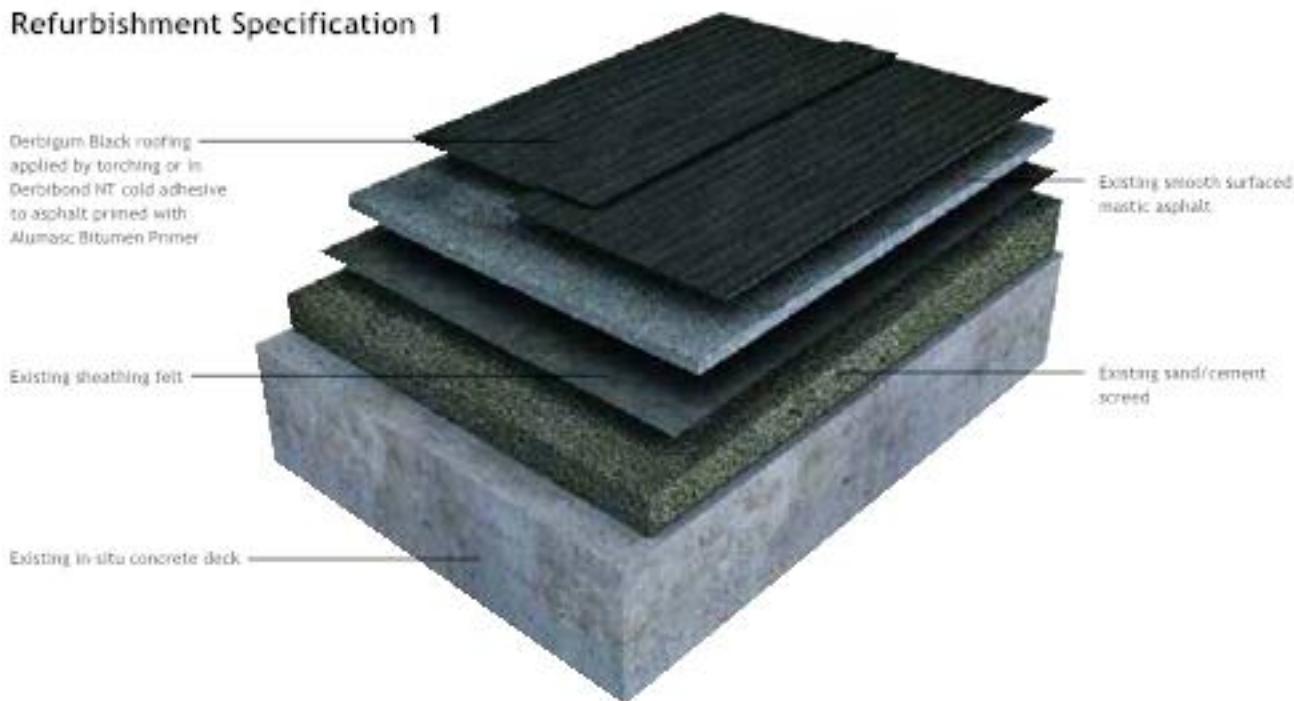
Total renewal of failed deck and roofing system



(See page 45)

New Single Layer Overlay

Refurbishment Specification 1



The Problem

Structure and deck sound; waterproof membrane aged. For example, existing smooth surfaced mastic asphalt, sheathing felt, sand/cement screed over existing in-situ concrete deck.

The Solution

Application of Derbigum to extend the service life of an existing roof consisting of a durable deck and a waterproof membrane which has aged but does not show severe splitting or blistering.

Outline Specification

Carry out all necessary repairs and rebuilding to brickwork, replace outlets and pipe sleeves where necessary. Clean down and re-dress mastic asphalt or built-up roofing surface and prime with Alumasc Bitumen Primer. Allow primer to dry completely. Apply an overlay of Derbigum Black*, to the prepared surface fully bonded either by:

- Torchng (including pressure rolled overlaps)
- Bonded in Derbibond NT cold adhesive (overlaps only to be sealed by torchng and pressure rolled)

*Alternative Surface Options:

- Derbigum Black, self-finished
- Derbigum Mineral
- Derbigum Black with Derbisilver paint finish or Derbipaint E

Typical Constructions

Mastic asphalt or built-up roofing on:

- Screed laid over precast (or in-situ) concrete or pre-screeded woodwool
- Tongued and grooved timber
- Exterior grade plywood or profiled metal decking

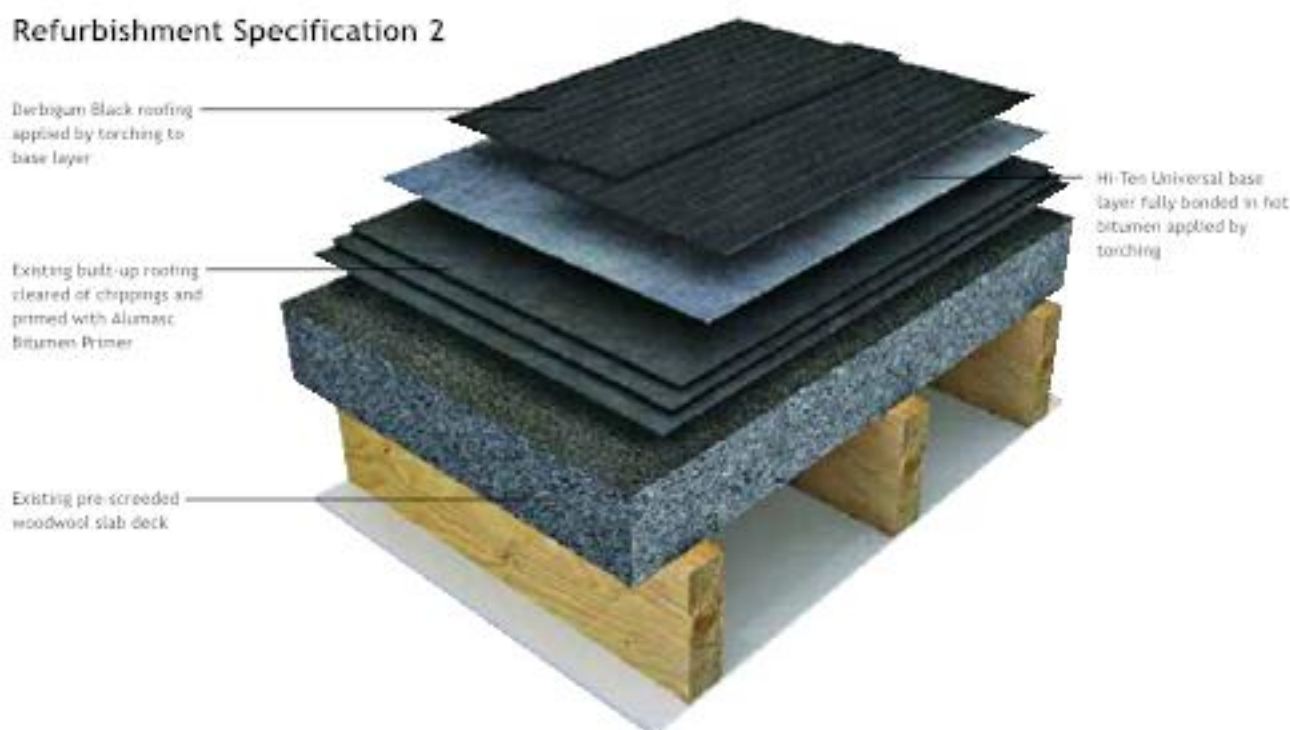
The existing system may include some insulation. The suitability of the existing system to receive a re-roofing specification can be assessed by a comprehensive Alumasc site survey.

Disturbance and Risk

Specification can be implemented with a minimum of disturbance to occupants.

New Two Layer Overlay

Refurbishment Specification 2



The Problem

Structure and deck sound; waterproof membrane split and aged. For example, existing chipping finish over three layer built-up roofing, existing pre-screeded woodwool slab.

The Solution

Application of Derbigum to extend the service life of an existing roof consisting of a durable deck and a waterproof membrane finished with chippings, or extensively patch repaired, with some splitting.

Outline Specification

Carry out all necessary repairs and rebuilding to brickwork, replace outlets and pipe sleeves where necessary. Completely remove stone chipping surfacing, clean down and re-dress mastic asphalt or built-up roofing, and prime with Alumasc Bitumen Primer.

Install Derbigum high-performance roof membrane system, consisting of the base layer of Hi-Ten Universal, installed by pour and roll method into hot bitumen, or fully bonded by torching, with the cap sheet of Derbigum Black*, fully bonded by torching (including pressure rolled laps).

*Alternative Surface Options:

- Derbigum Black, self-finished
- Derbigum Mineral
- Derbigum Black with Derbisilver paint finish or Derbipaint E

Typical Constructions

Mastic asphalt or built-up roofing on:

- Screed laid over precast (or in-situ) concrete or pre-screeded woodwool
- Tongued and grooved timber
- Exterior grade plywood or profiled metal decking

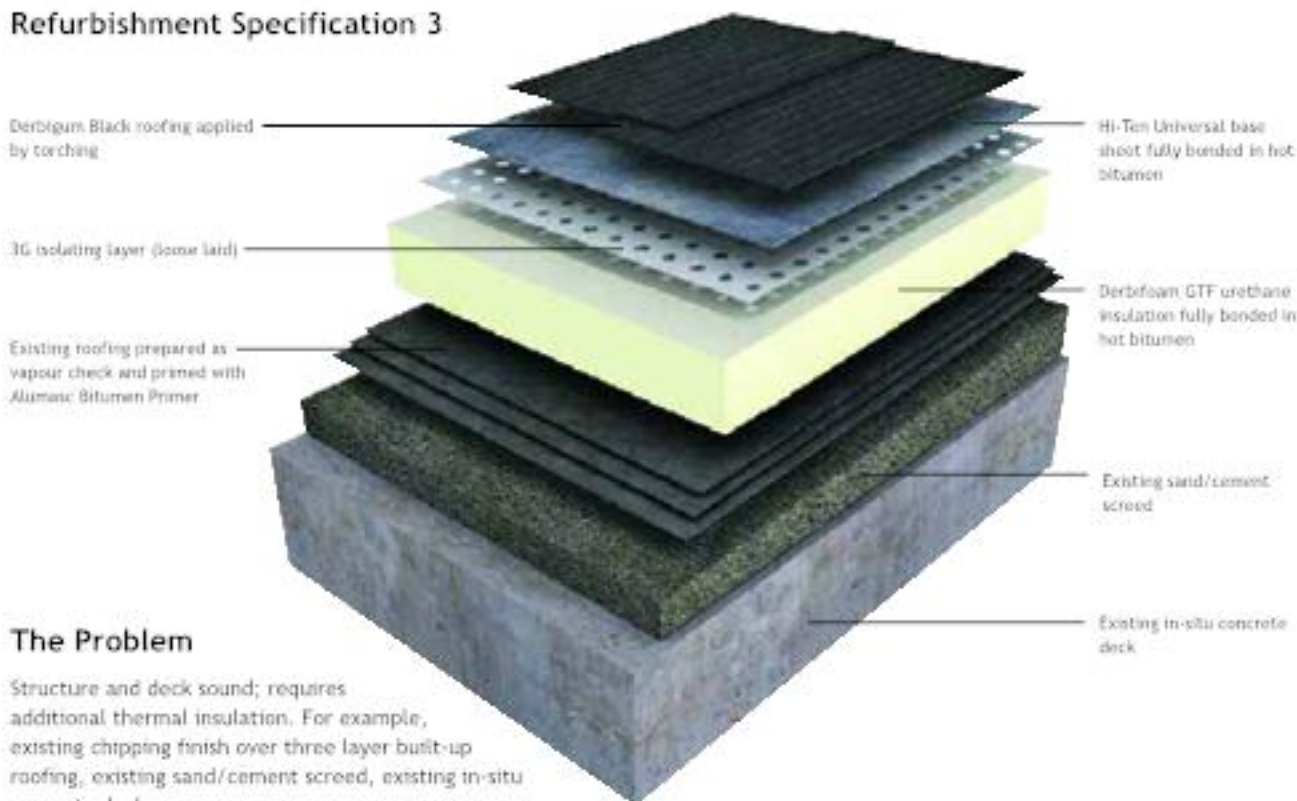
The existing system may include some insulation. The suitability of the existing system to receive a re-roofing specification can be assessed by a comprehensive Alumasc site survey.

