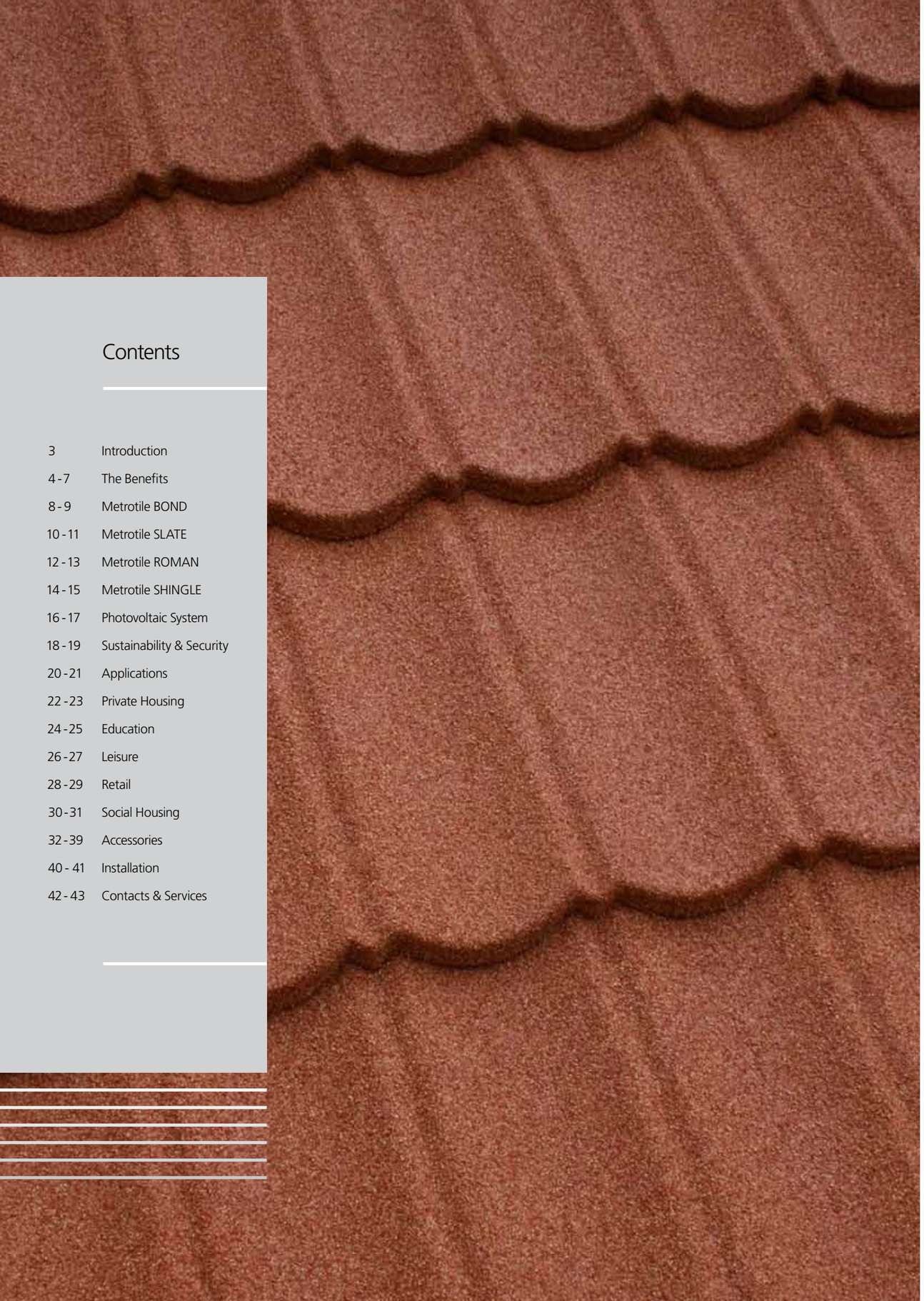
BRIGHT WINDOWS

metrotile
LIGHTWEIGHT ROOFING

LIGHTWEIGHT
HIGH QUALITY
LONG LASTING
LOW MAINTENANCE
WEATHER TESTED
ECOLOGICAL
LOW NOISE
ECONOMIC
STRONG

THE ***FUTURE PROOF*** ROOF



Contents

3	Introduction
4 - 7	The Benefits
8 - 9	Metrotile BOND
10 - 11	Metrotile SLATE
12 - 13	Metrotile ROMAN
14 - 15	Metrotile SHINGLE
16 - 17	Photovoltaic System
18 - 19	Sustainability & Security
20 - 21	Applications
22 - 23	Private Housing
24 - 25	Education
26 - 27	Leisure
28 - 29	Retail
30 - 31	Social Housing
32 - 39	Accessories
40 - 41	Installation
42 - 43	Contacts & Services

metrotile
LIGHTWEIGHT ROOFING

Metrotile UK supplies Lightweight Steel Roofing systems to the UK and Ireland markets and is part of a 30 year old international success story. Our systems and accessories can be seen on rooftops in over 60 countries worldwide.

Whether working on a residential, commercial, leisure or retail building, many people have found Metrotile to be the ideal roofing system for their projects. Practical, economical and sustainable, Metrotile is up to seven times lighter than traditional roof materials, yet offers unmatched protection and security. Aesthetically indistinguishable from traditional roofing materials, a Metrotile roof is an elegant choice for any building.

In addition to this, each Metrotile profile is made with sustainability in mind, from the day of manufacture in our ISO14001 accredited factory and throughout a lifetime of unsurpassed protection. When the profile reaches the end of it's long natural life, it can be fully recycled.

This is an exciting time for Metrotile, as we proudly announce new products in our ever-expanding range, including the latest innovative Photovoltaic System and the additions to our Metrotile Bond range, which offer stunning matt and gloss finishes for the classic profile. Whatever the project, you will find the ideal Metrotile system within our wide range.

Metrotile is proud to offer the very best quality products in its field - and we are still the only lightweight steel roofing manufacturer able to offer a 40 year weatherproof guarantee on all of our profiles, complimented by the know-how and expertise of our highly experienced customer care and sales teams.

Why settle for the drawbacks of traditional roofing products?

Take your building project to the next level with Metrotile:

THE **FUTURE PROOF** ROOF

www.metrotile.co.uk

Metrotile Lightweight Steel Roofing

THE **FUTURE PROOF** ROOF

The roof is a symbol of security and shelter. Whether protecting your home and family, keeping the indoor courts of a leisure centre dry or keeping you sheltered while waiting for the bus, the roof is the most significant part of any building project.

Lightweight steel roofing has evolved to become a product that offers benefits that exceed those of traditional roof tile materials and is held in high esteem by our all-sector spanning customer base.

For any modern building project, a new or refurbished roof needs to be:

- *Made from the Highest Quality Materials*
- *Sensitive to the Environment*
- *Aesthetically Pleasing*
- *Resistant to Extreme Weather Conditions*
- *Long Lasting*
- *Low Maintenance*
- *Low Noise*

and in today's demanding environment

- *Economical*
- *Environmentally Sustainable*
- *Vandal Resistant*

A Metrotile roof satisfies these requirements and exceeds the expectations of traditional roofing materials

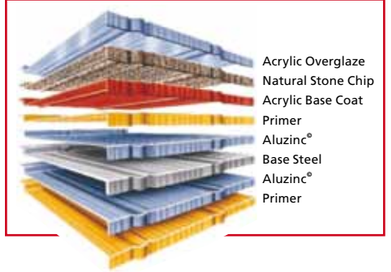
The **BENEFITS**

The very best modern materials for the longest lifespan

UNIQUE 40 year Weatherproof Guarantee

Metrotile is still the only lightweight steel roofing manufacturer that is able offer a **40 year Weatherproof Guarantee** on all of our profiles. Crafted to the highest standard under meticulous conditions, each Metrotile is pressed from Drawing Quality 3 steel, the highest steel grade available in our industry. The low carbon level within the steel allows the metal to flow evenly during manufacture, creating a highly durable tile while practically eliminating the risk of fracture.

AT THE HEART OF EVERY METROTILE



Metrotile continues the use of high quality resources during the galvanization process. Bucking the trend for galvanizing steel roof tiles with compounds that contain 95% Zinc, Metrotile uses Aluzinc®. Combining 55% aluminium with 45% zinc, Aluzinc® forms an exceptionally stable barrier that offers superior corrosion resistance that is unmatched in the steel roofing industry.

