



V A L C A N
The Defining Standard

VitraFix® VFM

Magnelis® Steel Cladding Support
V.1.0



vitrafix®
Framing and Accessories







INHERENTLY BETTER

Our brand essence derives from our defining standards. Delivering inherently better service, better product systems and better safety testing. Everything culminates in A1 or A2 certified solutions for better and safer projects for our customers and stakeholders.



TOTAL ASSURANCE

We are a designer and manufacturer of rainscreen cladding systems working with clients, insurers, architects and contractors. We deliver fully tested A1 certified (non-combustible) or A2 (limited combustibility) solutions, paired with reliable and technically assured customer service.



THE DEFINING STANDARD

Valcan are the defining standard in A1 and A2 rainscreen cladding systems. Our extensive R&D process guarantees the highest quality solution for new build and retrofit projects – providing total assurance matched with the highest levels of safety and integrity for better and safer projects for our customers and stakeholders.

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The information and prices contained here are believed to be correct at time of publishing 03/08/2022

Valcan reserves the right to revise the contents of this technical overview at any time.

WHAT IS VITRAFIX® VFM?

Vitrafix® VFM is a cladding support system that utilises Magnelis steel technology. It is non-combustible and suitable for both new build and re-clad projects. Magnelis® steel is a high performance steel that offers superior corrosion resistance, durability and strength.

It is an ideal material for cladding support systems as it is non-combustible and has excellent thermal properties. Vitrafix® VFM is available in a range of sizes and adjustments to suit your project requirements. It is easy to install and can be used on a variety of building projects.

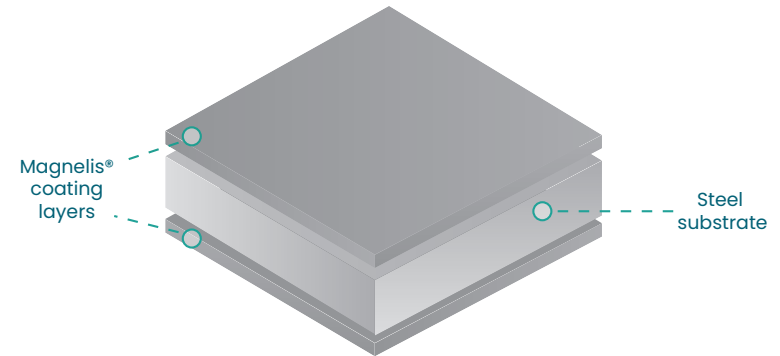
Magnelis® steel is a pre-galvanising process that offers unparalleled corrosion protection, durability and thermal efficiency.

Magnelis® steel sheets are compatible with alkaline building materials such as fibre cement sheathing boards such as ProcellaPro®, eliminating the need for an isolation pad.

WHAT IS MAGNELIS®?

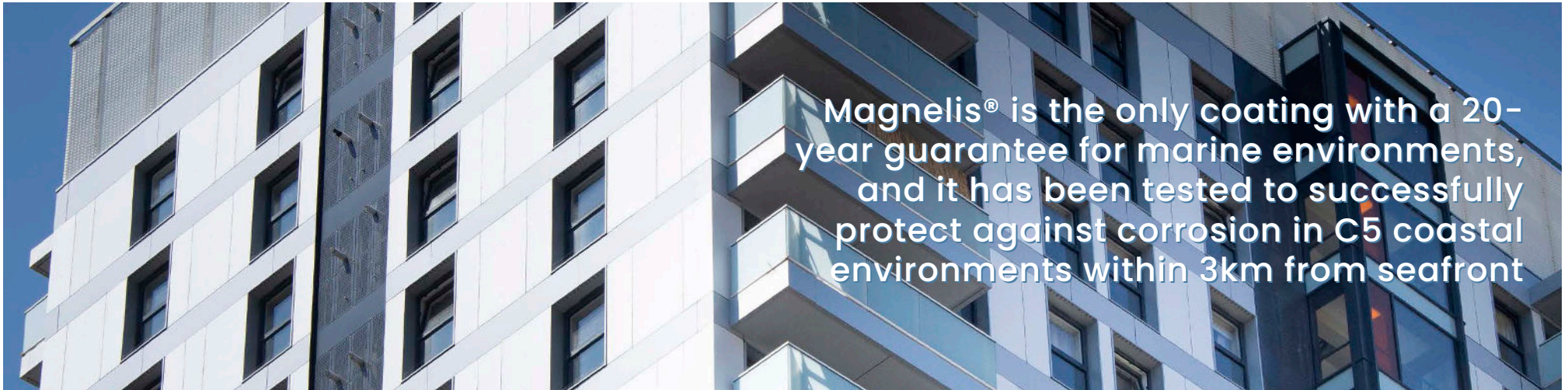
Magnelis® is the perfect coating for any application that requires corrosion protection. Thanks to its composition, Magnelis® provides an unprecedented level of surface and cut-edge integrity even in environments where other coatings would fail quickly.