Disturbance and Risk

Slight noise disturbance if existing roof is surfaced with chippings. Low risk of water entry during re-roofing.

New Insulation and Waterproofing

Refurbishment Specification 3



The Problem

Structure and deck sound; requires additional thermal insulation. For example, existing chipping finish over three layer built-up roofing, existing sand/cement screed, existing in-situ concrete deck.

The Solution

Application of Derbigum to upgrade the thermal insulation properties of an existing roof consisting of a durable deck with or without thermal insulation and an existing waterproof membrane. The existing membrane may be acceptable as a vapour check, or may require an additional layer, dependent on condition.

Outline Specification

Carry out all necessary repairs and rebuilding to brickwork, replace outlets and pipe sleeves where necessary.

Increase height of cills and rooflight kerbs where necessary.

Clean down and level existing waterproof membrane and prime with Alumasc Bitumen Primer.

Apply Derbifoam GTF thermal insulation, of thickness to meet required U-value, fully bonded in hot bitumen with staggered joints.

Option 1 - Torch Applied System (shown above):

Install Derbigum high performance roof membrane system consisting of type 3G (to BS 747) isolating layer loose laid, base layer of Hi-Ten Universal fully bonded in hot bitumen and Derbigum Black* cap sheet fully bonded by torching (including pressure rolled laps).

Option 2 - Rapido System:

Install Derbigum high performance membrane system, consisting of a single layer of Derbigum Black* cap sheet fully bonded in Derbibond NT, applied by squeegee at a rate of 1.0 kg/m², with laps fully torch sealed and pressure rolled.

*Alternative Surface Options:

- Derbigum Black, self-finished
- Derbigum Mineral
- Derbigum Black with Derbisilver paint finish or Derbipaint E

Typical Constructions

Mastic asphalt or built-up roofing on:

- Screed laid over precast (or in-situ) concrete or pre-screeded woodwool
- Tongued and grooved timber
- Exterior grade plywood or profiled metal decking

The existing system may include some insulation. The suitability of the existing system to receive a re-roofing specification can be assessed by a comprehensive Alumasc site survey.

Thermal Insulation

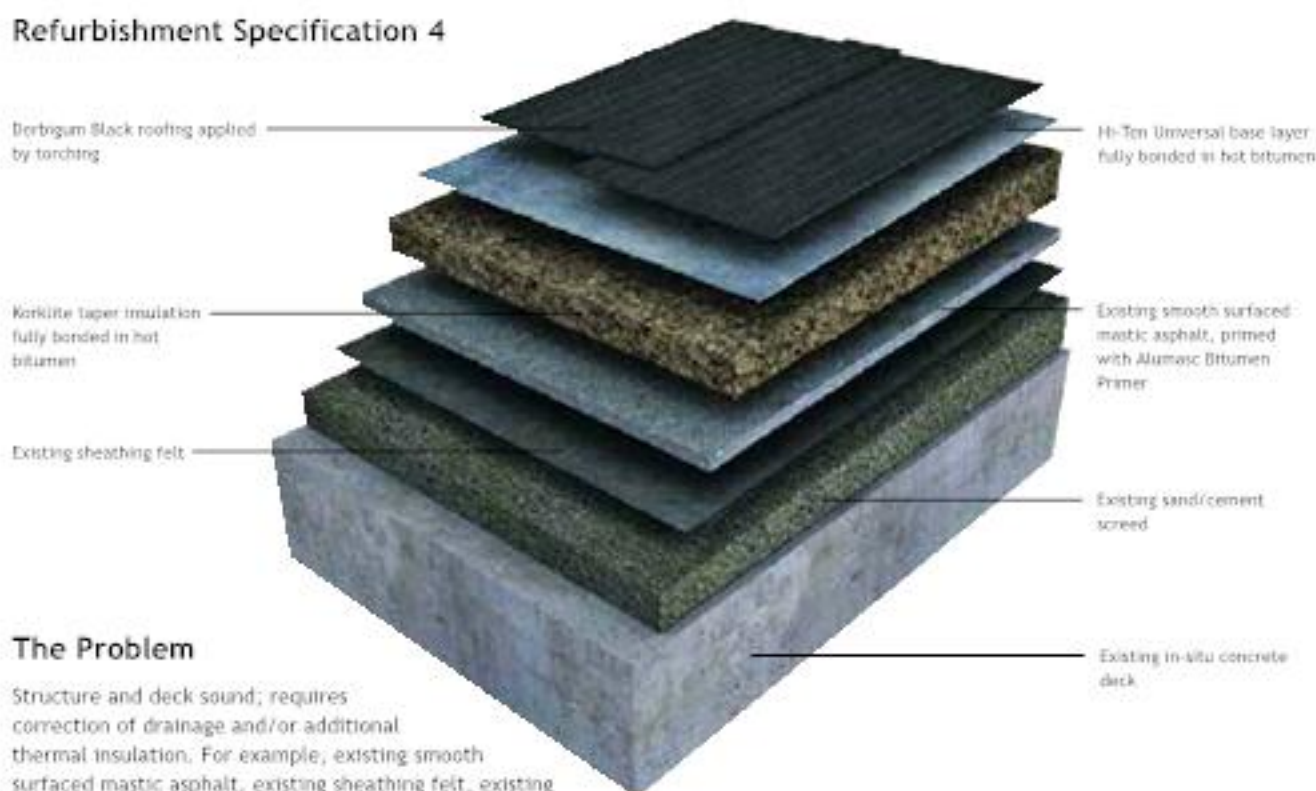
Alumasc Technical Services will advise on the most economical thickness of thermal insulation, depending on the required U-value.

Disturbance and Risk

Slight noise disturbance if existing roof is surfaced with chippings. Low risk of water entry during re-roofing.

New Insulation, Waterproofing and Improved Drainage

Refurbishment Specification 4



The Problem

Structure and deck sound; requires correction of drainage and/or additional thermal insulation. For example, existing smooth surfaced mastic asphalt, existing sheathing felt, existing sand/cement screed, existing in-situ concrete deck.

The Solution

Application of Derbigum to upgrade the thermal insulation properties and provide improved rainwater drainage on an existing roof consisting of a durable deck, with or without thermal insulation and an existing waterproof membrane. The existing membrane may be acceptable as a vapour check, or may require an additional roofing layer, depending on its condition.

Outline Specification

Carry out all necessary repairs and rebuilding to brickwork, replace outlets and pipe sleeves where necessary. Increase height of cills and rooflight kerbs where necessary. Clean down and level existing waterproof membrane, and prime with Alumasc Bitumen Primer.

Option 1 - Torch Applied System (shown above):

Install Korklite tapered insulation in accordance with layout drawings prepared by Alumasc, fully bonded in hot bitumen. Install Derbigum high performance roof membrane system, consisting of the base layer of Hi-Ten Universal, fully bonded in hot bitumen, with the cap sheet of Derbigum Black*, fully bonded by torching (including pressure rolled laps).

Option 2 - Rapido System:

Install Derbifoam GTF tapered system in accordance with layout drawings prepared by Alumasc, fully bonded in hot bitumen. Install Derbigum high-performance membrane system, consisting of a single layer of Derbigum Black* cap sheet fully bonded in Derbond NT, applied by squeegee at a rate of 1.0 kg/m², with laps fully torch sealed and pressure-rolled.

*Alternative Surface Options:

- Derbigum Black, self-finished
- Derbigum Mineral
- Derbigum Black with Derbisilver paint finish or Derbipaint E

Typical Constructions

Mastic asphalt or built-up roofing on:

- Screed laid over precast (or in-situ) concrete or pre-screeded woodwool
- Tongued and grooved timber
- Exterior grade plywood or profiled metal decking

The existing system may include some insulation. The suitability of the existing system to receive a re-roofing specification can be assessed by a comprehensive Alumasc site survey.

Thermal Insulation

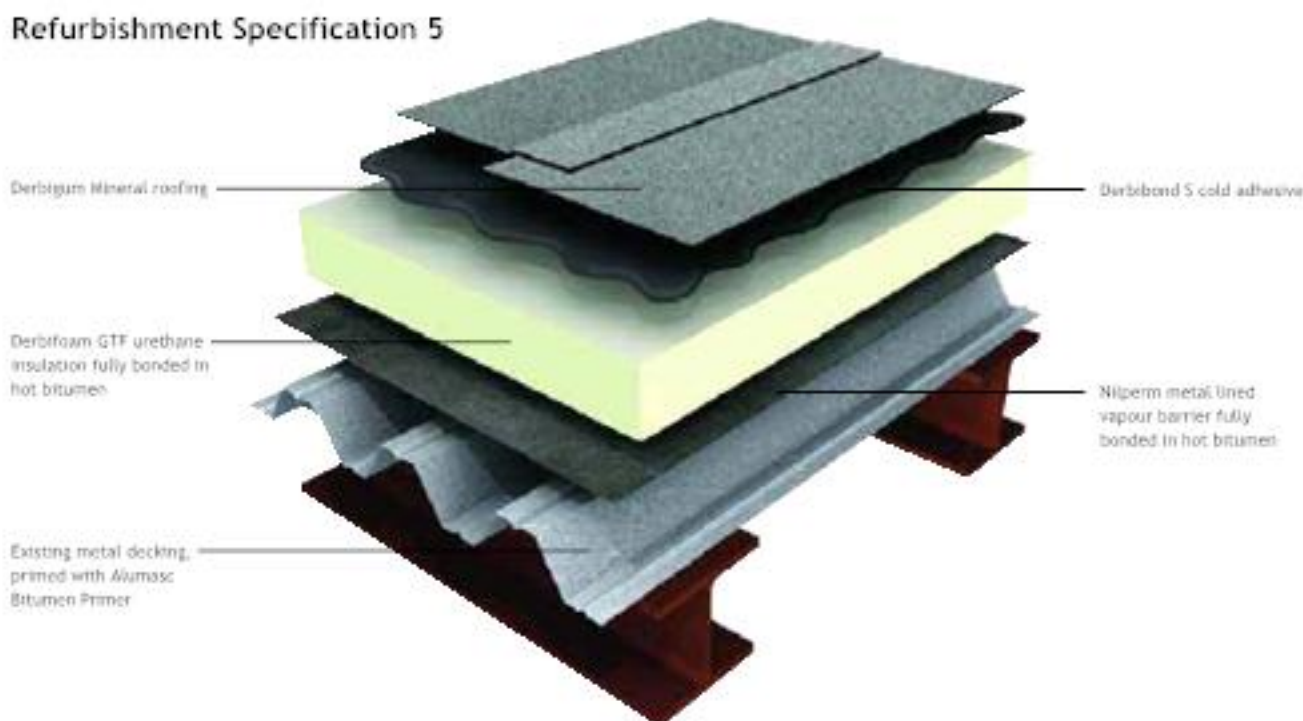
Alumasc Technical Services will prepare fully dimensioned layout drawings (in the absence of existing drawings) for the tapered system and will advise on the most economical thickness of insulation, depending on the required U-value.