The weather side of each profile is then coated with an even layer of base coat primer. This is a pigmented water-based acrylic, into which the coloured stone granules are bonded. Once this has set, a final overglaze is applied, resulting in a tile that is virtually maintenance free! This protects the profile and your home from weather, while complimenting your roof insulation.

It's worth noting that steel's life expectancy means a long product life, capable of a lifetime of use even out of our long guarantee period:
a Metrotile Roof is for Life

Applications and aesthetics

Offering four different profile styles in a variety of different colours and finishes and we are sure you will find the ideal roof for your building project. The profiles are designed to reflect the styles of traditional roof products in order to blend into the surrounding environment.

Here's a few facts about Metrotile Lightweight Roofing you should know...

Metrotiles are up to 7 times lighter than traditional roofing materials

A Metrotile lightweight roof places significantly less weight and stress on supporting structures and foundations

Lightweight tiles are more efficient to transport resulting in reduced cost and lower CO_2 emissions

A Metrotile roof generates no more noise than a roof built from traditional materials

Metrotiles are tested to withstand the most extreme weather conditions

Metrotiles can be used on pitches as low as 10 degrees

The special "Dry-Fix" installation method is faster, cheaper and produces less waste than a traditional roofing installation

Every installation comes with a unique 40 year weatherproof guarantee

and...

High weather resistance

Metrotile has been tested under duress of the most extreme weather conditions. Our tiles have been fire tested in the brushfire prone California, cyclone tested in Japan and are resistant to cyclical freeze thaw, snow and hailstones.

And if this isn't enough, a Metrotile roof is resistant to wind lift speeds up to 192km per hour, making it the only choice in areas under constant duress from high winds.

Economical

A Metrotile roof is highly economical for many reasons. As each profile is up to seven times lighter than traditional roof tiles, a Metrotile roof requires significantly less transport than those products, making the delivery of your roof easier on the environment and your pocket. The quick dry fix installation enables you to keep contractor costs to a minimum.

Environmentally friendly

Each of our profiles is manufactured at our plant in Tongeren, Belgium and we are very proud to announce that the plant has achieved Quality Assurance Systems ISO14001 for its manufacturing processes, complimenting the already-achieved ISO9001. When the products

leave the plant, we can transport up to eight times more Metrotiles per truck in comparison to traditional roofing products, therefore requiring less transport on the road, significantly reducing our carbon emissions. Once each profile reaches the end of its long life, it can be fully recycled.

For details about the many environmental benefits of choosing Metrotile see pages 18 and 19.

Vandal proof

Metrotile systems are dry fixed in place via a crossing nail technique. This interlocking fixing process makes a Metrotile roof extremely secure. Each Metrotile profile has the coverage of up to eight traditional tiles making it even harder to remove from the roof. If you require an even higher level of security, there is the option to specifiy the Metrotile Secure Solution: a selection of our profiles are available in .900mm thickness for extra vandal resistance. Despite all of this protection, Metrotile still offers high aesthetic standards that are virtually indistinguishable from traditional roofing tile products!

For further details about the Metrotile Secure Solution see page 19.

Low noise

A common misconception is that a Metrotile Roof is noisy when under duress from the wind and rain, but this is simply not the case. The combination of stone and acrylic glaze with a Metrotile underlay is such an effective noise barrier that the soundproofing qualities match those of traditional products, ensuring you a good night's sleep during those wet winter nights.

Fast installation

From delivery to manual on-site labour, the Metrotile installation process is a swift one. The light weight of the product allows for the delivery of a complete roof in minimal time and transport, while the weight and coverage of each profile allows for a fast and clean dry fix installation, enabling early access for internal trades. The material is also easy to store and move around site, while the high material yield and minimal breakages ensure almost zero waste.

Ideal for new build and refurbishment

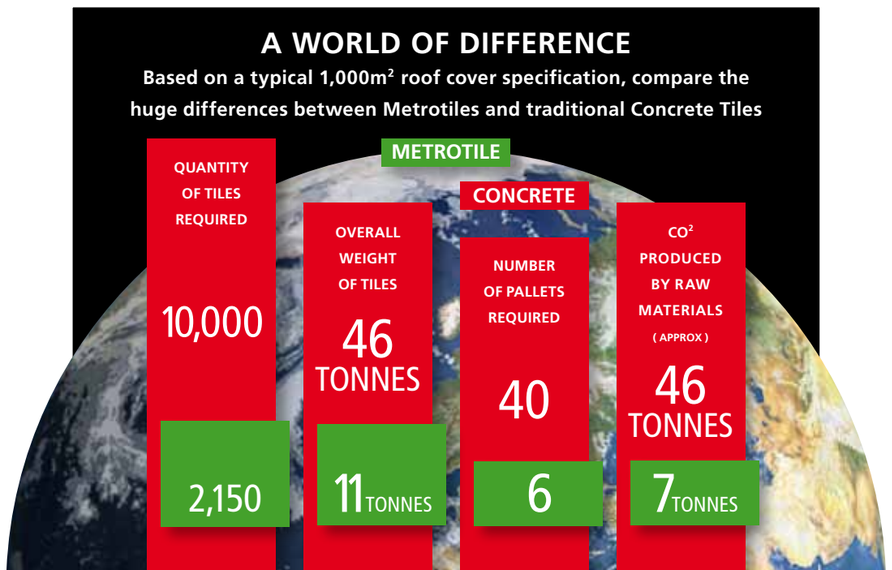
Metrotile roof solutions are ideal for refurbishment work, enabling swift and economical flat to pitch conversions, allowing pitches to be designed as low as 10°. In some instances, Metrotile has been specified for refurbishment projects as a partial roof replacement, sharing the roof space with traditional materials and blending in effortlessly. An example of this, Gorse Hill School, can be seen on page 24.

Certifications

Details about all of our achieved agréments and standards can be viewed online at www.metrotile.co.uk

Metrotile Shingle selected for Eco Log House

Metrotile was selected as the ideal roof for Grand Designs' Log House exhibited at the EdExcel Arena, London. Manufactured from fir trees sourced from sustainable UK forests, the Log House was created with sustainability in mind. Metrotile was specified due to its light weight, unparalleled strength, low whole life costs, use of recycled material and stunning aesthetics.



... a few more!

Each tile is pressed from the highest drawing quality steel for unparalleled strength and higher performance than traditional materials

A Metrotile roof needs virtually no maintenance once installed

All Metrotiles meet British and European Standards

Metrotile can organise a complete roofing solution, including approved contractors and materials

Each tile is 100% recyclable

A selection of tiles are available in a double thickness which increases security against vandalism

Metrotiles provide an ideal solution for flat-to-pitch roof conversions

A wide range of roof accessories are available including windows, ventilation systems, photovoltaic panels and finishings

The durability of Metrotiles reduces damage in transit and reduces material wastage

Each Metrotile product is designed and manufactured to the highest possible standard and quality

Experienced customer care is provided at every stage of your project

Impressed?

Metrotile Bond 450 & 900

Metrotile BOND 450 / 900 Specifications

PITCH	
Minimum pitch	10°
Maximum pitch	90°
DIMENSIONS	
Size of tile - overall	1330 x 420 mm
Size of tile - cover	1257 x 370 mm
Gauge of Steel	.450 mm / .900 mm
Linear cover width	1257 mm
Coverage	0.46 m² 2.15 Tiles per m²
WEIGHT	
Weight per m² (450/900)	6.2 kg / 9.9 kg
Weight per tile (450/900)	2.8 kg / 4.6 kg
FIXING	
Tile fixing	50 mm x 2.8 mm Coated Nail Hand nailing or power tool
Fixings per tile	4 Nails per Tile
BATTENS REQUIRED	
Battens	5 linear metres per m² (plus wastage)
BATTEN SIZING	
Rafter Centres (max)	Batten Size (recommended)
450 mm	25 x 50 mm
600 mm	25 x 50 mm
900 mm	50 x 50 mm
1200 mm	50 x 50 mm
1500 mm	50 x 65 mm
LAYING (recommended)	
All roof shapes	Broken Bond
ACCESSORIES	
	See Page
Tile Accessories	32 - 39
Ventilation	34 - 37
Underlay	32
Eaves Protection	37
Installation Equipment	39

UNIQUE **40** year Weatherproof Guarantee

LIGHTWEIGHT **HIGH GRADE STEEL** WITH **ALUZINC COATING** FOR **INCREDIBLE STRENGTH** AND **RESISTANCE**

The ever popular traditional pantile design

The Metrotile Bond profiles are designed to be aesthetically indistinguishable from traditional clay pantiles, so they can offer the same great visual appeal, with all of the additional benefits lightweight steel roofing provides. Metrotile Bond is available in six colours and pressed from high grade Aluzinc® coated steel - standard for all of our profiles. In addition to our traditional granulated finish, we can now offer elegant Matt Brown and Gloss Black finishes with a non-toxic powder coating.