Magnelis® steel is produced using a unique hot dip galvanizing process that contains 3.5% aluminium and 3% magnesium.



ArcelorMittal

VitraFix Magnelis® products use Steel responsibly sourced.



Magnelis® has been designed to be environmentally friendly, with very low impact on both production and service life.

Magnelis® is a corrosion protection solution that can be applied to wall side rails of facade sub-structures. It's proven performance in outdoor environments makes it ideal for use on exposed surfaces like the exterior walls of buildings.

Magnelis® steel is able to withstand harsh weather conditions without compromising its integrity which means you don't need special equipment when it comes to installation. Plus this coating doesn't contain any harmful chemicals.

ENVIRONMENTAL IMPACTS

Magnelis® is 100% recyclable and does not contain any harmful elements. Magnelis® also reduces zinc runoff to soils, and has significantly lower CO2 emissions producing Magnelis® steel over stainless or aluminium.

CORROSION PROTECTION

Magnelis® has been proven to be an excellent corrosion-resistant material. It outperforms galvanized steel by a factor of three, and higher in more severe environments.

SELF-HEALING

Magnelis® is a unique product that slows down corrosion by forming a very dense zinc-based protective film when cut, perforated or scratched. The slow rate of deterioration makes it possible for structures to be properly protected against the elements, while still allowing water and air circulation around the structure.

BENEFITS OF VITRAFIX® VFM

There are many benefits using VitraFix in your project:

- ✓ Deemed non-combustible A1 under the European Directive.
- ✓ High melting point - Magnelis® carrier systems have a melting point which gives increased structural performance in a fire scenario.
- ✓ Increased thermal performance of facade system.
- ✓ With reduced number of brackets, Vitrafix® VFM-FS is faster to install than standard carrier systems.
- ✓ Standard VitraFix®VFM bracket sizes available from 50 - 290mm with 30mm of adjustment.
- ✓ Customised / project specific brackets available as large as 1500mm.
- ✓ Rust resistant steel / includes self-healing effect and excellent edge protection.
- ✓ Project specific calculations available.
- ✓ We only use the highest grade of Magnelis® ZM310/ ZM430.

Magnelis® is the only metallic coating product certified for use in a C5 coastal environment.

MAGNELIS® GRADES

| Metal | Brand | EXTERNAL ATMOSPHERES | | | | | | | |
|--------------------|-----------|------------------------|----------------------|----------------|---------------|------------------------|-------|--------------|----------|
| | | Rural, non-polluted | Urban and industrial | Marine | | | | Special | |
| | | | Normal | 20 to 10 km | 10 to 3 km | Seaside (< 3 km) | Mixed | Strong UV | Specific |
| Magnelis® ZM120 | Magnelis® | ○ | ○ | — | — | — | — | ND | — |
| Magnelis® ZM175 | Magnelis® | ■ | ○ | ○ | — | — | — | ND | — |
| Magnelis® ZM200 | Magnelis® | ■ | ■ | ■ | ○ | ○ | ○ | ND | ○ |
| Magnelis® ZM250 | Magnelis® | ■ | ■ | ■ | ○ | ○ | ○ | ND | ○ |
| Magnelis® ZM310 | Magnelis® | ■ | ■ | ■ | ■ | ■ | ○ | ND | ○ |
| Magnelis® ZM430 | Magnelis® | ■ | ■ | ■ | ■ | ■ | ○ | ND | ○ |

■ Coatings appropriate for the exposure.