Disturbance and Risk

Slight noise disturbance if existing roofing is surfaced with stone chippings. Low risk of water entry during re-roofing.

Total Renewal of Failed Insulation and Waterproofing

Refurbishment Specification 5



The Problem

Structure and deck sound; existing insulation failed. For example, existing stone chipping finish, built-up roofing, existing failed insulation, existing vapour control layer, existing metal decking.

The Solution

Application of Derbigum to restore any form of construction in which the thermal insulation layer has failed, due to water penetration, interstitial condensation or debonding from the deck.

Outline Specification

Carry out all necessary repairs and rebuilding to brickwork; replace outlets and pipe sleeves where necessary. Strip existing roofing sectionally from the deck. Prepare existing deck, renewing any defective sections prior to application of new roofing system. Provide additional fixings where necessary. Prime deck with Alumasc Bitumen Primer and apply vapour control layer of Nilperm bonded in hot bitumen, providing edge protection to the insulation board.

Option 1 - Torch Applied System:

Install Korklite Plus thermal insulation, to meet the required U-value, to the vapour control layer, bonded in hot bitumen with end joints staggered. Install Derbigum high-performance roof membrane system, consisting of the base layer of Hi-Ten Universal, fully bonded in hot bitumen, with the cap sheet of Derbigum Mineral*, fully bonded by torching (including pressure rolled laps).

Option 2 - Rapido System (shown above):

Install Derbifoam GTF insulation, of thickness to meet the required U-value, fully bonded in hot bitumen onto the vapour control layer with staggered joints. Install Derbigum high performance membrane system, consisting of a single layer of Derbigum Mineral* cap sheet fully bonded in Derbibond NT, applied by squeegee at a rate of 1.0 kg/m², with laps fully torch sealed and pressure rolled.

*Alternative Surface Options:

- Derbigum Black, self-finished
- Derbigum Mineral
- Derbigum Black with Derbisilver paint finish or Derbipaint E

Typical Constructions

Structurally sound decks with defective or debonded insulation.

Thermal Insulation

Alumasc Technical Services will advise on the most economical thickness of thermal insulation, depending on the required U-value.

Disturbance and Risk

Slight noise disturbance during stripping of existing roofing. Work should be scheduled for the spring-summer period where possible.

Total Renewal of Failed Deck and Roofing System

Refurbishment Specification 6



The Problem

Structure and deck unsound. For example, built-up roofing, existing failed particle board deck, existing unventilated roof void, existing damaged plasterboard ceiling.

The Solution

Application of Derbigum to restore any form of construction in which the deck and structure have shown symptoms of failure, due to water penetration, interstitial condensation or corrosion.

Outline Specification

Strip existing roofing sectionally from the particle board deck. Remove existing deck sectionally and renew in WBP exterior grade plywood. Provide all necessary protection to the works during progress, including carrying out all necessary repairs and rebuilding to brickwork; replace outlets and pipe sleeves where necessary. Tape joints of plywood deck and apply a vapour barrier of Nilperm bonded in hot bitumen, providing edge protection to the insulation board.

Option 1 - Torch Applied System (shown above):

Install Korklite Plus or Korklite thermal insulation, to meet the required U-value, to the vapour control layer, bonded in hot bitumen with end joints staggered.

Install Derbigum high-performance roof membrane system, consisting of the base layer of Hi-Ten Universal, fully bonded in hot bitumen, with the cap sheet of Derbigum Mineral*, fully bonded by torching (including pressure rolled laps).

Option 2 - Rapido System:

Install Derbifoam GTF insulation, of thickness to meet the required U-value, fully bonded in hot bitumen onto the vapour control layer with staggered joints. Install Derbigum high-performance membrane system, consisting of a single layer of Derbigum Mineral* cap sheet fully bonded in Derbibond NT, applied by squeegee at a rate of 1.0 kg/m², with laps fully torch sealed and pressure rolled.

*Alternative surface options:

- Derbigum Black, self-finished
- Derbigum Mineral
- Derbigum Black with Derbisilver paint finish or Derbipaint E

Typical Constructions

Degradable decks such as particle boards laid over untreated timber structures. The suitability of the existing system to receive a re-roofing specification can be assessed by a comprehensive Alumasc site survey.

Thermal Insulation

Alumasc Technical Services will advise on the most economical thickness of thermal insulation, depending on the required U-value.

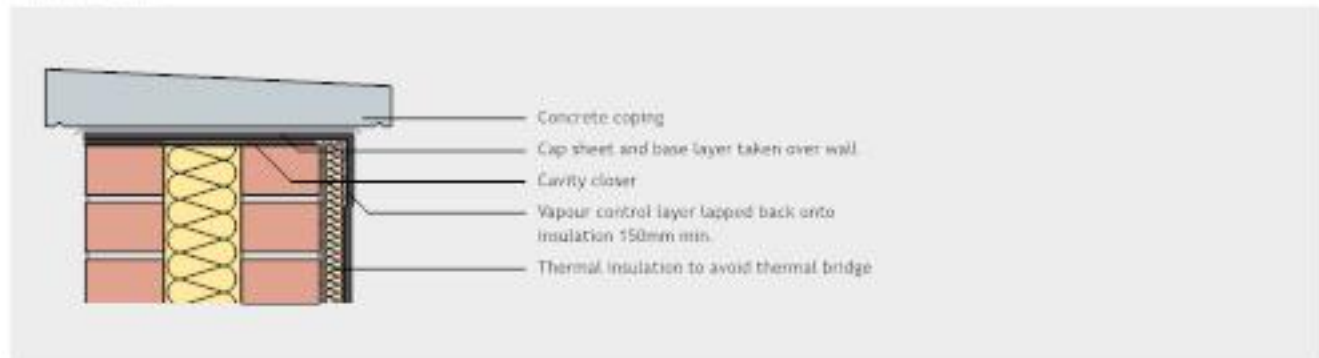
Disturbance and Risk

Disturbance factors are high and in occupied buildings the provision of a separate temporary roof may be required.

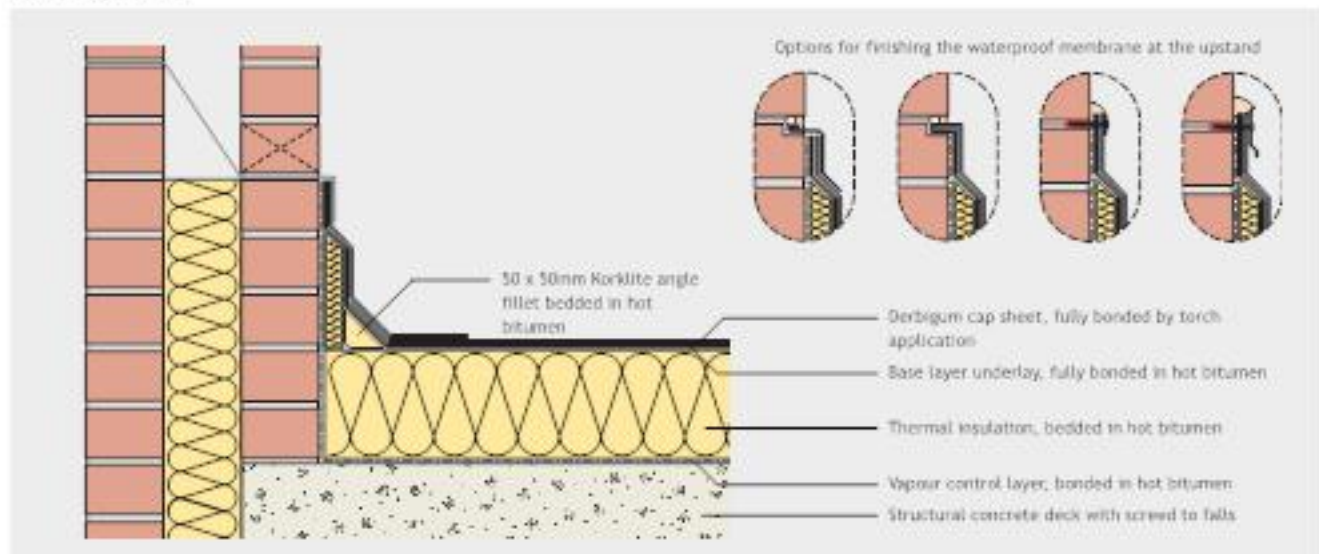
Application Details - Built Up

Typical details for warm roofs with a Derbigum Built Up membrane using torch-on application