When dry-fixed to the roof, Metrotile profiles are overlapped and fixed via a cross nail method that provides excellent vandal resistance, durability, protection and unmatched resistance to wind lift. Each tile is the equivalent of eight conventional roof tiles and may be fixed from vertical right down to a 10° pitch.

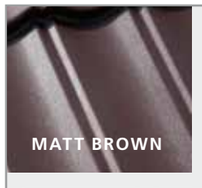
DESIGNED TO BE SUITABLE FOR PITCHES AS LOW AS

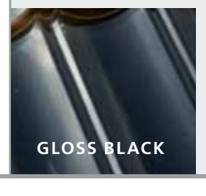
10°

AVAILABLE IN 2 THICKNESSES

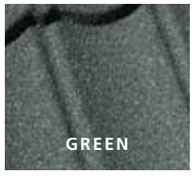
.450mm
suitable for most roofing applications

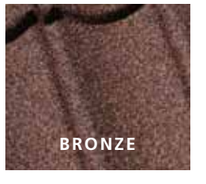
.900mm
for added peace of mind where extra resistance to foot traffic or vandalism is required





Metrotile Bond is now available with two brand new stylish finishes: Matt Brown and Gloss Black. Finished with a durable, non-toxic powder coating, the new profiles combine sharp, stunning aesthetics with the high quality for which Metrotile is renowned and are backed by our 40 year weatherproof guarantee.

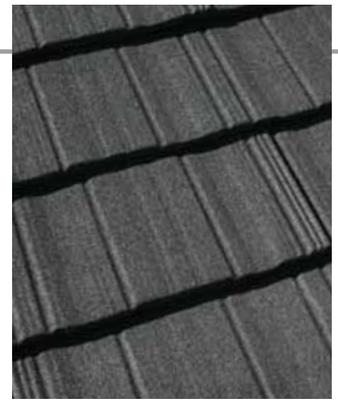




Metrotile Slate 450 & 900

Metrotile SLATE 450 / 900 Specifications

PITCH	
Minimum pitch	10°
Maximum pitch	90°
DIMENSIONS	
Size of tile - overall	1330 x 420 mm
Size of tile - cover	1257 x 370 mm
Gauge of Steel	.450 mm / .950 mm
Linear cover width	1257 mm
Coverage	0.46 m² 2.15 Tiles per m²
WEIGHT	
Weight per m² (450/900)	6.2 kg / 9.9 kg
Weight per tile (450/900)	2.8 kg / 4.6 kg
FIXING	
Tile fixing	50 mm x 2.8 mm Coated Nail Hand nailing or power tool
Fixings per tile	4 Nails per Tile
BATTENS REQUIRED	
Battens	5 linear metres per m² (plus wastage)
BATTEN SIZING	
Rafter Centres (max)	Batten Size (recommended)
450 mm	25 x 50 mm
600 mm	25 x 50 mm
900 mm	50 x 50 mm
1200 mm	50 x 50 mm
1500 mm	50 x 65 mm
LAYING (recommended)	
All roof shapes	Broken Bond
ACCESSORIES	
	See Page
Tile Accessories	32 - 39
Ventilation	34 - 37
Underlay	32
Eaves Protection	37
Installation Equipment	39



UNIQUE 40 year Weatherproof Guarantee

LIGHTWEIGHT **HIGH GRADE STEEL** WITH **ALUZINC® COATING** FOR **INCREDIBLE STRENGTH** AND **RESISTANCE**

Traditional slate looks with superior benefits

The Metrotile Slate profile is a product that offers incredible value and superior performance to traditional slate roof products in every way. Metrotile Slate offers the same great aesthetics as traditional slate roof tiles while offering superior benefits.

The deep lines pressed into each Aluzinc® coated steel profile results in increased shadow definition, resulting in a tile that looks virtually indistinguishable from traditional slate, while simultaneously offering unmatched vandal and weather resistance. Available in .450mm and .900mm thickness and formed from high quality Drawing Grade 3 steel, like all Metrotile profiles, Metrotile Slate makes a perfect choice for a wide variety of roofing projects

DESIGNED TO BE SUITABLE FOR PITCHES AS LOW AS

10°

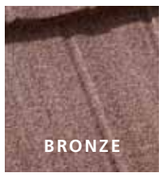
AVAILABLE IN 2 THICKNESSES

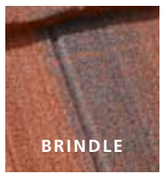
.450mm

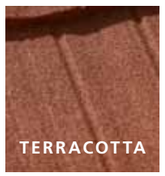
suitable for most roofing applications

.900mm

for added peace of mind where extra resistance to foot traffic or vandalism is required







Metrotile Roman

Metrotile ROMAN Specifications

PITCH	
Minimum pitch	10°
Maximum pitch	90°
DIMENSIONS	
Size of tile - overall	1280 x 420 mm
Size of tile - cover	1210 x 370 mm
Gauge of Steel	.450 mm
Linear cover width	1210 mm
Coverage	0.44 m² 2.210 Tiles per m²
WEIGHT	
Weight per m²	6.3 kg
Weight per tile	2.7 kg
FIXING	
Tile fixing	50 mm x 2.8 mm Coated Nail Hand nailing or power tool
Fixings per tile	4 Nails per Tile
BATTENS REQUIRED	
Battens	5 linear metres per m² (plus wastage)
BATTEN SIZING	
Rafter Centres (max)	Batten Size (recommended)
450 mm	25 x 50 mm
600 mm	25 x 50 mm
900 mm	50 x 50 mm
1200 mm	50 x 50 mm
1500 mm	50 x 65 mm
LAYING (recommended)	
All roof shapes	Broken Bond
ACCESSORIES	
	See Page
Tile Accessories	32 - 39
Ventilation	34 - 37
Underlay	32
Eaves Protection	37
Installation Equipment	39

UNIQUE **40** year **Weatherproof Guarantee**

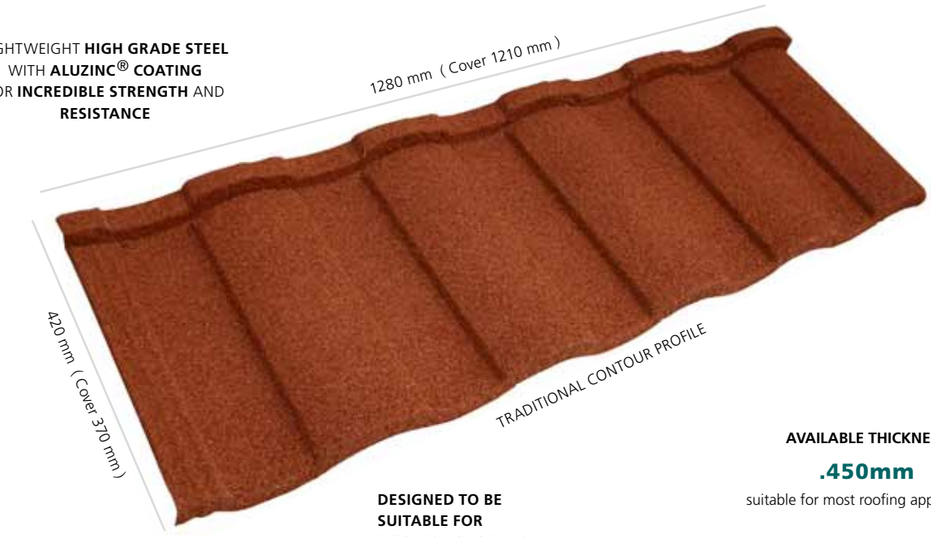
LIGHTWEIGHT **HIGH GRADE STEEL** WITH **ALUZINC® COATING** FOR **INCREDIBLE STRENGTH** AND **RESISTANCE**

The classic contoured design

The elegant double roman tile is a truly classic design, now available with all of the benefits that only Metrotile lightweight steel roofing systems can offer. The beautiful contoured design of each Metrotile Roman tile will compliment any roofing project perfectly, offering an aesthetic that manages to be simultaneously classical and contemporary in style, while offering all of the quality and protection our many worldwide customers have come to expect.

Available in five colours pressed in the .450mm gauge steel, Metrotile Roman delivers the perfect balance of traditional aesthetics and contemporary performance, while requiring virtually zero maintenance and offering unsurpassed protection from vandalism and the elements.

