Metro

LIGHTWEIGHT ROOFING

The right name for
lightweight roofing

A Worldwide Presence

Metrotile UK Ltd are part of a worldwide group whose parent company is the Ross Corporation of New Zealand. Established since 1952, the Ross Group of companies manufactures concrete tiles, steel tiles and acrylic paint (for roofing). They also manufacture the machinery and equipment used to make steel tiles. As well as the New Zealand factory, there are manufacturing plants in the USA (California) and in Europe (Belgium).

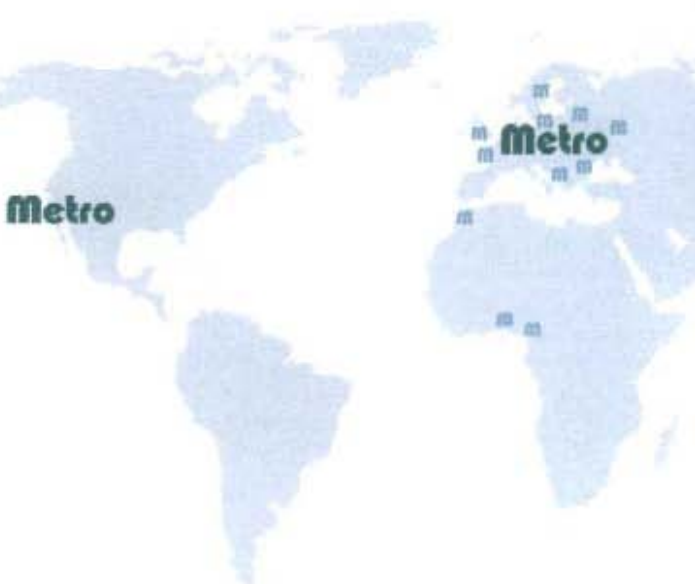
Metro Europe

When Metrotile Europe opened a brand new state-of-the-art manufacturing plant in Belgium in 1998 they **created the finest and most up to date factory of its kind anywhere in the world.** Manufactured to ISO 9001, Metro's quality testing procedures ensure that **only consistently high quality tiles are produced.** Lean engineering methods are used throughout the production process, resulting in an efficient and effective cost production ratio. Product and process improvements are also introduced regularly as a result of Metro's pro-active Research and Development department.

Metro have been producing roofing for over 17 years and currently the Metrotile Group collectively manufactures over 5 million tiles a year - making it the second largest manufacturer of lightweight roof tiles in the world. Annual turnover is approximately £20m.

Metro Manufacturing Centres

Distributors



A Little Bit of History

Lightweight steel tiles originated in New Zealand in the 1950s and were inspired by the galvanised steel sheeting used on sheds, Nissen huts and air raid shelters. Due to the scarcity of concrete tiles in those days, it was common to see galvanised sheeting used on houses.

A local man, Lou Fisher, wanted to improve the appearance of roofs used on domestic homes. He had the idea of creating a profiled pressed sheet out of galvanised steel and coating it with sticky bitumen in which coloured stones were embedded on the surface. Coloured stones, created by volcanic activity, are common in New Zealand. The product quickly caught on and became a real New Zealand success story. By the 1960s stone coated lightweight steel roofing was being used in other countries with similar geographic or production problems. In particular, countries in the Southern Hemisphere welcomed the idea but soon discovered that the effects of hot sun and high altitude on bitumen caused the granular surface to slide off the steel substrate. In response one manufacturer devised an acrylic polymer bonding coat, unaffected by UV light, and solved the problem. This became the basis for all today's modern coated tiles.

Introduced to Europe in the 1970s, Denmark was the first country to recognise the advantages of the product for a wide range of roofing applications. Since then, acceptance of lightweight roofing as a mainstream roofing product has been steadily gaining momentum. In the 1990s the UK market expanded and in 2001 **Metrotile UK** opened to meet the demands of this rapidly growing market. Within a short space of time Metro earned the position of second place to the brand leader. The UK and Ireland now accounts for the second largest volume of tiles sales in Europe.

Metro Lightweight Roofing

Different and Better – for 40 years or more

Others may look the same on the outside, but on the inside Metro roofing products are different in two important ways: — **THE STEEL** — **THE PROTECTION**

The Core Product
The Steel

At its core a standard Metro tile is made from 0.45mm Drawing Quality 3 steel. This is **the highest grade of steel available to the roofing tile industry.** Drawing Quality 3 steel is low in carbon making it highly ductile. This ensures an even flow of the material into the tile profile without fracture during the forming process.