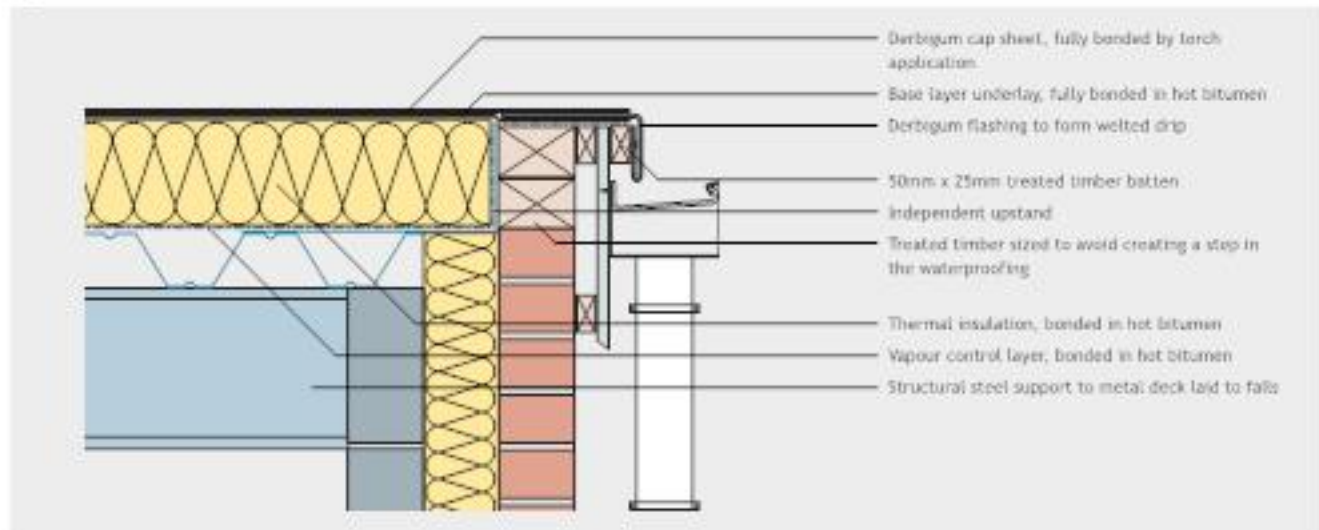
Parapet detail



Abutment detail

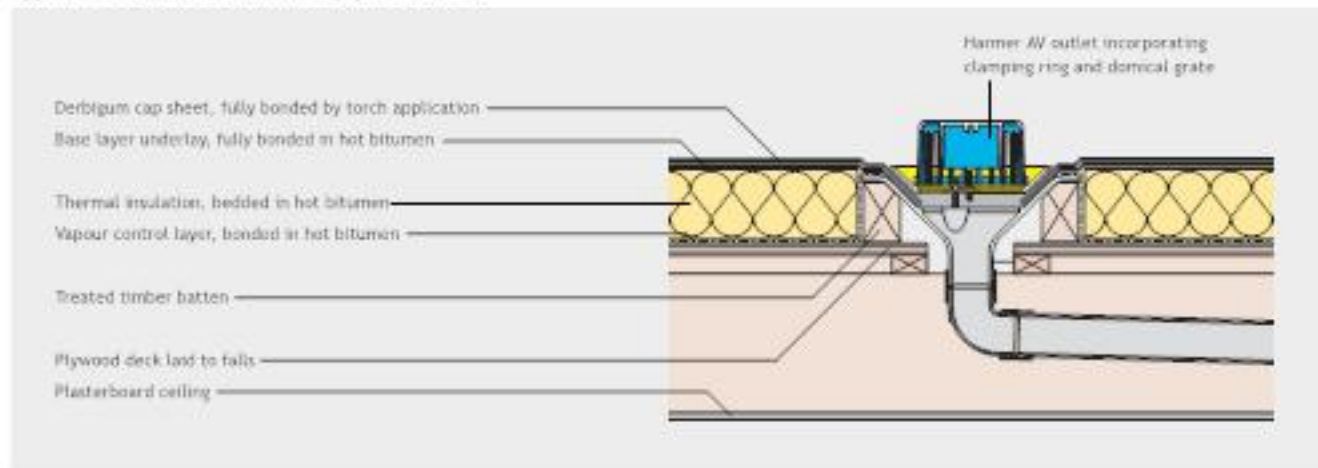


Typical eaves detail

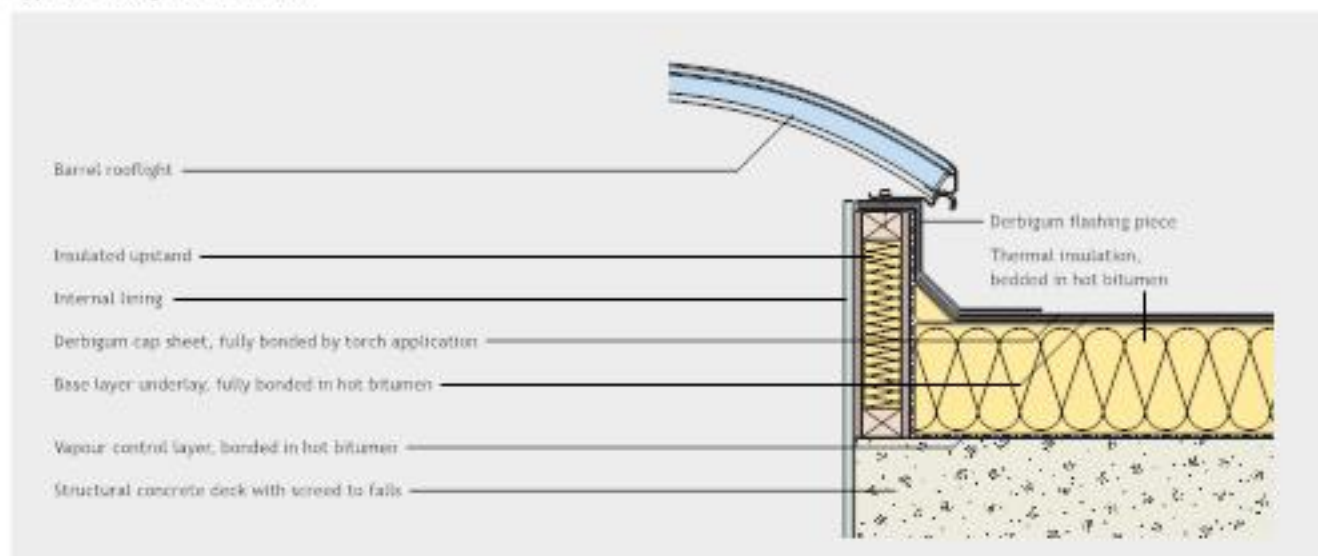


Application Details - Built Up

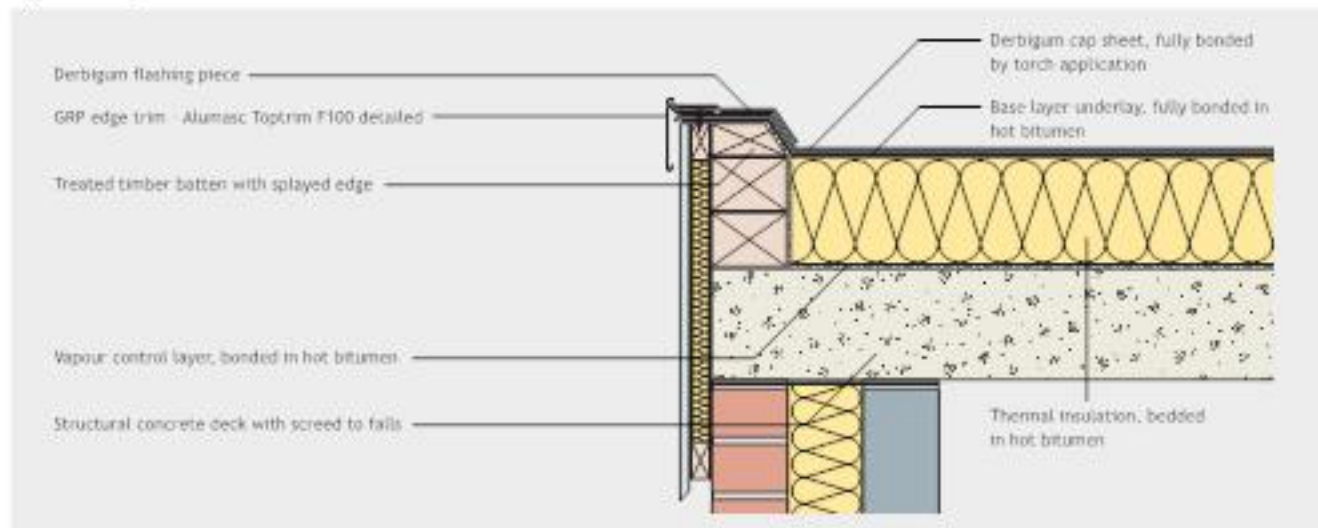
Typical roof outlet detail with plywood deck



Typical rooflight kerb detail



Typical verge detail

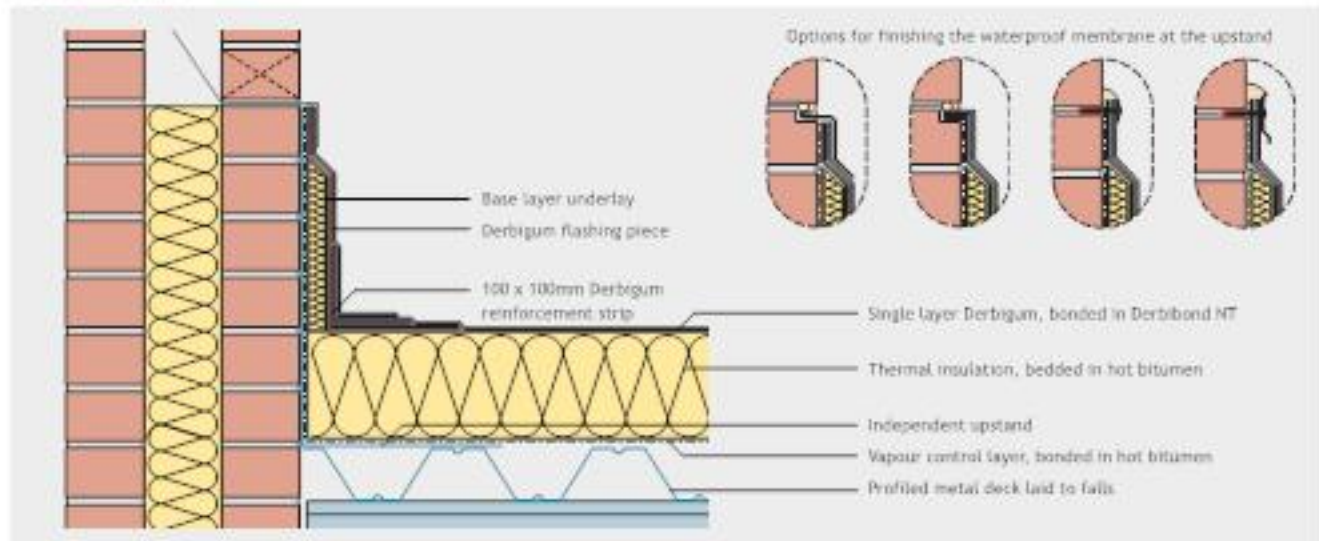


Please refer to Alumasc's Website or Technical Department for typical CAD details

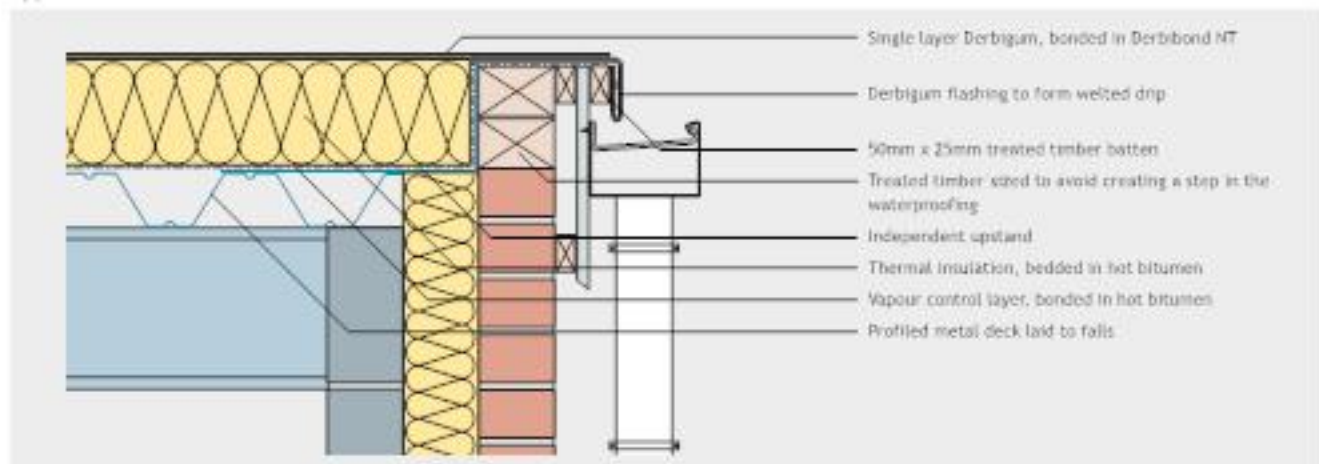
Application Details - Single Layer

Typical details for warm roofs with a Derbigum Single Layer membrane using the Rapido application method