Pressed from high quality Drawing Grade 3 Aluzinc® coated steel as all of our profiles, backed by a full selection of matching accessories and able to be fixed to a pitch as low as 10°, Metrotile Roman is a stand-out choice for any building project.



DESIGNED TO BE SUITABLE FOR PITCHES AS LOW AS

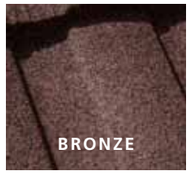
10°

AVAILABLE THICKNESS

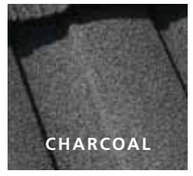
.450mm

suitable for most roofing applications

GREEN


BRONZE

RED


CHARCOAL

TERRACOTTA

Metrotile SHINGLE Specifications

PITCH	
Minimum pitch	15°
Maximum pitch	90°
DIMENSIONS	
Size of tile - overall	1335 x 300 mm
Size of tile - cover	1255 x 250 mm
Gauge of Steel	.450 mm
Linear cover width	1255 mm
Coverage	0.313 m² 3.2 Tiles per m²
WEIGHT	
Weight per m² (450)	6.1 kg
Weight per tile (450)	1.9 kg
FIXING	
Tile fixing	25 mm x 2.8 mm Coated Nail Hand nailing or power tool
Fixings per tile	4 Nails per Tile
BATTENS REQUIRED	
Battens	5 linear metres per m² (plus wastage)

Rafter Centres (max)	Batten Size (recommended)
BATTEN SIZING	
450 mm	25 x 50 mm
600 mm	25 x 50 mm
900 mm	50 x 50 mm
1200 mm	50 x 50 mm
1500 mm	50 x 65 mm
LAYING (recommended)	
All roof shapes	Interlocking
ACCESSORIES	
	See Page
Tile Accessories	32 - 39
Ventilation	34 - 37
Underlay	32
Eaves Protection	37
Installation Equipment	39

Metrotile Shingle

DESIGNED FOR BOTH
ROOFS AND
VERTICAL WALLS

LIGHTWEIGHT **HIGH GRADE STEEL**
WITH **ALUZINC® COATING**
FOR **INCREDIBLE STRENGTH** AND
RESISTANCE

A versatile profile with the appearance of a small riven slate

Based on the classic North American timber shingle design, Metrotile Shingle is a simple and elegant solution for any roof project. Offering the rooftop quality and style for which Metrotile is renowned, Metrotile Shingle has been designed with a unique "hidden fix" system that also enables the product to double as an excellent vertical cladding solution. This is because the hidden-fix design leaves no nail exposed, preventing rainwater from corroding the nails, a common weakness of traditional vertical cladding.

Metrotile Shingle is available in five colours, and and can be fixed from vertical, down to a minimum pitch of 15°. It is the ideal profile for those looking for a simple and elegant roofing or cladding solution.

UNIQUE **"HIDDEN FIX" FEATURE**
LEAVES NO NAILS EXPOSED TO CORROSION

AVAILABLE THICKNESS
.450mm
suitable for most roofing applications

UNIQUE 40 year Weatherproof Guarantee

DESIGNED TO BE SUITABLE FOR PITCHES AS LOW AS
15°

The new Fair Isle Bird Observatory: powered by Metrotile

Photographs © Dave Wheeler Photography

The beautiful island of Fair Isle is a renowned bird watching spot located off Scotland's north east coast and home to a stunning project that utilises the Metrotile Photovoltaic System

As Fair Isle is detached from the National Grid it has always been powered by a combination of generators and renewable resources, such as wind power. So when a new observatory building was touted, the implementation of sustainable and renewable energy resources was an essential part of the design process. The result was an observatory that utilised modern methods of construction:- 32 individual pods would combine to form the building and were built off-site utilising Structural Insulated Panels (SIPs). The seperate pods were transported to Fair Isle by land and sea before being craned into position, creating an observatory that also provides accommodation for the Fair Isle bird watching community.

The Metrotile Photovoltaic System was chosen as the lightweight nature of the product enabled for swift transportation to site and a fast installation of the building, while the 100 Photovoltaic panels will power around the clock ventilation and lighting at the observatory.

Top: Work continues assembling the pre-constructed pods
Centre: The site as seen looking towards the sea
Bottom: Pods arriving by sea aboard the MCS Ailsa

Metrotile Photovoltaic System

Harness energy from natural light with the Metrotile Photovoltaic System

FOURTEEN POLYCRYSTALLINE PV CELLS CONNECTED IN SERIES WITH EMBEDDED STRINGS WITHIN THE LAMINATE

FULLY VENTILATED CARRIER PANEL WITH A NON REFLECTIVE GLASS LAMINATE SURFACE

52 WATT PANEL BONDED DIRECTLY TO THE WEATHER SURFACE OF THE TILE

AVAILABLE FOR ALL **METROTILE SLATE** AND **METROTILE BOND** PROFILES

Metrotile have a very flexible portfolio of PV tiles and panels covering all the options open to the specifier or end user. We can provide the solution for all installations ranging from the individual home, large social housing projects through to schools, and commercial and industrial buildings of all shapes and sizes.

The Metrotile Photovoltaic System is simple and easy to fit. One tile is one installed Photovoltaic Panel. The tiles interlock and are screwed not nailed for easy removal should a cell be damaged. There are no special flashings or mounting systems and no other waterproofing or sealing materials are required.

POLYCRYSTALLINE PV CELLS

JUNCTION BOX, CABLES AND MULTIPOINT PLUG AND PLAY CONNECTORS

INTEGRATED PV AND TILE SYSTEM

Quality Assurance

The Metrotile Photovoltaic System has been tested in compliance with European and International Standards, including draft Dutch Building Standard, EU 'prescript' pre-standards and has been tested for wind uplift, code F-02-BRE 36-6 and water ingress tests according to procedures in CEN standard PrEN 15601:2006 by the British Research Establishment, UK.

The laminates are manufactured in an ISO 9001-2002 certified factory and produced in a TUV IEC 61212 & Safety class 2 approved process.

Alternative Metro Larger Panel Systems

In addition, Metrotile is able to supply an over-tile retrofit system with a complete flashing option for all Metrotile profiles. Larger panels are available in 70, 80, 115, 120 & 185 watt outputs and conform to the Low Carbon Building Programme Phase 2 (LCBP2E) and are manufactured by an MCS certified supplier.

We can provide a full design, installation and commissioning service or simply supply the system required including inverters to specification. A Technical Adviser visit can be arranged.

To find out more

Contact our sales team to discuss how our innovative Photovoltaic System can be part of your project

Tel: + 44 (0)1249 658514 email: info@metrotile.co.uk

metrotile
LIGHTWEIGHT ROOFING

From the moment it is pressed in our ISO14001 accredited factory in Belgium, until the end of it's long natural life and beyond, a Metrotile roof will always be a **green roof**

A State of the Art Factory for a State of the Art Product

Metrotile is committed to continuous improvement of manufacturing processes. Our plant based in Tongeren, Belgium, utilises the very latest technology including a wastewater recycling system that ensures each profile begins its life in the greenest possible way. Our factory has acquired both ISO9001 and ISO14001 certification for adhering to the strictest sustainability principles involved in producing high quality tiles and accessories.

To achieve the highly regarded ISO14001 certification the Metrotile factory had to undergo strict examinations in a number of key areas, including the use of on-site recycling systems to reduce fuel consumption and waste generation. The standards were met via the installation of new manufacturing equipment that required less energy to power and the implementation of new logistics to reduce internal transport, in addition to new health and safety risk reduction procedures.

All water used for manufacturing is captured and renewed using our highly advanced wastewater recycling system.

products are continuously improved

The Very Best Modern Materials

It is a well known fact that steel is one of the worlds most recycled materials and the steel used by Metrotile is no exception. We only use high quality Drawing Grade 3 steel, which already contains approximately 25% recycled materials. Once your Metrotile roof has given more than a lifetime of use and reaches the end of it's life, it is fully recyclable, unlike traditional roof products that are deposited at landfill.

In additon, we only use chemical free stone and an acrylic glaze that is free of toxins and therefore rainwater can be safely harvested from a Metrotile roof.

high quality with up to 25% recycled steel

Transport: Why Settle for More?

There are very few products that can claim to reduce transport costs and associated CO^2 emissions by up to an eighth in comparison to other similar materials, but by fitting a Metrotile roof, this is exactly what you get.
For every eight lorries required to transport a concrete tile roof, you will need just one for a Metrotile roof.