The result – a more durable tile, less vulnerable to fracture.

Other tiles are made using conventional galvanising methods consisting of approximately 95% zinc. But with Metro tiles the high level of aluminium protects the steel substrate by migrating into the steel surface and forming an immutable barrier between the surface and the atmosphere. This aluminium barrier is exceptionally stable and thus provides longer term corrosion resistance.

It is why Metro products are confidently offered with a 40 year guarantee.
In the USA this guarantee is extended by the ICBO to 50 years.

After the Aluzinc coating, a primer is added to all surfaces, and this is followed by three further layers on the weather side of the tile:

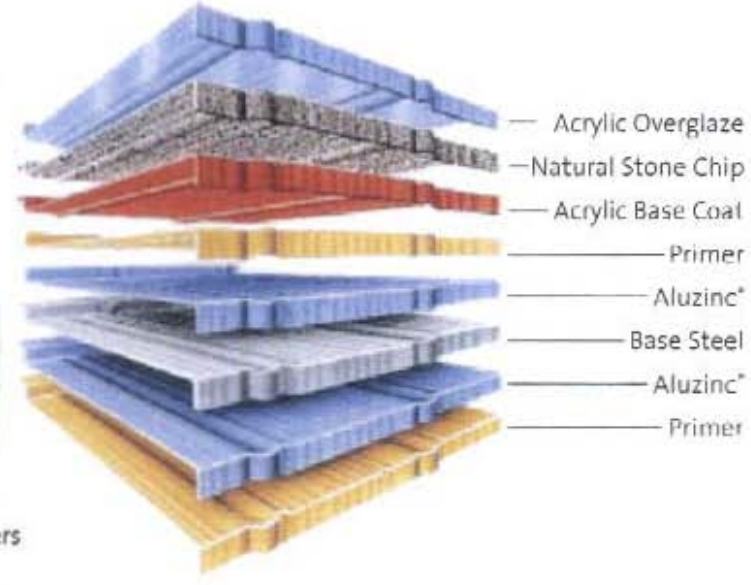
- an organic water-based acrylic pigmented base coat
- a layer of 'through' coloured stones
- another layer of acrylic overglaze.

The Double Whammy
The Protection

Surrounding the core AND GIVING METRO PRODUCTS THEIR INNATE SUPERIORITY is ALUZINC®.

ALUZINC® Combines 55% Aluminium and 45% Zinc.

A standard virtually unmatched by other steel tiles.



There can be no better protection for the base steel.

Manufacturing Process

The Aluzinc coated steel is formed into a tile profile in a 200 tonne automatic hydraulic press. As the pressed steel enters the coating line, four high pressure angled spray units apply the pigmented Acrylic carrier coat. Natural stone granules are applied onto the carrier coat, followed by a clear acrylic coating which incorporates a non-toxic algaecide to deter moss growth. The tiles are then oven cured in a 40 metre oven using both infra red and electric power. Each batch is thoroughly tested for coating adhesion, flexibility and coating hardness. As a final check the tiles are weighed to ensure they conform to the standard, before being despatched.

There Are No Limits

Wherever you go these days you will find lightweight steel roofing being used on different types of building the length and breadth of the country. Architects, developers, builders and roofing contractors are all increasingly choosing to use lightweight roofs on a huge range of different projects. Since entering the UK market, Metro roofs can already be found on a diverse range of buildings:

- offices
- new build housing
- churches
- stables
- barracks
- conservatories
- blocks of flats
- schools
- hospitals
- golf clubs
- flat to pitch conversions
- timber frame housing
- libraries
- colleges
- leisure & community centres
- prisons
- re-locatable buildings
- fast track projects

No longer a poor relation relegated to the industrial estates and refurbishment projects, imaginative architects and builders all over the European Union are taking advantage of the clear design and cost benefits to be gained by using lightweight steel.

The Bottom Line

When cost is an issue (and when isn't it?) **a lightweight steel roof weighs in with the right answers.**

- Suitable for 10° pitch – Metro can also be used as cladding on mansards. Easy to cut and form around dormer windows.
- **Further labour/cost saving opportunities are presented because Metro roofs are lighter, easier and quicker to install.**
- Tiles to cover one large house roof can be stored on a 1.2 x 1.4m pallet, so **savings can be made on storage space.**
- With a roof installed more quickly **less scaffolding time is needed.**
- As a building becomes weather proof faster **interior work can be progressed more promptly.**
- The 'dry-fix' method means no sand, concrete, mastic, filler or other additional products are needed.
- At just under 7kg per square metre – or approximately one/seventh the weight of concrete or clay tiles - **a Metro roof reduces the cost** required by the supporting structure.
- This means it can be used to over-roof an existing flat-roofed non-traditional building where weight is the most important factor.
- Unbeatable strength and durability combine to make Metro the perfect choice where **resistance to vandalism** or foot damage is an issue.
- Metro tiles inhibit moss and algae growth — giving less discolouration — **eliminating the need for on-going maintenance.**
- Metro tiles are cut and bent at hips and valleys so exposed areas are **totally secure against weather penetration or ingress by birds or vermin.**