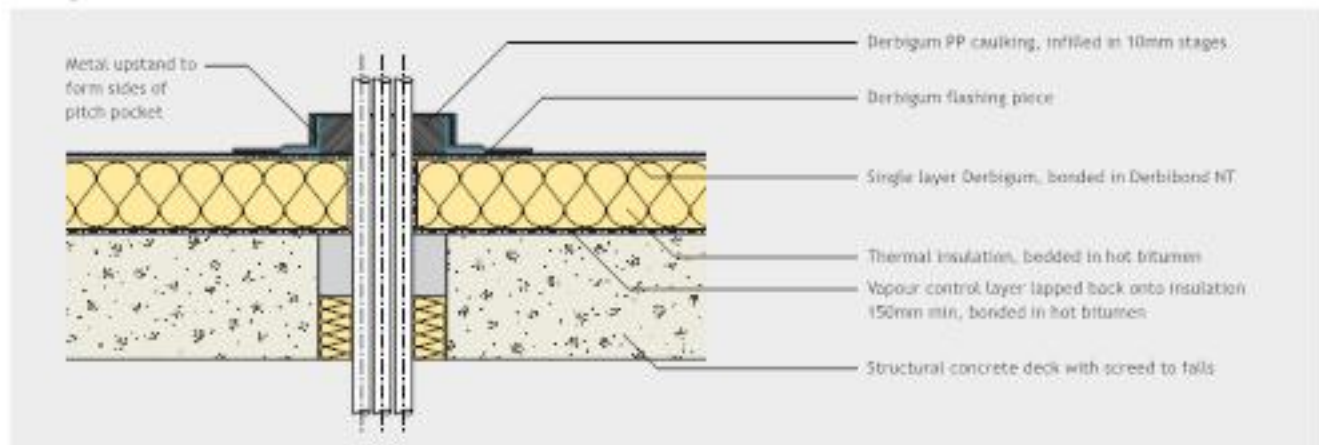
Abutment detail



Typical eaves detail

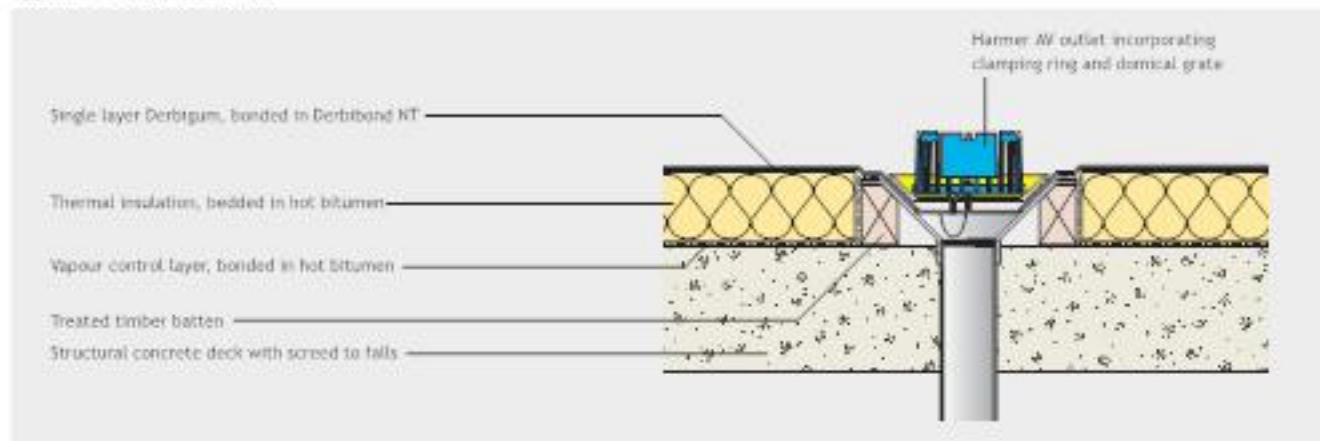


Pitch pocket detail

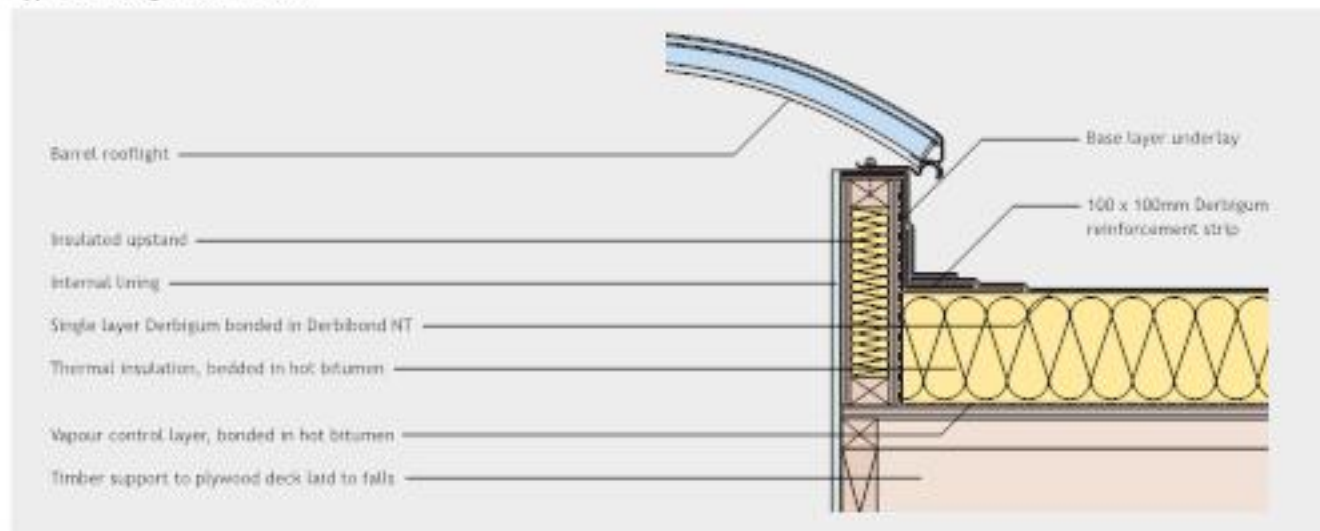


Application Details - Single Layer

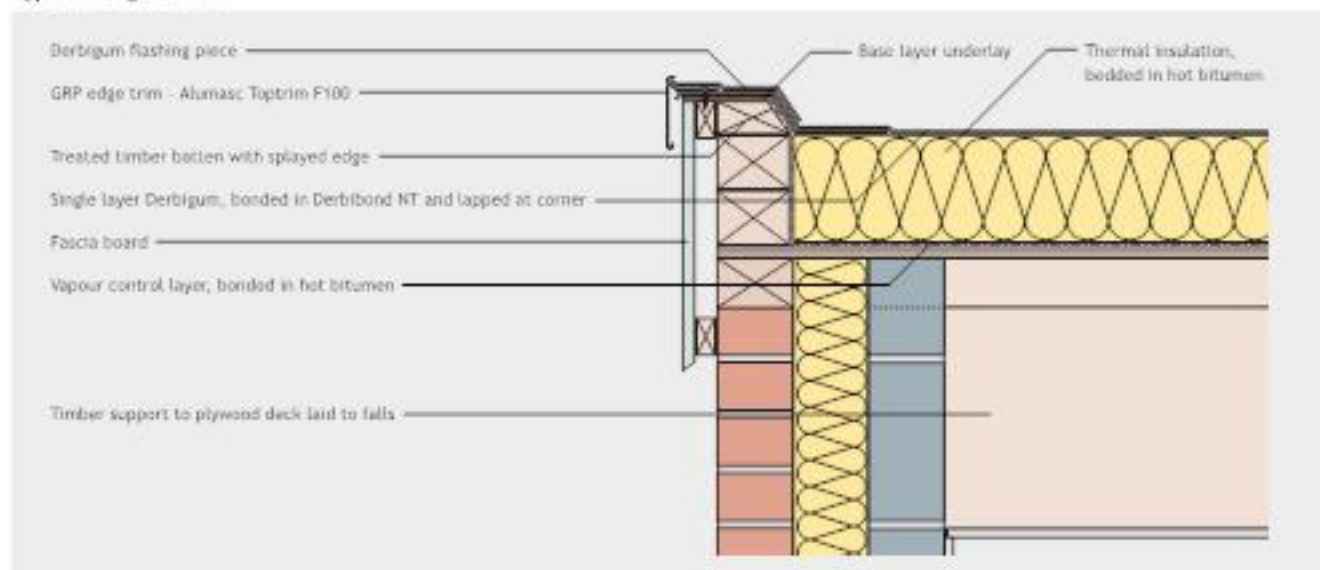
Typical roof outlet detail



Typical rooflight kerb detail



Typical verge detail



Please refer to Alumasc's Website or Technical Department for CAD details

Derbigum Accessories

Three very useful complementary products are available from Alumasc for installation on any Derbigum roof project: Derbilist, Derbigum Fillet and Derbigum Pitch Pocket.

Derbilist offers an aesthetic solution to roofs in sensitive areas.

Derbigum Fillet offers a practical waterproofing solution at construction junctions.

Derbigum Pitch Pocket offers a practical waterproofing solution at pipe penetrations.

For detailed information on these systems, please contact Alumasc Technical Services.

Derbilist

Derbilist is a mineral surfaced strip of pre-formed Derbigum. It is used to improve the aesthetic appearance of pitched roofs covered with a Derbigum waterproof membrane. It can be applied by torching on or by using Derbiseal S.

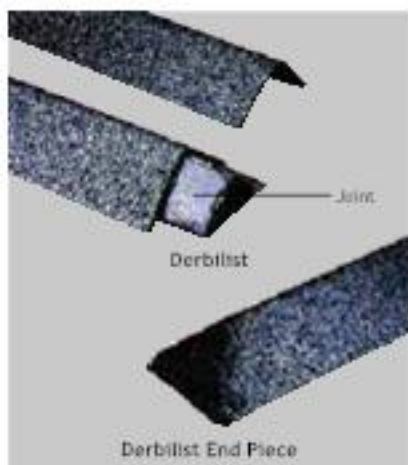
It is supplied as standard in a mineral Charcoal finish. Other colours available to order.

Derbilist has two components:

- Derbilist (1100mm in length)
- Derbilist End Piece (550mm in length)

Both come in two standard section sizes:

- Small – 38mm high x 75mm wide
- Large – 50mm high x 92mm wide



Derbigum Pitch Pocket

Derbigum Pitch Pockets are simple waterproof enclosures fitted around pipe penetrations in flat roofs. The enclosures are filled with Derbigum PP as shown in diagram A, then covered with a Derbigum membrane as shown in diagram B.