This means significant transport and emission reductions, plus a swifter arrival on site, a faster installation and lower storage requirements prior to installation. Once the Metrotile roof is installed, the same reduced weight advantage places reduced stress on the supporting structure, increasing the life of the whole building while keeping whole life costs to a minimum for the entire building project.

Labour cost and the risks of injury are significantly reduced - both important factors for any project. In addition any leftover or waste tiles can be fully recycled - today a Metrotile, tomorrow your fridge!

less CO^2 in transport

less labour

less risk of injury

Home Energy Efficiency - the Metrotile Way

From both an economical and environmental standpoint, insulating your home has never been more important. A Metrotile roof, when used in conjunction with traditional loft space insulation, is just as dependable as traditional roof materials when it comes to keeping the heat in during the winter, helping you to keep your energy costs down.

During the summer months, a Metrotile roof will keep the temperature of your home down, despite external temperatures, as each Metrotile profile stores less heat than a thicker slate or clay tile. This enables heat to dissipate faster.

helping you to save energy all through the year

The Metrotile 900 SECURE SOLUTION

- ✓ **Extra Strength**
- ✓ **Extra Resistance**
- ✓ **Extra Peace of Mind**

Using the Metrotile .900 profiles - which are pressed from the same high grade aluzinc coated steel as our .450 profiles - Metrotile can supply a full 'high security' vandal resistant specification for any application. Metrotile .900 resists impact and brute force and will deny access to even the most determined assailant.

Available in the Metrotile Bond and Metrotile Slate profiles, Metrotile .900 is virtually indestructible and when used in conjunction with Metrotile Secure one way screw fittings Metrotile .900 simply cannot be removed. Additional steel straps can be fixed between battens to close potential access points through the roof build up with the addition of security mesh when required.

peace of mind

Extreme Weather Resistance

Sometimes the worst damage can be caused by the forces of nature. That is why Metrotile has been tested against the most extreme weather conditions including fire in California and cyclones in Japan! Furthermore, a Metrotile roof is resistant to cyclical freeze-thaw, snow and hailstones and is resistant to wind uplift of 192km/hour! No other roofing material can offer this kind of protection against the elements.

Our weather testing results and technical details are available as downloadable PDFs at www.metrotile.co.uk.

protection against the elements

APPLICATIONS

Metrotile's roofing systems are highly versatile and suitable for a wide range of applications. Our products can be found on roofs throughout over sixty countries worldwide, with many examples situated in the UK.

Architects, designers and specifiers have discovered the many benefits of Metrotile - for new build residential schemes such as Redrow Homes (featured here) to offices, schools, leisure facilities, hospitals, retail stores and a wide variety of refurbishment projects.

In the following pages you will find a small selection of Metrotile case study examples, showing our diverse range of profiles, colours and accessories used in different applications.

For more examples click on **image gallery** at **www.metrotile.co.uk**

Redrow Homes Debut Range

Redrow Homes are one of the leading affordable home developers in the UK. For their Debut Range, Redrow Homes were faced with the challenge of developing homes for first time buyers that utilised modern methods of construction while maintaining their innovative high standards. For the projects roofing materials, Redrow specified Metrotile.

The surrounding photography shows Metrotile Slate in Charcoal applied to Debut Range homes, complimenting the modern design and brick and timber facades of the stylish contemporary buildings perfectly.

A stunning development that mixed aesthetic appeal and functionality with a swift and economical installation program

With the Debut Range, Redrow Homes set out detailed criteria for every aspect of the project, including the whole life value of materials in relation to construction and ongoing maintenance costs. With Metrotile's lightweight steel roofing systems, Redrow found a product that ticked every box, from low whole life costs to high aesthetic appeal.

As with any Metrotile project the installation process was highly economical, requiring low transport costs and delivery times, significantly helping Redrow Homes with their need to contruct the Debut Range as efficiently as possible. The ability to keep transport costs and fixing speeds to a minimum was a prominent deciding factor for specifying Metrotile, while the lightweight profile design and fast installation method ensures labour costs are kept to a minimum.

The quick installation of a Metrotile roof also ensures that properties are secure and watertight in the fastest possible time, enabling tradesmen to have earlier internal access to each home. The end result is a stunning, swiftly installed development that sacrificed none of its aesthetic or functional appeal.

A Bursar's peace of mind comes with cost-effective, secure, low maintenance roofing

Gorse Hill School

A requirement of Gorse Hill School's refurbishment was a roofing system that provided excellent vandal resistance, yet had the aesthetic appeal to match the concrete roof tiles that still adorned the roofs of some of the school buildings. The result is a stunning example of how a Metrotile roof can go head to head with traditional roof materials for aesthetic appeal.

Metrotile Roman Bronze was specified for this refurbishment

Fairford School

Located in the heart of the Cotswolds, Fairford School was refurbished in 2008 and required a roofing system that could offer unsurpassed durability complimenting the honey coloured brick walls. Metrotile's Slate profile in Bronze was specified, as it is the only system that could meet all of the project's demands. The school's new Metrotile Slate roof delivered on all counts including performance, durability, low whole-life cost and aesthetics.

As Fairford is situated in a rural setting, the aesthetics of the building's roof needed to compliment the natural surroundings. As Metrotile Slate is designed to replicate the surface details of a traditional slate roof, it blended in with the school's surroundings beautifully while meeting all of the planning requirements.

Vandal resistance is a key factor when planning any school project. To prevent vandalism to the roof and unwanted access to the building, the profiles were specified in .900mm thickness, providing a totally robust roof solution that is resistant to both high levels of foot traffic and potential vandalism. When the materials were specified, the extra strength option was a factor that made Metrotile the only choice for the project.

The specification of Metrotile also enabled a swift installation. This enabled the school project to be completed quickly so that it would be open in time for the new school term, as the lighter nature of the tile, combined with a dry fix installation, enabled quick weather-proofing of the site so that other tradesman could carry out their work inside the building.

The school was assured further with the products unmatched 40 year Weatherproof Guarantee and the whole life costs savings that only a Metrotile lightweight steel roof can provide with virtually zero maintenance requirements and a low damage risk.

Metrotile roofing easily withstands the rigours of the British weather and proves an effective deterrent against vandalism

Lake Pochard Cotswold Water Park

Metrotile is the proud supplier of roofing systems and accessories for this exclusive development of 15 Scandinavian timber holiday lodges and Waterside Cafe, situated on the edge of a beautiful water park in the heart of the Cotswolds.

The elegant lines of the Metrotile Slate and Shingle profiles provide a stunning compliment to both the timber frames of the lodges and the scenic beauty of the natural surroundings, delivering outstanding looks and unparalleled performance.

Metrotile was selected as our products offer outstanding performance over time, with low maintenance requirements ensuring the tiles continue to reflect the beauty of their surroundings for many years to come. The lightweight, durable nature of a Metrotile roofing system is the perfect choice for any timber frame building.

Metrotile Slate and Shingle in Charcoal were selected for their environmental suitability

> "Metrotile is proving a very popular choice with our customers. Not only does it look fantastic but it can also be fitted on more or less any roof pitch and good ventilation can be incorporated into each stable"
>
> Scotts of Thrapston

Scotts of Thrapston Stable Building Norfolk

Stabling specialists Scotts of Thrapston are renowned for their high-quality equestrian projects. When a new development of racing stables in Norfolk called for an elegant and high-performance roof solution to match the aesthetic quality of the design, Metrotile Bond in Charcoal was selected to complement the timber clad structure and to blend with local roofing materials.

The design benefits afforded by lightweight steel roofing proved important to the architects, allowing them to create a striking feature roof above the entrance to the stables. In terms of performance, the specification called for greater ventilation than would normally be required, together with high levels of security. As a result, roof ventilation units from the Metrotile range were incorporated into the roof design and the Metrotile Bond .900mm profile was specified - providing a highly secure roof enclosure, resistant to both foot traffic and potential attacks of vandalism.

Morrisons Supermarket Yorkshire

Metrotile roofing systems are ideally matched to all roofing projects including refurbishments. The clean yet traditional styling of Metrotile profiles can make an established building look like it is new again.

A prime example is Morrisons supermarket, Leeds. This refurbishment project required highly durable materials for a demanding city centre site location. The roof needed to provide a high-performance replacement for 1400m^2 of fibre cement roofing tiles. As Metrotile roofing systems provide superior aesthetics, durability and a long lifespan, Metrotile Slate in Charcoal was selected and the stunning result can be seen here.