There Are No Sacrifices

...or the 'I can't believe it's not roofing!' factor

A Metro lightweight steel roof is – to most eyes – unlikely to be recognised as anything other than a traditional tiled roof. Therefore no architect needs to feel that aesthetic appeal will be sacrificed or constrained by the choice of a lightweight steel roof. The choice of colours and profiles offered is wide enough to suit most roofing applications. Only the canny purchaser will be aware that the roof is also providing a number of attractive economies for the developer and installer.

Extreme Weather-Tested

Hurricane tested in the Eastern United States, fire rated in California, cyclone blasted in Japan and rain penetration tested in Australia - no weather condition is too extreme for a Metro roof. Metro has been proven resistant to 198km/hour High Wind-lift testing, resistant to 'cyclical freeze-thaw' conditions, resistant to snow, hailstones and the most extreme coastal salt spray conditions. For a full list of approvals see page 6.

Extreme People-Tested

It may be a sad fact of life, but people are just as much a challenge to a roof as the weather. In some areas a very strong roof that can resist vandalism and foot traffic is essential. Under these circumstances there is no better roof than Metro. Do not be deceived by the term 'lightweight'. A Metro-tile 900 roof is made from a thicker steel section to resist extremes of man-made wear and tear better than most. Against such damage, the roof's integrity is guaranteed.

Developing all the Time

In addition to four ranges of profile steel roofing tile and a full complement of accessories, Metro has already added a new system of structural roofing to its product portfolio. (See page 10 for more details)


RIOT-PROOF ROOFS

Steel tiles to protect homes hit by clashes

Riot-proof roofs for peaceline...

Committed to the Environment

When compared to the manufacture of concrete tiles, in which one tonne of CO_2 is produced for every tonne of concrete tiles, steel makes drastically less impact on the environment during the production process.

At Metro our commitment to the environment is total. From our use of organic water-based acrylics, non toxic algaecide and natural stone coating from sustainable sources, every part of our manufacturing process is designed to minimise the impact on the environment. Even the corrosion protection surface we use contains no zinc chromate. Metro aims to meet or exceed all the local and EU environmental regulations regarding manufacture.

Seals Of Approval

Currently there are 16 World Agrément or similar certificates relating to Metro tiles, including the BBA (Cert. No. 00/3695). There are five separate Fire Test Certificates and two High Wind Uplift Certificates (USA & Australia).

The European Guarantee is for 40 years. And Metro Europe hold the Guarantee by the Ross Corporation. In the USA the product is guaranteed for 50 years as required by ICBO approval. New approvals certificates are being added on a regular basis.







United Kingdom	BBA 00/3695
Belgium	ATG-A/G 990616
Germany	Fire Test No. 16 –24033
France	CSTB avis technique en cours
Czech Republic	Approval No 5 C 138/140/1996/01517
Russia	POCC BE Cπ 45 C00004
Poland	Insitut Techniki Budowlanej
Worldwide	ISO 9001
Europe	ISO 9001:2000

United States of America

United States Testing Company	No. 601558-1 Roof Fire Test Class B system
	No. 601558-2 Material evaluation
	No. 601558-3 Penetration test
	ICBO California ER-5218

Japan

Japan Industrial Standard	Fire test JIS A 1312

New Zealand	ISO 9001	Quality Assurance System
	BTL No. 209 & 210	
	Compliance to New Zealand Building Code	
	DSIR No. 39/1GEW:pmm	Roof water analysis
	SGS No. G2971/94	Waste water analysis
	ESR No. S95-181C	Air Quality



