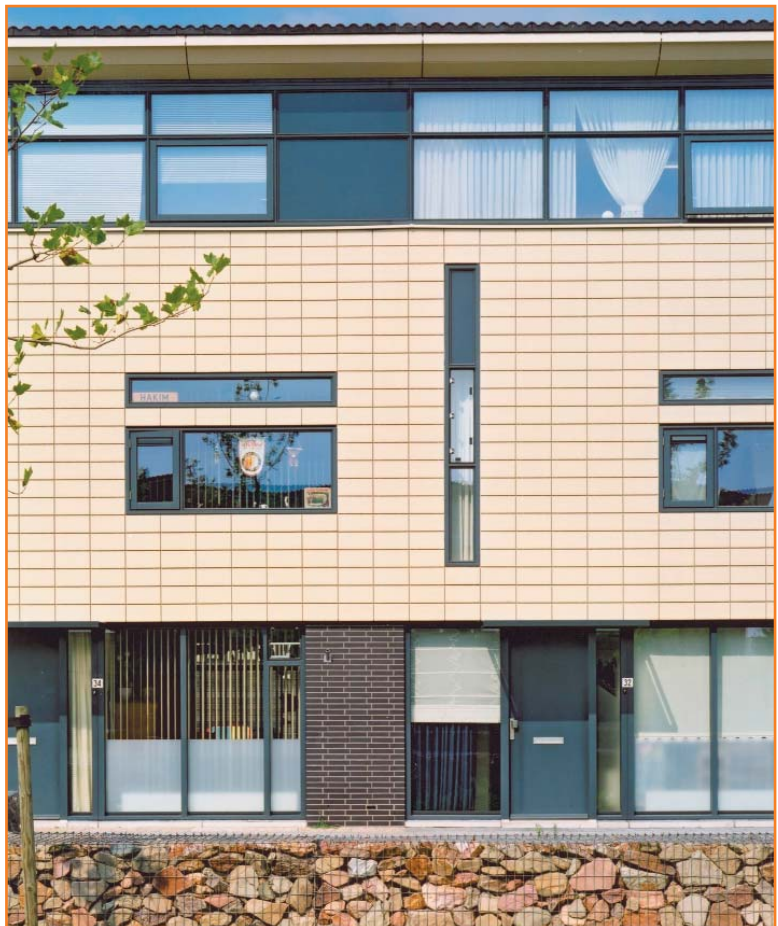


Affordable elegance with natural clay façades





An Introduction

Argeton Terracotta tiles are manufactured under a process developed by the German Clay Tile Manufacturers Association to expand the use of their clay extrusion technology. The Argeton terracotta rainscreen system was made possible by the innovative investment by our partners, F V Mueller Dachzieglewerke GmbH, in a purpose made production facility at Goerlitz in the east of Germany. Here the excellent quality of clay combined with the unique firing process, creates a product of superior strength, impact resistance and lower porosity than competitor products.

As a family owned company established in 1875 and one of the largest clay tile producers in Germany, FV Mueller provide laboratory testing and extensive quality control procedures to ensure the consistency of the Argeton production in accordance with DIN 456.

Telling Architectural distribute Argeton in the UK and collaborate nationally with the cladding systems division of Taylor Maxwell in providing an unequalled level of technical sales and advisory services including structural calculations, conceptual and project design and budget costings. On major projects a bespoke network server is available for clients to remotely access and upload data, monitor design development and retain input in the project design process via a hierarchical password system.

The companies participate in the installation of Argeton by providing an experienced contract support manager or project supervisor where requested.

Installation of the system is undertaken by trained and approved contractors holding the necessary financial and technical resource. These include established companies in the curtain walling industry as well as contractors able to undertake multi trade contracts.

The origin of the product satisfies the desire for natural and sustainable materials whether in new construction or refurbishment.

The Façade

Argeton façades are an innovative concept for the use of terracotta tiles in a rainscreen. The system utilises the proven principle of the ventilated cavity in creating a condensation free and thermally efficient cladding with components that are suited to modern architecture.

The natural appeal and symmetry of the Argeton format is created by the precise and clean tile joints achieved without overlapping. The profile of the tile minimises water penetration and is tested to CWCT Standards at the Taywood Laboratories in the UK. Testing for ICC approval is underway in the USA and the system has received NHBC approval.

The contrast of the joint and the smooth tile enhance the aesthetic effect of the façade and maintain a traditional whilst modern architectural theme. Argeton can be created into a modular format with powder coated aluminium sections used as features and the use of variable joint profiles can replicate large plank effects. Modular features facilitate fire stopping measures where regulations so require.

Argeton façades interface readily with alternative forms of curtain walling, glazing, timber, panel and render systems to provide flexibility of design in the creation of an individual style.