Once again, Metrotile's many benefits succeeded where traditional products could not. From the swift installation to the reduced transport, labour costs and the low whole-life costs offered by the virtually zero maintenance design, Metrotile exceeded project requirements time and time again, even providing easy installation at areas with a minus 20 degree pitch, while the lower weight ensured significantly lower structural stress than the former fibre cement roof.

Refurbishment projects, by nature, have restricted access and storage space on site. As Metrotile required approximately seven times fewer deliveries and far less storage space than traditional roofing materials, this aided the swift installation process and allowed more room for other project materials. The reduced breakage and manual labour count also aided the project through a swift and successful building programme.

Housing Association Cottages The Orkney Islands

This project in the Orkney Islands called upon a superior roofing product that could offer superior protection against the island's extreme weather conditions, while ensuring the 32 new timber frame homes utilised a durable roofing product that would blend into the local environment.

Metrotile Slate in Charcoal was specified, as the riven appearance matched that of local surrounding buildings while the Aluzinc® coating provided unmatched corrosion resistance within the wind and rain prone marine environment.

Council Bungalows West Lothian

Roofing prior to refurbishment

The refurbishment of these single storey buildings at Elm Grove in Blackburn, West Lothian required an essential installation of Metrotile lightweight roofing systems, as the buildings are unable to take the weight of traditional roofing products such as slate or concrete. During the project, the building's roofs were stripped of their metal roof sheets and new trusses were applied, before renewing the exterior of the homes with Metrotile Bond in Brindle.

Cornish Units Gwent

These refurbished Cornish Units in Gwent benefit from using Metrotile Shingle as a vertical cladding solution. Metrotile Shingle offers unsurpassed vandal proofing while the zero maintenance design ensures low whole life costs and rejuvenates the building's facade with a stunning modern aesthetic. In addition, the Metrotile Shingle profile's hidden fix system protects the nails holding it in place from the elements, removing the problem of nail corrosion suffered by traditional vertical cladding products.

BISF Houses Yorkshire

Once again, the use of Metrotile refreshes the look of local authority housing, the refurbished home contrasting against the BISF property to the right that is still awaiting a new roof. Metrotile Slate in Charcoal was specified for this project, the classic look of the profile enlivening the homes while complimenting the natural surroundings.

Council Flats West Lothian

West Lothian Council was so impressed with Metrotile's superior quality and longer guarantee period that they switched over from using another lightweight steel roofing brand. They specified Metrotile Bond in Brindle for the roof of this block of flats at Beechwood, where a flat to pitch roof conversion was necessary to both reinvigorate the look of the building while assisting the property to 'Better Homes' standards.

Housing Association Flats Gloucestershire

When Severn Vale Housing Association planned a 4000m² roof refurbishment of three blocks of flats in Tewkesbury, they needed a roofing solution to replace the worn out concrete tiles that could be found on the buildings.

The decision to specify Metrotile Bond .450mm in Red was reached, as all of the roof material required could be obtained from a single source, while the lightweight material enabled a fast on site installation that quickly turned the worn out roof of old into a distant memory. The new red roofs also enhanced the building's looks, making them more attractive and vibrant without damaging the rapport with the surrounding locations.

The roof installation will offer shelter and greater security to the building's inhabitants for many years to come, while requiring zero maintenance, placing significantly reduced strain on the supporting structure and keeping whole life costs down to an absolute minimum.

Refurbish Revitalise Refresh

Metrotile Accessories

Metrotile supplies a full range of bespoke accessories that fully integrate with our lightweight steel roofing systems. Each product is manufactured to the same high standards as our tile profiles.

If you require any further information regarding the application of our accessories, a free quotation or you wish to place an order, contact us via phone: **01249 658514**, Email: **sales@metrotile.co.uk** or log on to **www.metrotile.co.uk** and complete an online enquiry form.

UNDERLAY

Roofing Underlay

Essential insulating & soundproofing component for a Metrotile roof. Membranes available as breathable or non-breathable

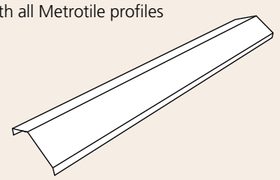
	Non Breathable	**Breathable**
Size per Roll	*1 m x 45 m*	*1 m x 50 m*
Weight per Roll	*5 kg*	*6 kg*
Area Weight	*116 g/m²*	*125 g/m²*
Colour	*Black*	*Blue*

RIDGES

Delta Ridge

For sealing the top courses of tiles. For projects with a duo pitch and compatible with all Metrotile profiles

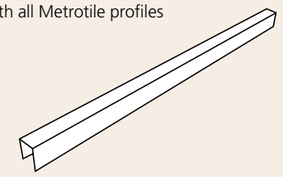
Overall Length	*1365 mm*
Cover Length	*1265 mm*
Cover Width	*230 mm*



Square Ridge

For sealing the top courses of tiles. For projects with a duo pitch and compatible with all Metrotile profiles

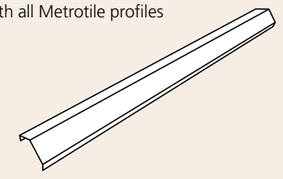
Overall Length	*1365 mm*
Cover Length	*1265 mm*
Cover Width	*140 mm*



Angle Ridge

For sealing the top courses of tiles. For projects with a duo pitch and compatible with all Metrotile profiles

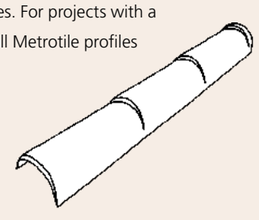
Overall Length	*1365 mm*
Cover Length	*1265 mm*
Cover Width	*130 mm*



Barrel Ridge

For sealing the top courses of tiles. For projects with a duo pitch and compatible with all Metrotile profiles

Overall Length	*1125 mm*
Cover Length	*1115 mm*
Cover Width	*150 mm*

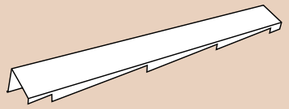


All products are available in standard colours. For non standard colours please enquire.

BARGES & FINISHINGS

3 Course Barge

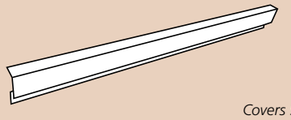
For closing the edges of a Metrotile roof. Compatible with all profiles except Shingle. Available left or right handed



Overall Length	*1125 mm*
Cover Length	*1115 mm*
Cover Width	*150 mm*
Depth	*125 mm*

Non-Handed Shingle Barge

For closing the edges of a Metrotile Shingle roof. Compatible with Shingle profiles only



Overall Length	*1250 mm*
Cover Length	*1175 mm*

Covers 5 courses of Metro Shingle Tiles

Short Course

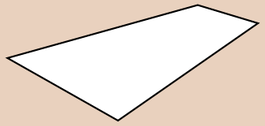
For installation under the ridge within projects that have remaining space but cannot accommodate another full size profile

Overall Length	*850 mm*

Available in the following mm widths
150, 200, 215, 220 and 230 mm

Flat Sheet

A multi purpose .450mm thick sheet which is easily cut and bent for a variety of uses including flashing



Overall Length	*1250 mm*
Overall Width	*435 mm*
Weight	*2.5 kg*

Profile Filler

Required for Metrotile Bond .900 installations.
Seals the gap between the top course and the ridge

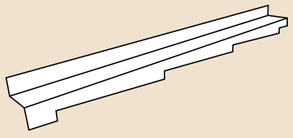
Overall Length	*950 mm*
To fill depths of up to 25 mm	

For Bond .900 only

FLASHINGS

Sidewall Flashing

For sealing between the roof edge and a wall. Available in left or right handed

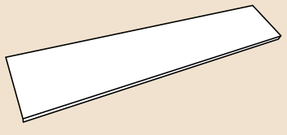


Overall Length	*1250 mm*
Cover Length	*1150 mm*
Weight	*1.2 kg*

Covers 3 courses of Tiles

Cover Flashing

For sealing between the roof edge and a wall. Can be used on left or right side



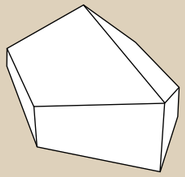
Overall Length	*1250 mm*
Cover Length	*1150 mm*
Width	*435 mm*
Weight	*1.2 kg*

ACCESSORIES

Hip End Cap

For closing the hips on a hipped roof

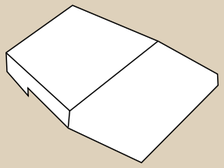
Cover Length	*255 mm*
Cover Width	*25 mm*