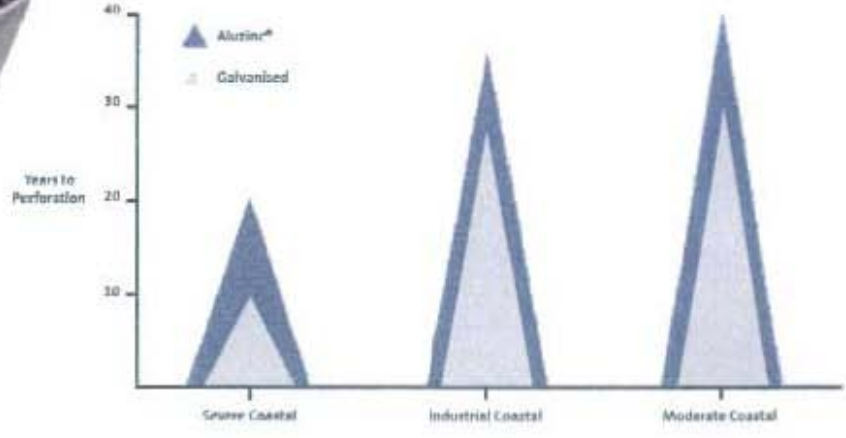
The Difference That Matters:

ALUZINC® Explained



The steel used to make Metro products is coated in ALUZINC® using the 'hot dip' process similar to that used for conventional galvanisation. However, the real difference is that the ALUZINC® coating has been formulated to give a significantly longer service life than a galvanised coating. In particular it provides better corrosion resistance in coastal areas where salt laden air is prevalent. This is because the superior corrosion protection of aluminium migrates into the zinc giving the advantages of both metals. **The resulting alloy enhances corrosion resistance making it ideal for roofing and cladding.**

Over a period of twenty-five years test sites from around the world have provided a wealth of information about the comparative performance of galvanised and ALUZINC® steel products. Test sites are placed in many different environments, from typically rural to severe marine. Corrosion rates are determined by exposing samples on standard test racks and regularly monitoring the coating performance over the years. ALUZINC® outperforms galvanised coatings in almost all environments. This is particularly true in **marine environments where ALUZINC® will provide significantly longer service life than galvanised steel.**



Protection At Cut Edges

Even at the cut edge, ALUZINC® continues to provide superior protection to galvanised coatings. This is because the aluminium has penetrated the steel. The Zinc/Aluminium alloy coating provides galvanic protection to bare steel exposed at cut edges or by deep scratches.

The Zinc/Aluminium alloy coating was originally developed in the USA by Bethleham Steel. It first became accepted in Australia in 1976 and, since then, has been widely used throughout the world. By 2001 over 48 million tones of ALUZINC® have been used worldwide.

Metro tile

The Main Contenders – 450 or 900

Strong or Stronger

The core Metro product is Metro tile which is available in a traditional pantile profile and a choice of two thicknesses: 450 - suitable for virtually all roofing applications and 900: – the choice for added peace of mind in areas where superior resistance to foot traffic or vandalism is needed.

Unbeatable Strength to Weight Ratio

Each tile provides a cover length of 1257mm and a cover width of 370mm. This gives a cover per tile of 0.462 and a weight of only 2.85kg for the 450 tile (6.2kg/m²) and 4.64kg for the 900 tile (9.9kg/m²). Tiles are available in six standard colours, with special colours available to order.

Standard colours: terracotta, charcoal, bronze, green, brindle, red.

The tiles can be fixed from the vertical down to a 10° pitch and have a unique overlapping system with no exposed fixings.

The 450 tile has a heart of 0.45mm steel and the 900 tile is twice as thick with a 0.9mm thick steel substrate. Each tile replicates 8 conventional roofing tiles and, with their Acrylic coated, stone embedded granular surface, both the 450 and 900 tiles give a high level of aesthetic satisfaction, blending in easily with surrounding buildings.





terracotta bronze brindle



charcoal green red

Note. Printed colour samples are as accurate as printing techniques allow, but are for guidance only.

Don't Just Take Our Word For It

In an independent survey carried out by the British Board of Agrément, installers and specifiers made the following comments.

"This is a good hardwearing system that is easily installed."

"It's an excellent system which pretty much does exactly what you would expect of a lightweight roofing system. It is infinitely better than two of its competitor products and at least on a par with its main rival."

"Metro is very useful on our specialised 'flat-to-pitch' conversion as it adds minimal weight to existing structures"

"the back-up from Metro is efficient, prompt and precise"

"Advantages to us include: ease of installation, speed at which waterproofing stage can be achieved, ability to install in failing weather conditions, clean and accurate for manual use, customer confidence due to the generous guarantee."

Metro slate

For A Roof With Striking Advantages

Recreating the attractively irregular riven appearance of a traditional slate roof, Metro slate provides all the strength, durability and economy of Metro tiles but with a look which blends naturally in areas where the use of slate is appropriate. The deeply lined profile gives good shadow definition, resulting in a roof which could be easily mistaken for natural slate. At a fraction of the cost of natural slate the advantages are striking.