Derbigum Fillet

Derbigum Fillets are strips of Derbigum, pre-formed into 45° fillets for use at the base of upstands, bonded in Derbimastic S, Derbibond NT, or by torch application. They effectively prevent cracking at the change of direction.

Derbigum Fillet has the following attributes:

Length:	1100mm
Height and width:	45mm
Weight per strip:	0.9 kg



Additional Compatible Accessories

RedLINE and FlamLINE from ROOF-PRO

RedLINE and FlamLINE sealed, flat expansion joints are a Derbigum compatible system, designed for continuous waterproofing integrity at simple or complex movement joint details.



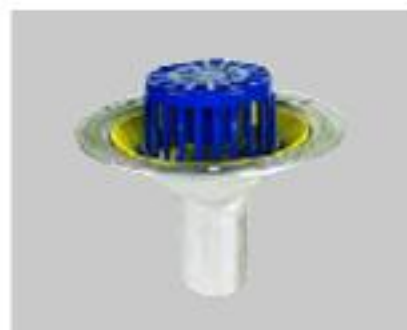
Harmer Roof Outlets

Harmer Roof metal and insulated rainwater outlets, offer comprehensive and innovative drainage solutions for all types of flat roof, including those carrying vehicular traffic. All Harmer Roof metal and insulated rainwater outlets are designed and manufactured to ensure trouble free performance over a long period, in whatever type of roof construction they are incorporated.

For detailed information on these systems, please contact Alumasc Technical Services.

AV Vertical Spigot or Screw Outlets

- Harmer Roof AV Vertical Spigot and Screw outlets provide anti-vortex performance within an economic range of general purpose outlets
- Diecast in LM6 aluminium silicon alloy to BS 1490: 1988
- AV outlets are designed for connection to individual downpipes and must not be used in siphonic rainwater systems



AV Retro-Gulley Outlets

- Harmer Roof AV Retro-Gulley outlets incorporate anti-vortex performance and are designed for flat roof upgrading without necessitating removal of the old rainwater outlet
- The body is diecast in LM6 aluminium silicon alloy to BS 1490: 1988
- The Retro-Gulley aluminium tail pipe connects directly into the existing pipework via the old outlet



AV Multi-Gulley Outlets

- Harmer Roof AV Multi-Gulley outlets incorporate an adjustable spigot that can be rotated to suit any angle of outflow from horizontal to vertical
- Interchangeable spigots provide for 75mm or 100mm pipe connections
- Bodies and spigots are diecast in LM6 aluminium silicon alloy to BS 1490: 1988



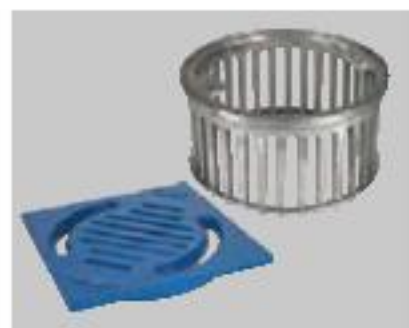
Detail Outlets

- Harmer Roof Detail outlets comprise a range designed to solve problematic detailing requirements
- The range includes two way, balcony, car park and gulley outlets
- Detail outlets are diecast in LM6 aluminium silicon alloy to BS 1490: 1988



Accessories

- There is also a comprehensive range of accessories available to ensure the successful installation of Harmer Roof rainwater outlets in most types of roof construction



Insulated Outlets

- Harmer Roof Insulated outlets have a rigid polyurethane foam body with a high insulation value
- They are ideal for installation in flat roofs to avoid any possibility of condensation forming as a result of thermal bridging



Harmer Deck/Paving Supports

Harmer raised decking and paving support systems from Alumasc comprise two product ranges - Harmer Modulock and Harmer Uni-Ring.

The support systems are designed to meet a wide variety of support situations, including terraces, walkways, balconies and ballasted flat roof constructions.

For detailed information on these systems, please contact the Alumasc Technical Helpline.



Harmer Modulock

Harmer Modulock is a fully engineered raised pedestal system for supporting paving slabs or timber decking at varying heights from the sub-structure.

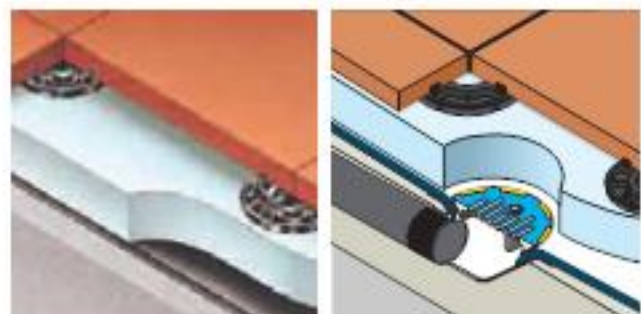
- Wide range of height adjustment from 42-600mm
- Fine adjustment for both height and level are possible
- Head leveller for correction of cross falls
- Locating blades on head assist positioning of slabs and maintaining open joints when required
- Locating blades can be removed if required
- Allows for the accommodation of services beneath the paving



Harmer Uni-Ring

Harmer Uni-Ring is a versatile and economical system for concealed drainage beneath paving slabs.

- Stackable units with spacers for open joint drainage when required
- Spacers are collapsible for closed jointing and edge detailing
- Shims for fine height adjustment
- Economical and flexible support system
- Full load spread, units not required to subdivide for edge or corner detailing
- Fixed height, provides very shallow construction depth



Alumasc Rooflights

Natural daylighting creates better quality internal environments that can reduce energy costs and significantly improve peoples' concentration and productivity.

Alumasc offers a choice of four rooflight systems, to satisfy every requirement for overhead daylighting that is likely to occur on an Alumasc waterproofing contract, whether the waterproofing membrane is used as either a single layer or built up system.

For detailed information on these systems, please contact Alumasc Technical Services.

Alumasc rooflight systems share the following key features:

- Assured safety by use of virtually unbreakable polycarbonate glazing with no cracking or splintering, and also fire resistant
- Double skin or multi-wall polycarbonate glazing for maximum thermal insulation
- Economical and lightweight - giving easy installation and maintenance
- Flexibility in sizing, with a wide range of specification options

Modular Rooflights

A Range

Alumasc A Range are superior modular dome rooflights providing high levels of security and waterproofing. The 'lock-bolt' security system means installation of the rooflight is straightforward, precise and secure. Removal of the glazing can only be achieved with the use of a 'lock-bolt' security opening device.



B Range

Alumasc B Range are regular modular dome rooflights distinguished by their speed and accuracy of installation on flat roofs. The 'lock-bolt' security system means less time is required to fix the rooflight to the structure. The fixings required for installation are supplied pre-fitted to the glazing.



Continuous Barrel Vaults

Attractive and versatile architectural glazing with excellent weather resistance and durability, widely specified for schools, public buildings and domestic projects where reliability is paramount.



Interlocking Glazing

Modular 2000 Ultra

Modular 2000 Ultra Glazing is a robust and versatile, non-fragile panel glazing system. It features elegantly designed and well finished interlocking aluminium frame panels, glazed in 25mm structured polycarbonate, which link to fit any run length.



Modular 2000 Express

Modular 2000 Express Glazing is a quick to install, flat profile panel glazing system. It features elegantly designed and well finished interlocking aluminium frame panels, glazed in 16mm structured polycarbonate, which link to fit any run length.



Skylights

A wide choice of skylight glazing that includes gable ended, hip ended and pyramid options - extremely versatile and cost effective.



ROOF-PRO Roofing Products

ROOF-PRO systems are designed to provide future-proof solutions for the support of roof-mounted building services.

The ROOF-PRO solution is flexible and efficient, supporting services from 50mm pipes to 10,000 kg AHU's independently on a range of flat roof designs.

For detailed information on these systems, please contact Alumasc Technical Services.

ROOF-PRO Support Systems

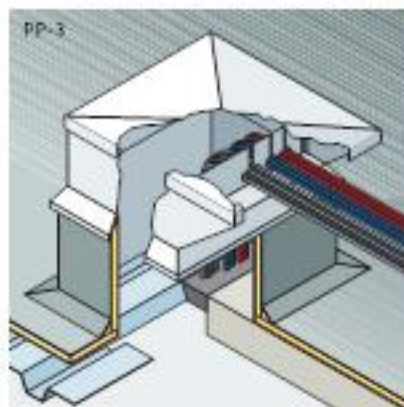
ROOF-PRO supports are quickly and simply positioned on the roof finish without penetrating or damaging the membrane.

ROOF-PRO systems also support walkways, step-overs and access platforms.



PP-3 and Roof-Nek

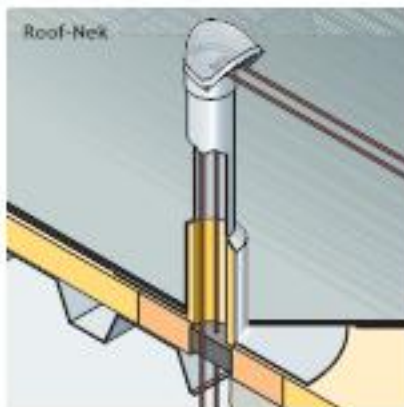
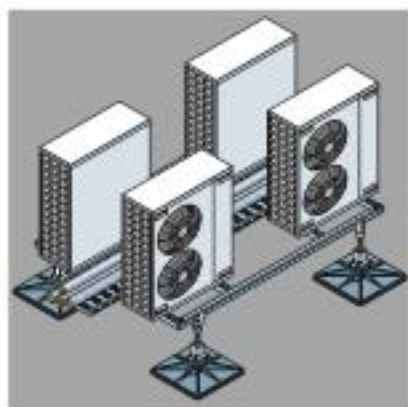
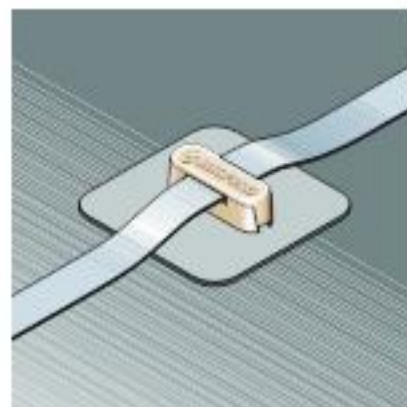
PP-3 and Roof-Nek are service access risers and upstands providing a consistent quality solution for unavoidable penetrative details on flat roofs, ensuring that cable and pipe access points will be efficiently watertight and insulated.



Lite-Anchor

Lite-Anchor is a compatible fixing to secure lightning conductor tape to a flat roof membrane.

The design, unlike traditional methods, allows high levels of movement without exerting stress on the bond to the roof.



Skyline Coping

The Skyline Coping system provides an economical and easily installed capping to upstand parapets, in conjunction with flat or pitched roofs. The strap fixing method avoids penetration of the capping, whilst allowing ventilation over the top of the wall. Skyline Coping is maintenance free, available in a wide range of colours and is equally suited to retrofit and new build.

For detailed information, please contact Alumasc Technical Services.