Ridge End Cap

For sealing the ridge ends on a duo pitch roof

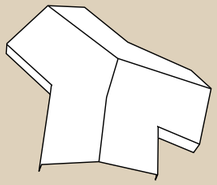
Cover Length	*215 mm*
Cover Width	*225 mm*



Y Junction

For joining at a ridge / hip junction

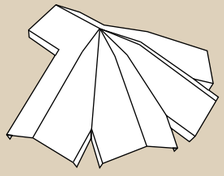
Overall Depth	*440 mm*
Cover Width	*475 mm*



5 Way Junction

For joining at a hip / ridge junction on an Edwardian conservatory

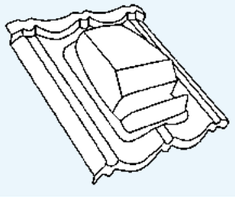
Overall Length	*680 mm*
Cover Width	*790 mm*



Cowl Vent LG75 Bond

Enables ventilation to be incorporated into Metrotile roofing systems.
Compatible with Bond profiles

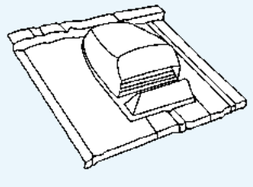
Overall Depth	*420 mm*
Overall Width	*430 mm*
Weight	*1.2 kg*
Free Ventilation Area	*7,500 mm²*



Cowl Vent LG75 Slate

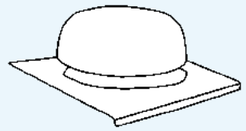
Enables ventilation to be incorporated into Metrotile roofing systems.
Compatible with Slate profiles

Overall Depth	*415 mm*
Overall Width	*480 mm*
Weight	*1.3 kg*
Free Ventilation Area	*7,500 mm²*



Vent LV90 Shingle

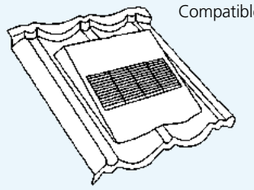
Enables ventilation to be incorporated into Metrotile roofing systems
Compatible with Shingle profiles



Overall Depth	*250 mm*
Cover Width	*225 mm*
Air Flow	*9,000 mm²*

In Line Vent Bond

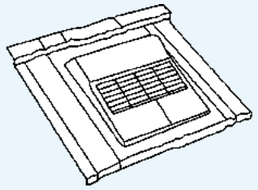
Enables ventilation to be incorporated into Metrotile roofing systems
Compatible with 450 and 900 Bond profiles



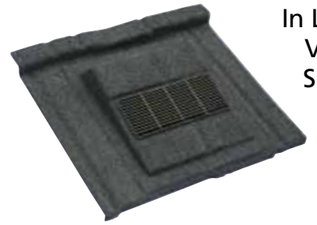
Overall Length	*420 mm*
Overall Width	*430 mm*
Weight	*1.2 kg*
Free Ventilation Area	*10,000 mm²*

In Line Vent Slate

Enables ventilation to be incorporated into Metrotile roofing systems
Compatible with Slate profiles

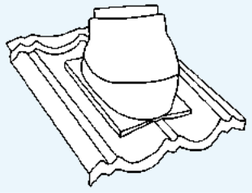


Overall Length	*415 mm*
Overall Width	*480 mm*
Weight	*1.5 kg*
Free Ventilation Area	*10,000 mm²*



Gas Exhaustion Vent

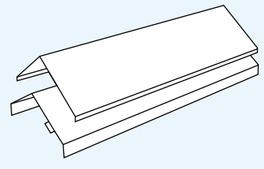
Enables ventilation to be incorporated into Metrotile roofing systems
Compatible with Bond profiles



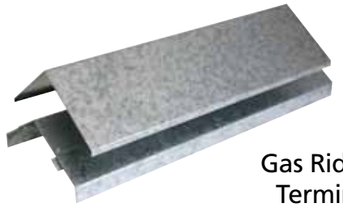
Overall Length	*400 mm*
Overall Width	*410 mm*
Weight	*1.1 kg*

Gas Ridge Terminal

For installation into the ridge of a Metrotile roof to enable ventilation for gas and loft fumes

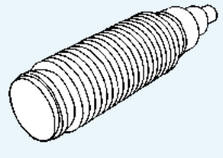


Overall Length	*630 mm*
Overall Width	*250 mm*
Weight	*4.3 kg*



Flexible Adaptor

For use with all Metrotile vent systems. (Not compatible with the Metrotile Hi Flow Vent System)



Overall Length	*570 mm*
Diameter	*100 mm*

Hi Flow Vent Bond

For use in Metrotile roofing systems where increased ventilation is required. Compatible with Bond profiles.

Purchase separately or as part of the HI Flow Vent Kit

Overall Depth	*420 mm*
Overall Width	*430 mm*
Weight	*1.2 kg*
Free Ventilation Area	*20,000 mm²*

Hi Flow Vent Slate

For use in Metrotile roofing systems where increased ventilation is required. Compatible with Slate profiles profiles

Purchase separately or as part of the HI Flow Vent Kit

Overall Depth	*420 mm*
Overall Width	*430 mm*
Weight	*1.2 kg*
Free Ventilation Area	*20,000 mm²*

Flexible Adaptor - Hi Flow

For use with Metrotile Hi Flow Bond and Hi Flow Slate ventilation systems

Purchase separately or as part of the HI Flow Vent Kit

Length	*Per Metre*
Diameter	*160 mm*

Ceiling Grill

For use with Metrotile Hi Flow Bond and Hi Flow Slate ventilation systems

Purchase separately or as part of the Hi Flow Vent Kit

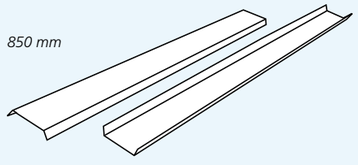
Diameter	*160 mm*

Ridge Vent / Batten Tray

Ridge Batten

Enables ventilation at the ridge of a Metrotile roof while simultaneously protecting batten from weather damage

Length	*850 mm*

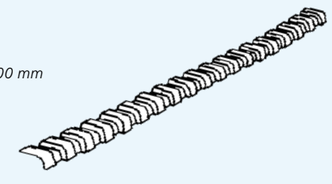


Hip Vent Strip

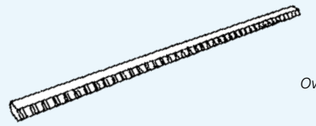
For use with Slate or Shingle and for Bond Hips

Enables ventilation at the hips and ridges of a Metrotile roof system

Length	*600 mm*



Fits on top of fascia boards to provide ventilation at eaves



Overall Length	*1 metre*

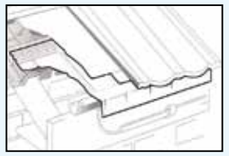
Eaves Over Fascia Vent
10mm to 25mm

Prevents ventilation blockage often caused by insulation.
Designed to be sited at
400 mm, 450 mm and 600 mm

Overall Length	*6 metres*

Continuous Rafter Tray

Prevents felt from sagging and keeps ventilation path clear



Overall Length	*600 mm*
Overall Width	*400 mm*

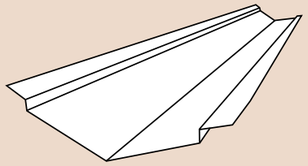
Eaves Fascia Tray

Used to fill the profiles at top course, ridge, hips and valleys.
For installations where profiles cannot be bent

Metrotile Shingle	**Metrotile .900**
9 mm x 25 mm x 4 metres	*VALLEY SEALER* *32 mm x 50 mm x 3 metres* *HIP SEALER* *12 mm x 30 mm x 4 metres*

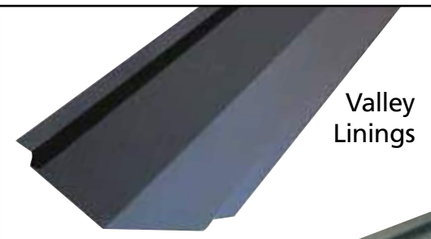
Expanding Foam

For sealing and lining valleys on a Metrotile roof system

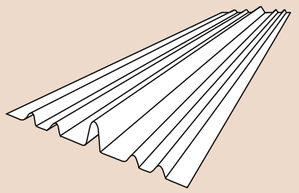


Available in 2 sizes
2200 mm x 200 mm
and
1115 mm x 340 mm

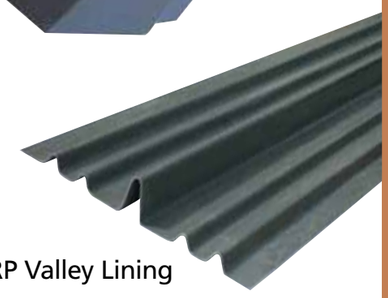
Valley Linings



The GRP Valley Lining is designed with a higher centre to enable closer profile coverage when a more discreet valley is required