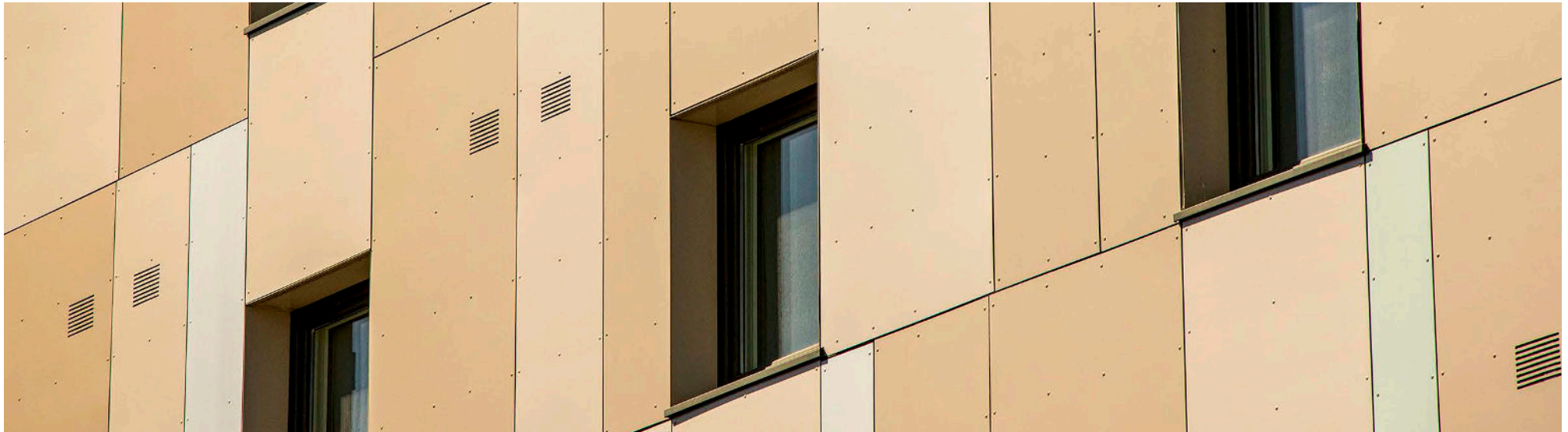
○ Coatings for which the definitive choice and particular characteristics must be determined after consultation with and approval from the manufacturer.

— Unsuitable coatings.

ND: Not a decisive factor for choosing sheets and strips coated with Magnelis®. Refer to the other columns.

(1) With the exception of seaside environments, for which definitive assessment or the establishment of specific measures must be determined after consultation with and approval from the producer.

Highlighted in grey are the grades Valcan offers.



VITRAFIX® VFM SYSTEMS

Vitrafix® VFM is used primarily for floor span installations in the VFM-FS range, this can also be installed where cavity depths are an issue and higher thermal efficiency is required in the VFM-HH range.

VITRAFIX® VFM: HELPING-HAND

The Vitrafix® VFM-HH system utilises the standard VFM brackets installed back to the masonry or steel frame wall.

Brackets are available in 50-290mm sizes as standard with customisable sizes as large as 1500mm being available on project specific applications.

The VFM-HH system uses either aluminium T and L profiles or Magnelis® steel rails depending on project requirements

The surface of this metal is 3 times more resistant to corrosion than galvanised steel.

VITRAFIX® VFM: FLOOR-SPAN

The Vitrafix® VFM-FS system utilises the same VFM brackets as the VFM-HH system but these are installed typically at the floor slab locations.

This system is typically used on walls where the block-work between floor slabs may be of an unknown or insufficient strength. The VFM-FS system can also be used for reduced installation times compared to a standard carrier system thanks to the reduced number of brackets.

VITRAFIX® THERMAL PERFORMANCE

With the Vitrafix® VFM range utilising Magnelis® steel technology, the carrier system offers advantages with thermal performance compared to standard aluminium carrier systems.

| | Vitrafix® VFM | Aluminium |
|---------------|---------------|-----------|
| Melting Point | 1500°C | 660°C |
| Conductivity | 17 W/mK | 160 W/mK |

The advantage of the Magnelis® steel translate to allow higher U-values when the same depth of insulation is used or reduced insulation depth but maintaining the same thermal performance