Skyline Copings have the following key features:

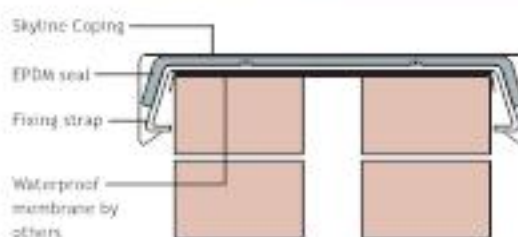
- Attractive, clean lines are maintained as fixings are not visible on the surface of the coping
- Totally weatherproof covering achieved as the fixing mechanism involves no penetration of the coping
- The fixing strap profile allows ventilation over the top of the wall whilst remaining weatherproof
- Simple and quick to install and in most cases fixing can be carried out from the roof so no external access is required making it particularly suitable for renovation work
- Lightweight, durable and corrosion resistant
- Virtually maintenance free, with a lifespan well in excess of 25 years
- Material thickness and fixing mechanism gives excellent rigidity
- Aluminium is 100% recyclable
- Choice of standard, BBA approved polyester powder coating colours with others available to special order

Skyline Coping Components

- Copings are fabricated from 2mm or 3mm thick aluminium alloy sheet, depending on width
- Fixing straps are pressed 3mm aluminium with extruded EPDM seals bonded to the top surface
- All fabricated fittings (90° corners, irregular corners, stop ends, closed ends, upstands, 90° tee junctions) are mitred, welded and have a smooth finish on the front face
- Waterproof membrane will be required beneath coping to provide an effective seal.

Performance

- Coefficient of linear thermal expansion is $23 \times 10^{-6} \text{mm/m/}^{\circ}\text{C}$
- A gap of 3-4mm should be left between coping sections to accommodate thermal expansion
- Aluminium is a suitable material for use as a lightning conductor
- Alumasc Lightning Link can be supplied for fitting to adjacent sections to provide good electrical conductivity in accordance with BS 6651.
- Alumasc hold British Board of Agrément Certificate No. 86/1671 for a range of polyester colours.



Alumasc Project Support

Alumasc Technical Services can advise on all aspects of product selection, specification and integration of Alumasc systems into any building design.

Specific technical advice is always available through our Area Sales Managers, Site Support Technicians or Technical Services team.

The Alumasc Four Part Business Proposition

Based on an integrated delivery of the four key factors that make up a top class Waterproofing system offer:



Premium Products

A constantly evolving range of quality proven world class products and systems, fully accredited to UK, European and North American standards.



Technical Support

Comprehensive data for specification and use of all products and systems is available in published form, and on the company website.

This is backed up with proactive support on a project basis, led by specialist area managers and using the latest CAD technology.



Approved Contractors

A rigorously trained and monitored installation network for each specialist system to ensure correct application on site.



Warranties

A comprehensive choice of Alumasc warranties, giving protection for up to 25 years, ensuring long-term peace of mind.

Alumasc Technical Support for Derbigum

Design Support

- Detailed site evaluation and survey reports
- Design advice
- Cost estimates
- Thermal efficiency calculations
- Condensation risk analyses
- Wind loading calculation for high exposure
- Typical CAD details
- Product samples
- Flow calculations

Specification Support

- Detailed NBS specifications
- Guidance on Regulations and Standards
- Material safety and product data sheets
- Maintenance schedule

Installation, Aftercare and Warranties

- Installation by an approved contractor network, on site technical and installation support, project specific warranties, supplementary maintenance schedules and programmes



Approved Contractors and Warranties

Alumasc have, as part of their support team, a UK network of fully trained and approved contractors available to price and carry out and install Derbigum systems for all types of new build and refurbishment projects.

Alumasc Approved Contractors

Installation of Derbigum systems is carried out by a national network of fully trained and approved contractors.

Alumasc Approved Contractors:

- Provide fully warranted workmanship as part of the Alumasc products and services warranty offer
- Undergo comprehensive training both in-house and on-site, with a register kept of all carded operatives within the company
- Are assessed for competence and suitability on specific project types prior to selection for tendering opportunities
- Are assessed for financial stability prior to any award of approved status
- Are prepared to work beyond their local geographical boundaries where possible, therefore enabling provision of a list of contractors tailored to your individual need
- Are monitored as part of the ISO 9001: 2000 Quality Management and ISO 14001: 2004 Environmental Management systems

Alumasc ensure approved contractors receive valuable, hands-on assistance in the application of all Alumasc products and systems, as well as refresher training, whenever required, to ensure that applicators are all aware of any product or method improvements.

For details of the Alumasc approved contractor network please contact us or your local area sales manager direct.



Warranties

Alumasc offers a comprehensive choice of warranties covering both product and installation to suit the specified design life of the installed product.

- Alumasc warranties are available for 12, 15, 20 or 25 years supported by public and product liability insurances with a total indemnity limit of £50 million on an annually renewable basis
- Third party insurance backing giving cover against latent product defects is available via FSA regulated insurance brokers subject to independent final inspection, documented compliance with an agreed maintenance schedule and pre-payment of the relevant premium.

NB: Warranties are only offered on Derbigum projects that have been installed by an Alumasc Approved Contractor, in accordance with the relevant project specification and Alumasc Quality Assurance scheme ruling at the time of application

For all information relating to warranties for your specific project please contact us at the St Helens office or your local Area Manager direct.



System Components

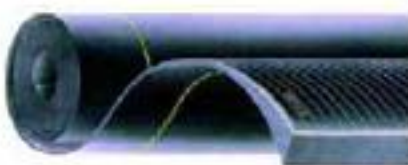
Derbigum Waterproofing Membranes

Dimensions

	Derbigum Black	Derbigum Mineral	Derbibrite	Derbigum GC	Derbigum Anti-Root
Thickness (mm)	4.0	4.5	3.0	5.0	4.0
Width (m)	1.1	1.1	1.0	1.1	1.1
Length (m)	8.0	7.27	10.0	7.27	8.0
Weight (kg/m ²)	4.2	5.1	3.4	5.2	4.2
Weight per roll (kg)	37.0	40.0	34.0	42.0	37.0

Physical properties

	Derbigum Black	Derbigum Mineral	Derbibrite	Derbigum GC	Derbigum Anti-Root
Tensile strength – Longitudinal (N/50mm)	675	800	800	1150	675
Tensile strength – Transverse (N/50mm)	625	700	800	1150	625
Elongation at break – Longitudinal (%)	50	30	16	50	50
Elongation at break – Transverse (%)	50	30	16	50	50
Unrestricted shrinkage (%)	<0.1	<0.1	0.2	<0.1	<0.1
Softening point (°C)	150	150	140	150	150
Cold flex (°C)	-20	-20	-20	-20	-20



Derbigum Black,
Derbigum GC,
Derbigum Anti-Root



Derbigum Mineral



Derbibrite



Derbigum Black



Derbigum GC



Derbigum Anti-Root



System Components

Derbigum Insulation

Introduction

Alumasc offer a range of seven insulation options for use with Derbigum built-up roofing.

All seven options are HCFC and CFC free materials with zero ozone depletion potential, each with key features to suit different applications.

Derbifoam GTF Rigid Urethane

This is the ideal choice for warm, flat roofs. There is a choice of three facings to suit a wide range of waterproof membranes. Suited to both new build and refurbishment applications, and achieves the highest thermal performance per unit of thickness and cost.

Derbirock Mineral Wool

This is the only option certified non-combustible and is therefore the appropriate material for use where non-combustibility is a requirement of the building use or client. It also performs well as an acoustic barrier, due to its natural sound absorption properties, making it suitable for use near airports and other noise sources.

Korklite Natural Corkboard

Korklite is composed entirely of natural materials in both source materials and process of manufacture and is 100% recyclable. Korklite allows a fully bonded roofing system for maximum resistance to wind uplift. It is lightweight, ideal for warm roofs as it is stable under all temperatures and acts as a heat sink. Guaranteed low moisture content.

Whilst not classified as non-combustible it has enhanced fire performance and its naturally open structure also provides a good acoustic barrier.

Korklite Plus Cork/PIR Composite

This laminate combines the high thermal performance of urethane with a cork facing. This enables the application of fully bonded waterproofing systems for maximum wind uplift resistance, and also acts as a heat sink.

Alumasc Roofmate® TF-X, TF-A, TF-X-LG and TF-A-LG Extruded Polystyrene

This has been specially developed for use on inverted roofs. It has very low moisture absorption, high compressive strength and a good insulation value.



Sustainability

Ratings for building materials given in the 2008 BRE Green Guide to Specification allows designers to choose those products or construction methods with the least environmental impact. The Green Guide rates insulation products as follows:

- Polyurethane A
- Corkboard (Density 120 kg/m³) A
- Mineral Wool (Density 128 kg/m³) B
- Extruded Polystyrene (HFC blown) E
- Extruded polystyrene (CO₂ blown) A+

This suggests that Derbifoam Polyurethane, Korklite and the Korklite Plus/PIR composite are the first choice insulation materials for sustainability. Derbirock Mineral Wool would be first choice where a non-combustible insulant was required, while Alumasc Roofmate TF-A extruded polystyrene should be used for inverted roofs wherever possible.



System Compatibility

Alumasc Roofmate® TF-X

An HFC blown, CFC and HCFC free, extruded polystyrene insulation board, with shiplap edge profiles. For use with:

- Derbigum Built Up System

Alumasc Roofmate® TF-A

A CO₂ blown, CFC and HCFC free, extruded polystyrene insulation board, with shiplap edge profiles. For use with:

- Derbigum Built Up System

Alumasc Roofmate® TF-X-LG

An HFC blown, CFC and HCFC free, extruded polystyrene insulation board, with a 10mm cementitious topping, with tongued and grooved edge profiles. Also available in a CO₂ blown version TF-A-LG with a GWP of 1. For use with:

- Derbigum Built Up Inverted System

Alumasc Roofmate® TF-MK

A water vapour permeable, spunbonded polyethylene separator sheet based upon Dupont Tyvek®. For use with:

- Derbigum Built Up Inverted Systems

Korklite

Korklite is made from natural cork granules, steam baked and pressure bonded into boards using the cork's own self-contained resins as the binder. For use with:

- Derbigum Built Up System

Korklite Plus

Korklite Plus is a composite board with a 20mm upper layer of natural cork made as for Korklite above, plus a lower layer of high performance CFC and HCFC free rigid urethane. For use with:

- Derbigum Single Layer System
- Derbigum Built Up System

Derbifoam GTF

A CFC and HCFC free rigid urethane insulation board. For use with:

- Derbigum Single Layer System
- Derbigum Built Up System

Derbirock

A dual density mineral wool thermal insulation board. For use with:

- Derbigum Single Layer System
- Derbigum Built Up System

Performance characteristics of insulation materials

Insulation type	GWP	Thermal conductivity (k value)	Compressive strength (kN/m ²)	Density (kg/m ³)	Roof system	Layered version available
Derbifoam Rigid Urethane	3	0.025 - 0.027	150	32	Warm	Yes
Derbirock Mineral Wool	0	0.038	60	Upper 15mm face 210 Standard element 130	Warm	Yes
Korklite Natural Corkboard	0	0.038	140	120	Warm	Yes
Korklite Cork Plus/ PIR Composite	3	Cork 0.043 PIR 0.025 - 0.027	>140	Cork - 120 PIR - 32	Warm	Yes
Alumasc Roofmate TF-X Extruded Polystyrene	1300	0.029 - 0.031*	300	38	Inverted	No
Alumasc Roofmate TF-A Extruded Polystyrene	1	0.035 - 0.038*	300	35	Inverted	No