At St Aidan's Technology College near Fleetwood, Lancashire **Metro slate was chosen as it would blend in well with the surrounding buildings and give the appearance of a traditional slate roof.** Because Metro slates are much larger than conventional roof tiles the roof could be installed more quickly, thereby causing minimal disruption to the school.



"We have been using lightweight steel tiles since 1983 and Metro has proved to be the best."

Metro shingle

The Truly Versatile Tile

Metro shingle earns its name from the traditional timber 'shingles' which are popular in North America. But they are, in fact, a simple and neat looking smooth tile with all the lightweight strength and durability of Metro's steel roofing range. They can be used wherever you would fit a plain tile – and in lots of other places as well.



Available in three attractive colours
Ebony, Antique Red and Burnt Umber, Metro shingle will add style and good looks to all types of architecture.

Metro shingle –		
	Overall length	1330mm
	Length of cover	1257mm
	Width of cover	235mm
	Weight per tile	1.5kg

The Secret is in the Secret Fix.

no exposed nails = no rust = no falling tiles = no worries

With a unique inter-lapping design and no exposed fixings, Metro shingles are suitable for the harshest climates and locations – and, because of their lower weight, virtually all roof constructions.

Hang On!

And for easy-to-fit cladding on tile-hung walls and around dormer windows Metro shingle is the perfect answer. Unlike concrete tiles, which are heavy and awkward to fit, and which often out last the nails by which they are fixed, Metro shingles fit easily and stay fitted! And they can assist in providing external wall insulation.

Conservatories can be transformed into Garden Rooms.

Metro shingle creates a perfect roof for a conservatory or garden room, providing a more substantial appearance and avoiding the thermal and rain noise problems associated with glass roofs. This novel application for Metro shingle is catching on fast and provides an attractive alternative to a traditional glass roof.

Metro Structural Roofing

Metro are pleased to offer a steel structural roofing system which is compatible with light weight steel roofing and offers exceptional versatility and easy on-site assembly.



Metro Structural Roofing is ideal for flat-to-pitch conversions for both tile or sheet coverings and can also be used as a vertical cladding support system or for a bull nose support system.

The Metro system ensures minimal disruption to the existing building during re-roofing and generally allows residents and building users to remain in occupation.

- A lightweight galvanised steel structure used to support vertical cladding or rain shields. Due to the versatility of telescopic props and a newly developed fixing bracket, difficult structures with uneven surfaces are easily refurbished. May be supplied either as a 'dead load' system or a self supporting system.
- The new self support system can either be assembled on site or can be provided in truss form for speedy assembly once on site.
- The self support system can span up to 12metres, and is therefore an attractive and cost effective alternative for new build construction to replace heavy hot rolled sections.
- A tile support sheet is available for use with light weight strip tiles. This eliminates the need to use timber tile battens and vapour barriers.
- Product manufactured to ISO9001 quality standard
- Full warranty on completion of project

In addition to advice on roof coverings, Metro provides outline structural schemes and price quotations, site specific surveys, investigations and calculations, as well as advice on fascia/soffit arrangements, fire retardant provision and rainwater goods.



Service, Support and Supplementary Information

Our People Know Their Stuff

Situated close to the M4 corridor, the Metro team is handpicked to create a knowledgeable, experienced, customer-focused group of professionals who are each committed to providing the very best possible level of service and attention.

MD of Metrotile UK Ltd, John Cunningham, has a wealth of hands-on roofing experience gained from many years in the industry.

Metro's technical sales team are equally experienced individuals who between them have well over 110 years in the roofing and construction industries. Each one is ready to give you the help you need, when you need it.

John Cunningham - Managing Director



"We aim to be more than just efficient. We sincerely hope that we always come across as friendly and approachable people who are knowledgeable as well as helpful.

Karon Butler - Finance Director



"To us 'Service' is more than just a word in a mission statement. It is the bedrock of a successful business"

Anne Martin- Director



- Metro offers a **full training and back up service** using only trained and approved contractors - and will provide a written guarantee for the product upon completion.
- Tiles are available from our warehouse on a **next day delivery** basis.
- Sites are monitored on a regular basis by our technical staff & **completed roofs can be certificated** if required.

Glenn Everest - Technical Support



A Full Range of Services is available

These include the standard roof finish accessories as well as purpose made flashings, ventilation units and a wide range of ridge and hip caps. Technical information and clear installation instructions are available for all Metro products.

The Warehouse Team