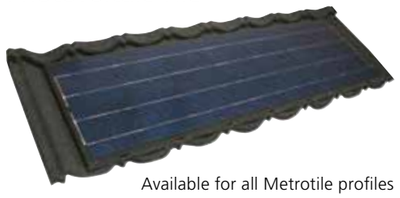
Overall Length	*3 metres*
Overall Width	*360 mm*



GRP Valley Lining

PHOTOVOLTAIC

Photovoltaic Tile



Available for all Metrotile profiles

Generate valuable energy for your home with our innovative new Photovoltaic System

INTEGRATED PV & TILE SYSTEM

JUNCTION BOX, CABLES & CONNECTORS

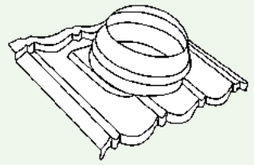
POLYCRYSTALLINE PV CELLS

WINDOWS

Solatube

Brighten up rooms in your home with this natural light system. Integrates perfectly with Metrotile profiles

Cover Width	*460 mm*
Cover Length	*370 mm*
Overall cover %	*70 mm*
Diameter	*250 mm*



Keylite ROOF WINDOWS

A full range of Keylite roof windows and bespoke accessories are available from Metrotile. Please contact us for further details and advice

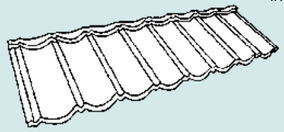
VELUX®

A full range of Velux roof windows and bespoke accessories are available from Metrotile. Please contact us for further details and advice

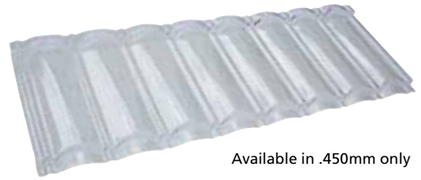
CLEAR TILES

Clear Tile Bond

For instances where natural light ingress is required directly throughthe roof. Made from highly durable Perspex and integrates with the Bond profile



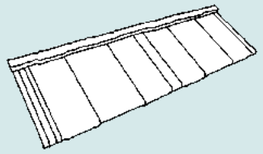
Overall Length	*1330 mm*
Overall Width	*370 mm*



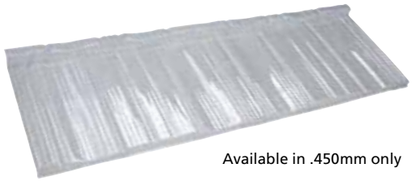
Available in .450mm only

Clear Tile Slate

For instances where natural light ingress is required directly through the roof. Made from highly durable Perspex and integrates with the Slate profile



Overall Length	*1330 mm*
Overall Width	*370 mm*



Available in .450mm only

NAILS

High quality nails are available for all Metrotile application types, including Paslode® and Coil types suitable for nail guns

SCREWS

35 mm Farmer Screws are available to match your chosen roof system colour

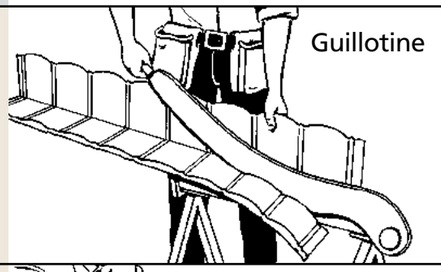
INSTALLATION EQUIPMENT

Guillotine

Recommended for cutting Metrotile Profiles. Blade is made from heavy duty spring steel and legs can be removed for easy transport

Floor Space	*3700 mm x 1000 mm*
Length	*1100 mm*
Weight	*29 kg*

FOR SALE OR HIRE

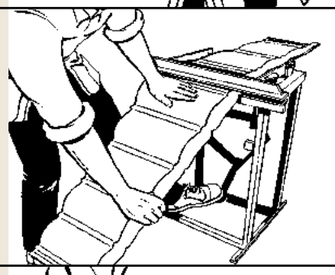


Bender

Recommended for the bending of Metrotile Profiles Made from high quality steel

Floor Space	*490 mm x 460 mm*
Height	*530 mm*
Weight	*25 kg*

FOR SALE OR HIRE

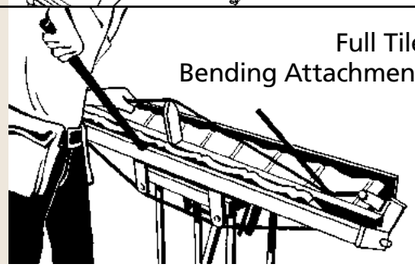


Full Tile Bending Attachment

Fastened to the Metrotile Bender with 12.5 mm bolts and wing nuts

Length	*1600 mm*
Weight	*26 kg*

FOR SALE OR HIRE



Installation

Virtually zero breakages on site

List of Approved UK and Ireland Contractors

Quick and easy to install with step-by-step guides available

Unique dry-fix system ensures savings in time and materials and is not weather dependant

The installation of a Metrotile Lightweight Steel Roofing system is a swift, economical and ecological process made possible by the product's lightweight design and use of modern construction materials.

Whether you're a self-builder, looking to install the roof on your own project or you're looking for an approved contractor to carry out the work, Metrotile is there to help during every step of the installation process and beyond.

The lightweight design of the Metrotile product is a plus factor for any installation. It ensures reduced transport costs and faster on-site deliveries, while the durable profile design enables the profiles to be moved around the site with virtually zero breakages, keeping waste to a minimum while ensuring the order quantities are accurately assessed.

Installation on site may be carried out with the use of scaffolding, or via Cherry Picker if space is at a premium. Either way, the large Metrotile profile sheets are simply locked into place and nailed to the roof battens, utilising a dry-fix cross nail system that provides unsurpassed security and continues to keep on-site waste to a minimum.

Tiles may be shaped, cut or formed to suit each individual roof design and can easily accommodate accessories such as roof windows, vents, solar tubes and the Metrotile Photovoltaic System, as well as simple or complex hip and valley arrangements. For more details about the complete range of Metrotile Accessories, see pages 32 to 39 of this brochure.

A dry-fix system has a number of advantages. It helps the speed of installation and reduces the need for ancillary materials to be ordered, stored and disposed of and it also ensures that installation is far less weather-dependant, helping to add certainty to the construction programme and ensuring a more efficient flow of internal trades.

A detailed step-by-step installation guide, together with good site practice and specific information for each Metrotile profile is available for download from our website.

Please visit
www.metrotile.co.uk
for further details

Metrotile Approved Contractors

If your project requires the use of contractors, Metrotile will put you in touch with an approved contractor in your area. Please note that we are only able to **guarantee roofing systems installed by an approved contractor.**

Self Builder Installation

We can also offer our guarantee to Metrotile roof systems installed by selfbuilders, but a representative will need to check the installation to validate the guarantee. Metrotile offers full support to DIY installations throughout the entire process and step-by-step installation guides are available by post, or via download at www.metrotile.co.uk.

Services & Support

At Metrotile, our adherence to high quality doesn't begin and end with our products: we also understand the importance of providing a support and sales team of the highest quality. We heavily invest in research and development to ensure our range continues to meet customer needs, in addition to investing in industry standard resources to provide market leading support.

TRUST MARK
Government Endorsed Standards
www.trustmark.org.uk

certass
Registered Contractor

Metrotile.co.uk

The Metrotile website contains a wealth of information that covers every aspect of Metrotile Steel Roof Systems including design, specification, sales and installation.

Metrotile.co.uk contains detailed product information, including technical specifications, case studies, CAD drawings, and a regularly updated photo gallery and new video step by step installation guides can be viewed in PDF format.

Contact Us

Our knowledgeable staff are available for sales, technical queries and customer care (pre and post installation) between 8.30am and 5.00pm Monday to Friday.

post Metrotile UK Ltd
Unit 3, Sheldon Business Park
Sheldon Corner
Chippenham
Wiltshire
SN14 0RQ

tel +44 (0) 1249 658 514

fax +44 (0) 1249 658 453

email sales @ metrotile.co.uk

metrotile
LIGHTWEIGHT ROOFING

THE **FUTURE PROOF** ROOF

metrotile
LIGHTWEIGHT ROOFING

BRIGHT
WINDOWS

T: 01460 63703
M: 07909 882420
E: richard@rbrightwindows.co.uk