* Plus cooling factor

GWP = Global Warming Potential

System Components

Derbigum Base Layers

Hydrogard 10

Hydrogard 10 is a lightweight glass fibre reinforced oxidised bitumen layer for pour and roll application. For use with:

- Derbigum Single Layer System
- Derbigum Built Up System
- Derbibrite

Hi-Ten Universal

Hi-Ten Universal is a polyester reinforced oxidised bitumen, high performance layer. For use with:

- Derbigum Single Layer System
- Derbigum Built Up System
- Derbibrite

Dimensions

	Hydrogard 10	Hi-Ten Universal
Thickness (mm)	2.0	3.0
Width (m)	1.0	1.0
Length (m)	20.0	10.0
Weight (kg/m ²)	2.0	4.0

Physical properties

	Hydrogard 10	Hi-Ten Universal
Tensile strength – Longitudinal (N/50mm)	>266	>450
Tensile strength – Transverse (N/50mm)	>185	>400
Elongation at break – Longitudinal (%)	3	30
Softening point (°C)	80	100



Derbigum Vapour Control

Nilperm

Nilperm is a polyester reinforced bitumen barrier with an aluminium core, for use in traditional multi layer roofing systems. For use with:

- Derbigum Single Layer System
- Derbigum Built Up System
- Derbibrite

Hi-Ten Aluminium

Hi-Ten Aluminium is a glass fibre reinforced, oxidised bitumen barrier with an aluminium core, for use in traditional multi layer roofing systems. For use with:

- Derbigum Single Layer System
- Derbigum Built Up System
- Derbibrite

Dimensions

	Nilperm	Hi-Ten Aluminium
Thickness (mm)	1.8	1.5
Width (m)	1.0	1.0
Length (m)	20.0	20.0
Weight (kg/m ²)	2.0	1.6
Foil thickness (microns)	76	25

Physical properties

	Nilperm	Hi-Ten Aluminium
Tensile strength – Longitudinal (N/50mm)	>600	>335
Tensile strength – Transverse (N/50mm)	>600	>300
Elongation at break – Longitudinal (%)	35	9
Softening point (°C)	110	80

System Components

Derbigum Adhesives



Derbibond NT

Derbibond NT is a solvent-free, bitumen based adhesive that has excellent bond strength whilst accommodating minor movement. It ensures the homogeneous adhesion of all bituminous membranes to the roof deck, insulation boards and previously laid bituminous membranes. It can be applied either by squeegee or by special spray equipment.

When smoothed out evenly it largely eliminates cracks, tears and irregularities. In renovations, it regenerates old bituminous roofing membranes.

Derbibond NT should not be used on excessive slopes or to seal overlaps.

Coverage: 1.0-1.5 kg/m² depending on substrate.

Supplied in 25 kg drums and 1000kg 'Cubitainer' for spraygun applications.



Derbifill S

Derbifill S is a ready-to-use bituminous mass for levelling roofs and adjusting falls to ensure correct water run-off.

Derbifill S:

- Offers an economic solution to roof levelling, preventing puddles forming and filling in where there is roof subsidence or unevenness
- Ensures perfect adhesion between bituminous membrane and deck
- Can be applied up to 50mm thick

Where Derbifill S is used on concrete surfaces or old bituminous membranes, a coat of Alumasc Bitumen Primer should be applied first.

Coverage: 12 kg per 10mm depth m².

Derbifill is spread and levelled with a trowel and supplied in 25 kg cans.

Derbigum Adhesives



Derbiseal S

Derbiseal S is a resin modified bitumen mastic for sealing laps between rolls of Derbigum membrane, applied by using a compressed air gun.

Also suitable for bonding insulation boards in 150 gram blobs for adhering vapour control layers to primed metal decks.

Coverage: 150 grams per blob, 150 grams per linear metre (at 20 x 4mm).

Supplied in 1.5 and 3.0kg tubes and 12 kg drums.



Derbimastic S

Derbimastic S is a trowel applied adhesive used for detail work. It makes a flexible waterproof connection between bituminous membrane and all roof elements and can also be used as a caulking mastic.

Coverage: 2-3 kg/m² depending on substrate. Cartridge coverage: 10 linear metres for a 5mm bead.

Supplied in 25 kg drums and 310 ml cartridges.

Derbigum Primer



Alumasc Bitumen Primer

A general purpose bitumen primer to seal down dust, reduce porosity and improve adhesion for subsequent bitumen based materials.

Coverage: approx 6-12m² per litre depending on substrate.

Supplied in 25 litre drums.

Derbigum Coatings



Derbipaint E

Derbipaint E is a water based, two coat, matt acrylic paint for finishing bituminous roofing membranes.

Derbipaint E:

- Has excellent UV resistance
- Adheres well to bituminous roofing membranes
- Is available in 5 different colours

Derbipaint E can be applied to recently installed smooth roofing membranes (without sand or granules) and also older membranes that are smooth, or have a sand or granule finish, after minor repairs and cleaning to remove moss and loose particles. Derbipaint E can be applied by brush, roller or airless spray.

Coverage: 5 m²/litre per coat on smooth membrane, 3.5 m²/litre per coat on sanded or mineral membrane.

Standard colours are:

- Green - RAL 6026
- Light grey - RAL 7037
- Terracotta - RAL 8023
- Black - RAL 9017
- White - RAL 7035

Supplied in 20 litre cans.



Derbisilver S

Derbisilver S is a bitumen based aluminium paint specially designed for use on bituminous roofing membranes.

The aluminium finish of Derbisilver:

- Provides additional UV protection to the roofing membrane
- Reflects heat and reduces the surface temperature of the roof
- Provides a good looking, light coloured finish to the roof.

Derbisilver S should only be applied to plain finished bituminous roofing membranes without a sand or mineral finish.

Coverage: 10m² per litre per coat.

Number of coats required dependant on substrate.

Supplied in 20 litre cans.

Alumasc Premium Products

Alumasc provides an unrivalled range of premium products for building exteriors and drainage, along with high levels of technical expertise and project support. Our wealth of experience, solely dedicated to construction products, combined with networks of approved installers, merchant stockists and a choice of warranty options ensures we provide appropriate product and system solutions for all types of buildings.



Rainwater

Rainwater collection by design: a complete range of engineered solutions to complement both contemporary and traditional architecture in aluminium and cast iron.

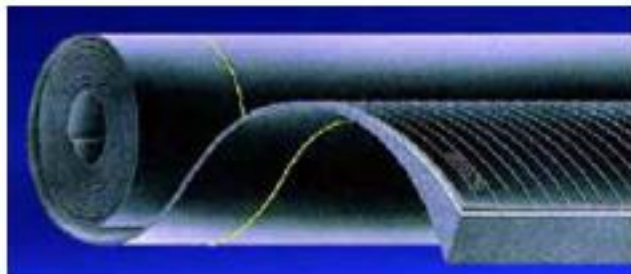
www.alumascrainwater.co.uk



Drainage

Harmer drainage solutions from products and systems renowned for engineering integrity. Includes cast iron soil and waste systems and unitary drainage.

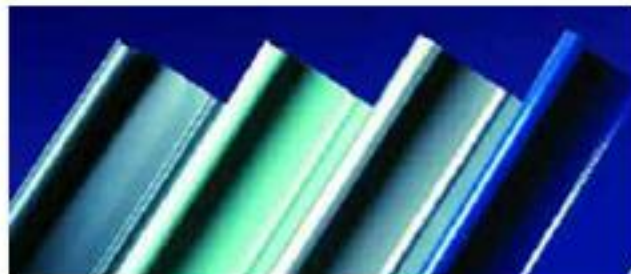
www.alumascdrainage.co.uk



Waterproofing

A combination of world class brands - Derbigum flat roofing and Hydrotech structural waterproofing - market leaders in their respective fields.

www.alumascwaterproofing.co.uk



Metal Roofing

A synthesis of engineering and aesthetics providing architecturally powerful roofing solutions with the Armaseam standing seam system and Skyline fascia/soffits.

www.alumascmetalroofing.co.uk



Green Roofs

ZinCo green roofs - market leaders in Europe for over 40 years with Biodiverse, Extensive, Intensive & Semi-Intensive specification options.

www.alumascgreenroof.co.uk



Façades

External wall insulation and render solutions for the 21st century, combining aesthetic vibrancy with long term weather protection and thermal performance.

www.alumascfacades.co.uk

Proven Project Track Record



St Pancras Station, London

The £800million extension and refurbishment of St Pancras Station demanded the faithful restoration of Sir George Gilbert Scott's neo-gothic façades and detailing. English Heritage insisted that replacement rainwater goods be perfect reflections of the original cast iron work.

Alumasc met this challenge with Apex Heritage Cast Iron, making bespoke moulds to create replacement downpipes, gutters and rainwater heads that capture perfectly the authentic quality of the beautiful Victorian originals.



Centrium House, Woking






This landmark building's curved façades and strikingly bold colours make a distinctive statement in the town centre. Alumasc's Swistherm lightweight, insulated render system met all the project's aesthetic and thermal performance criteria in a cost-effective package. The system has also created a façade that requires minimal maintenance, is highly resistant to impact damage yet easily repaired if necessary, and is fully weather resistant whilst remaining vapour permeable.



Lancashire Schools

Alumasc provided all the components and technological expertise needed to achieve the advanced waveform metal roof which gives this new sports hall (one of three, serving schools in the area) its distinctive appearance. The dramatic curvature has been quickly and economically achieved by using the Armaseam 'zip-up' aluminium roofing system (also available in copper, stainless steel or zinc) with Alumasc rainwater goods and Skyline fascias and soffits.

premium products • proven solutions

-  Rainwater
-  Drainage
-  Waterproofing
-  Metal Roofing
-  Façades

ALUMASC EXTERIOR BUILDING PRODUCTS LTD
White House Works, Bold Road, Sutton,
St Helens, Merseyside, WA9 4JG
United Kingdom
Telephone: +44 (0)1744 648400
Facsimile: +44 (0)1744 648401
Website: www.alumascwaterproofing.co.uk
E-mail: info@alumasc-exteriors.co.uk

Technical Support

+44 (0)1744 648 400

Literature Hotline

+44 (0)808 100 2008



Printed on 80%
recycled paper stock

All reasonable care has been taken in the preparation of this brochure, all information, recommendations and guidelines within the use of The Products are made without guarantee since the conditions of use are beyond the control of Alumasc Exterior Building Products Limited (The Company). The customer is responsible for ensuring that each product is fit for its intended purpose and that conditions for use are suitable.

The information contained in this brochure and advice among themselves is free of charge and accordingly on the terms that no liability or liability for negligence will attach to The Company or its servants in relation to any such advice acting on or in connection with the brochure.

The Company reserves a policy of constant product development and information contained in this publication is therefore subject to change without notice.