Composition

The Argeton Rainscreen is constructed to comply with DIN 18516 Part 1 related to ventilated non load bearing structural cladding systems. Natural clay tiles are available in fourteen colours in standard grids up to 500mm in length and 250mm in height. Optional height tiles are available and the length of the tiles can be easily adjusted on site if required.

Tiles are 30mm in thickness and perforated throughout their length to provide a maximum system weight of 50 kgs/m².

Aluminium substructures are designed in accordance with the British Standards applicable to rainscreen façades and have been tested at the Taywood Laboratories in the UK for compliance with CWCT Standards. Bespoke systems are available for masonry and lightweight steel walling in



both horizontal and vertical forms with individual fixing proposals developed to suit the incorporation of the system in curtain walling.

Performance

Structural

All components have been tested for structural performance and fasteners are either stainless steel or aluminium.

At vertical tile joints a recessed powder coated aluminium drainage profile (of variable width) ensures the dispersal of moisture. It also performs as a compression medium against wind loading and the prevention of tile vibration. The façades are designed in accordance with BS6399:Part 2:1995 to tolerate wind loadings in specific geographic locations and prevent tile creep under thermal expansion and contraction.

The tiles are mechanically attached to the aluminium substructure ensuring the integrity of the façade in fire conditions. There are no gaskets or seals that can fail within the design life of the system.

A minimum and unimpeded cavity of 40mm is required between the outer face of the insulant and the inner face of the tile.

Fire

All components are non combustible. Fire barriers can be inserted at storey heights to prevent the spread of flame although the ventilation of the cavity must not be inhibited.

The vertical support systems are not reliant upon pressure clips or hooks for attachment should the substructure be distorted by fire.

Acoustic

Typically a 50 dB weighted average sound reduction is achievable where lightweight steel walling is adopted as the structural walling medium.

Thermal

The insulant thickness selected determines thermal performance. The insulant is secured in the cavity using mechanical anchors to prevent detachment and thereby inhibit airflow. A vapour permeable moisture resistant membrane may be specified.

Maintenance

The clay tile provides a façade of minimal maintenance. Damaged tiles can be removed and replaced without disturbance to the surrounding panels. The low porosity of the tile enhances the resistance of the façade to airborne pollution and organic growth.



Weathering

A horizontal ventilation space of 5mm is maintained between the tiles. The system is capable of withstanding the most extreme weather conditions maintaining a dry envelope to the structure. The performance of clay as a building material has been established over centuries and the overall design life is anticipated to exceed 60 years.

Appearance

Smooth faced natural clay tiles are available in fourteen colours created with natural ochres and the unique firing process. External corners can be mitred or formed in powder coated aluminium with either a square/radius hollow section or a cruciform. Linings to windows and base trims may contrast or blend with the colour of the tile selected.

A grooved tile is available in the 225mm module only.

Refurbishment

Argeton Terracotta Façades can be installed in both refurbishment and new construction. Structural deviations are readily overcome by the aluminium support system recommended.

Existing backgrounds of blockwork or concrete are suitable for support of the Argeton System. A bespoke system of support that will span from the floor slabs to prevent loadings being applied to the external fabric is available. Thermal bridging between the cleat and the structure is prevented by the use of a thermal separator.

Lightweight steel walling can be designed to accommodate the Argeton System where re-modelling of the existing structure is proposed.

Design and Planning

For projects where Telling Architectural are retained for design services our bespoke network server enables clients worldwide to access and update data remotely via a hierarchical password system. For general projects standard sections are available to assist the designer in the selection of appropriate interface details utilising CAD to set out the elevation in the preferred tile module. Generic details can be downloaded from our website at www.telling.co.uk in CAD or provided on a CD ROM.

NBS specification links are available on our website.

Loading calculations will be undertaken by the in-house design team of Telling Architectural. These are project specific, particularly in refurbishment where the age and condition of the fabric will require analysis to establish its structural integrity.

Argeton has been evaluated in Europe for use on structures up to 100 metres in height. In the UK, Building Regulations require fire barriers to be incorporated upon structures over 18 metres in height.

Telling Architectural maintain Professional Indemnity Insurance against design defect alongside Product Liability Insurance.



Installation

Contractors experienced and trained by Telling and Taylor Maxwell are recommended for the installation of Argeton rainscreen façades although consideration will be given to supply the system to companies with a proven track record of curtain walling and cladding.

Preparation

A thorough survey of the structure is required to establish tolerances prior to the installation of the system.

Structural fasteners must be tested to ensure compliance with the engineer's factor of safety calculations.

The installer must verify the adequacy of project datums and grid lines for transferral to the finished cladding line and ensure the adequacy of access proposals for setting out the whole elevation.