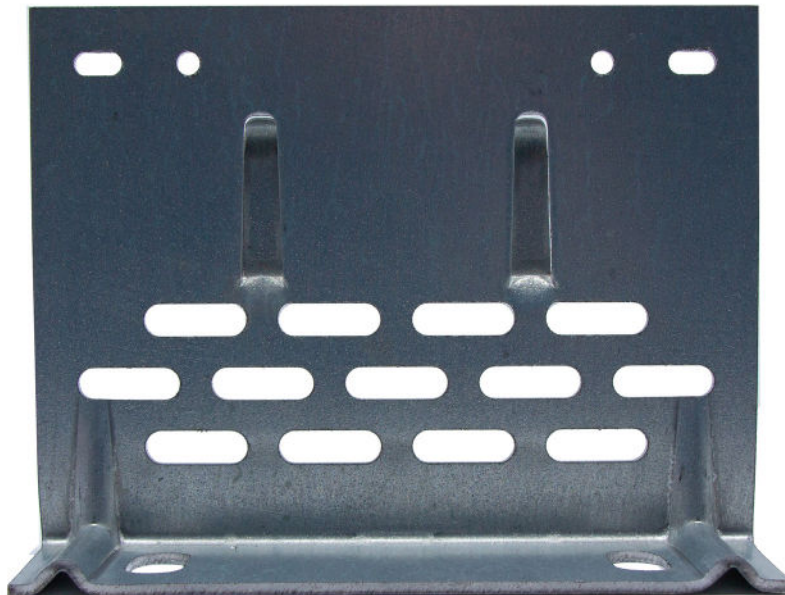


| Insulation Type | Vitrafix® VFM | Aluminium |
|------------------------------------|--------------------------|------------|
| 210mm Rock Mineral Wool Insulation | Aluminium carrier system | 0.24 W/m2K |
| 210mm Rock Mineral Wool Insulation | Vitrafix® VFM | 0.18 W/m2K |
| 150mm Rock Mineral Wool Insulation | Vitrafix® VFM | 0.24 W/m2K |

VITRAFIX® FIXINGS

To complete the carrier system installation the following A4 grade stainless steel fixings are used to complement the Vitrafix® VFM range:

- ✓ Vitrafix® Rivet VFR4.820A4C, 4.8x20mm, 16mm head (grip range 5.0-13.0mm). This is used for installation of panels to the carrier rails.
- ✓ Vitrafix® Self Drill Fixing, VFSD5.525A4-BM, 8mm Hex Head, Bi-Metallic With Washer. This fixing is used for installing the vertical rails to the bracket and the brackets to any horizontal rails.
- ✓ Vitrafix® Self Drill Fixing, VFSD5.538/A4, 8mm Hex Head, Bi-Metallic With Washer. This fixing is used for installing the brackets or horizontal rails to an SFS wall.



VITRAFIX® ACCESSORIES

To ensure the carrier system is correctly installed, Valcan also offer a range of centralising tools suitable for all Valcan's panels as well as rivet adapter tools to ensure that a completed rainscreen facade has the required thermal movement available.