Framework

The system can be installed on a variety of substrates including direct fixing to aluminium curtain walling via proposals developed with the manufacturer.

On traditional structures of masonry and concrete the method will involve the installation of 5mm aluminium cleats in vertical lines at 1.20 metre centres across the elevation to be clad. To these cleats pre-punched vertical T-sections of aluminium are fixed as the primary support for the tiles.

Due to the improved accuracy achieved on lightweight steel walling backgrounds, a vertical aluminium top hat is fixed to a horizontal channel spanning between the vertical studs. This improves the speed of erection.

For speed and economy upon retail projects where ease of demountability is required for expansion or change of use the Argeton system can be installed on a structural steel liner that carries the insulation and the terracotta facade.

A horizontal support system is available if the substructure is more suited by reason of the size of cavity, primary support medium etc.

Prefabrication

Argeton tiles can be incorporated in prefabricated panel construction techniques and a number of installers hold leading expertise in this field. Telling Architectural are actively developing the evolution of offsite fabricated walling systems with a variety of proposals under evaluation. Currently our walling panels are fabricated off site and the glazing elements installed but with Argeton fixed on site from mobile access platforms.



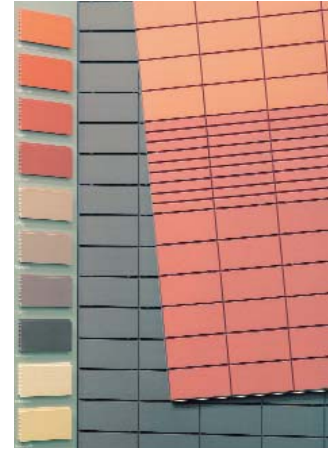
Generic Data

1. Manufacturing Tolerances

Length	+/- 2.0mm
Height	+/- 2.0mm
Thickness	+/- 0.5mm
Camber	+/- 2.0mm
Head Groove	+/- 2.0mm
Base Channel	+/- 2.0mm

2. Tile Dimensions

Grid A - 400 x 200	Size 392 x 205
Grid B - 400 x 187.5	Size 392 x 190.5
Grid C - 400 x 175	Size 392 x 178
Grid D - 300 x 150	Size 292 x 153
Grid E - 400 x 225	Size 392 x 230
Grid F - 425 x 225	Size 417 x 230
Grid G - 450 x 200	Size 442 x 205
Grid H - 450 x 225	Size 442 x 230
Grid I - 500 x 250	Size 492 x 255



PLEASE NOTE:

Other tile sizes available on application

3. Thickness

30mm

4. Dry Weight

Total system allow 50kg/m²

5. Porosity

Not exceeding 8% by mass as required by DIN 456

6. Frost Resistance

Satisfies 50 freeze/thaw cycles as required by DIN 52252 Part 1

7. Impact Resistance Transverse Strength

5.8 KN minimum

Colour and Profile Options

Natural Red



Brick Red



Iron Grey



Pearl White



Salmon



Platinum Grey



Light Grey



Glacier Blue



Volcano Grey



Sand



Sahara



Toscana Red



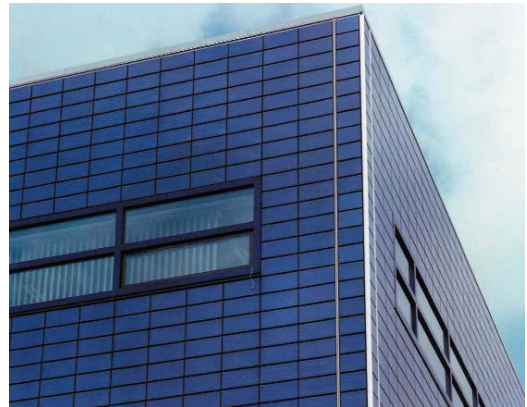
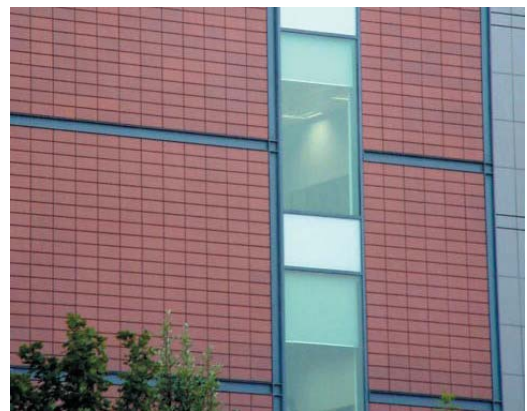
Silver Grey



Apricot Beige



GLAZED TILE COLOURS AVAILABLE ON APPLICATION



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