VITRAFIX® VS VITRAFIX® VFM

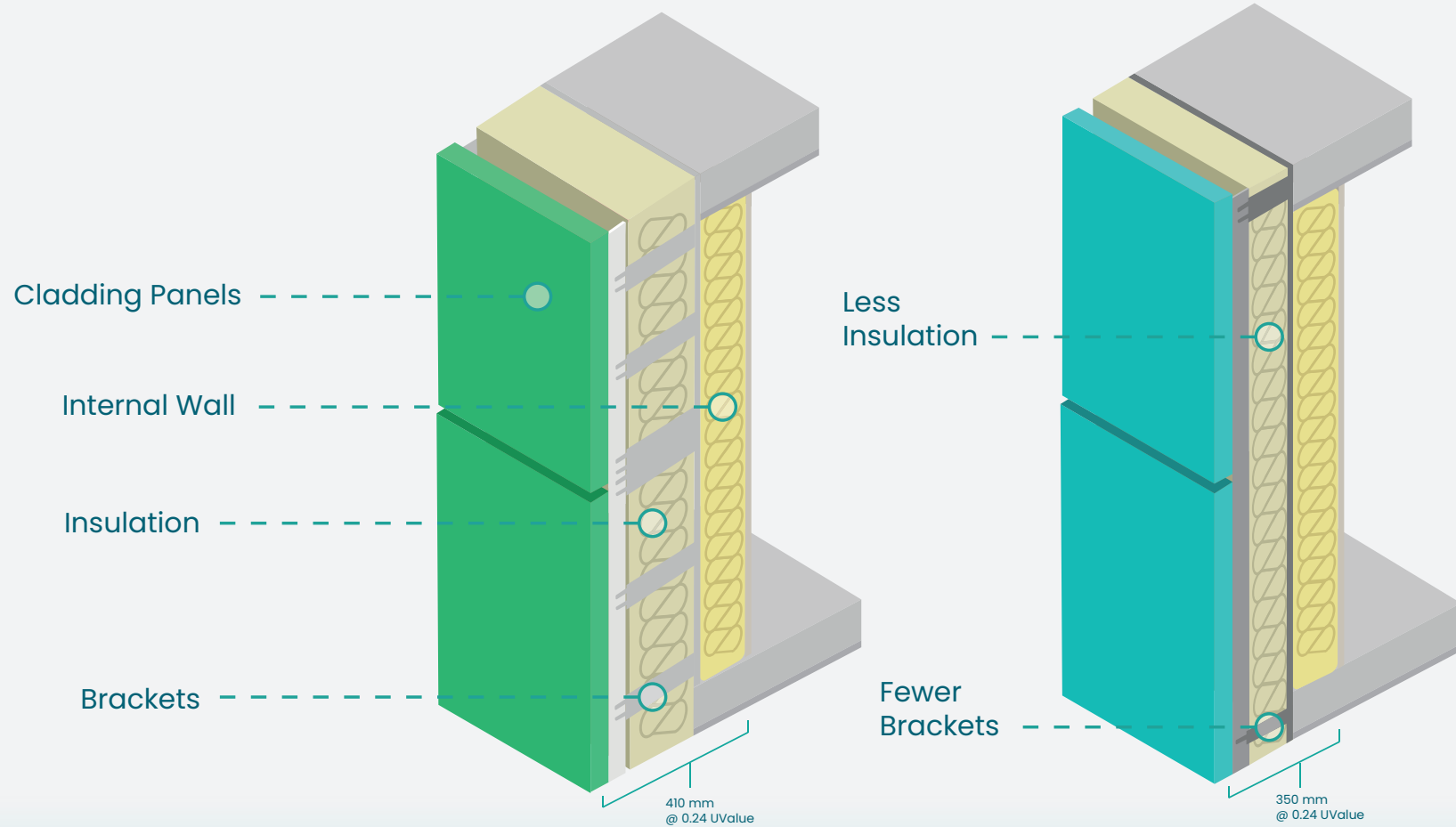


V A L C A N
The Defining Standard


vitrafix®
(VF1)

VS


vitrafix®
Magnelis®
(Floor Span)



*Not to scale


AVERAGE PRICING

VitraFix® VFM is a new, innovative wall cladding system that could **save up to 30-45% per m2 based** on a typical SFS wall type. For more information about pricing please call our sales team on 01278 428245.

COMPARISON: VITRAFIX® VS VITRAFIX® VFM

Below you'll find typical values for VitraFix System & Components.

| | VitraFix® | VitraFix® VFM |
|-----------------------------------|--|--|
| Material: | Aluminium | Magnelis® Steel |
| Melting Point: | 660 °C | 1425-1540 °C |
| Average System Weight: | 3.5 KG/M2 based on 200mm brackets | 6 KG/M2 based on 200mm brackets |
| Conductivity: | 220 W/(mK) | 50 W/(mK) |
| Bracket Sizes: | 50-350mm | Standard: 50-290mm Custom: 300-1500mm |
| Adjustment: | 32mm | 36mm |
| Colour Matching / Fixings: | Yes | Yes |
| Fixing Systems: | Face Fix, Helping Hand | Helping Hand, Floor Spanning |
| Fire Rating | A1 | A1 |
| Guarantee: | 30 Years | 25 Years |
| Corrosion Resistance: | Good | Excellent |
| Self-Healing Properties: | Standard Aluminium Properties | Magnelis Self Healing System |
| Lead Time: | Folded 2-3 weeks, in-stock 3-5 days | 3-4 weeks |
| Environmental Resistance: | Standard (non submersible) | Maritime, chloride, and ammonia atmospheres. |
| Alloy Composition: | 99.5%–99.9% of Aluminium and 0.12–0.5% of Copper | 93.5% zinc, 3.5% aluminium, and 3% magnesium |
| Mechanical Strength: | 7–11+ MPa | 120+ MPa |



Dunball House,
Woodlands Court Business Park,
Bristol Rd,
Bridgwater, Somerset
TA6 4FJ

+44(0)1278 428 245
enquiries@valcan.co.uk
www.valcan.co.uk