ASF SUPPORTING TERRACOTTA TILES ON HORIZONTAL RAILS

DATA SHEET: TV01

For Design software to choose the most cost effective stud for the job, ask for our AyrSuite Professional CD. Visit www.ayrshire.co.uk to order the CD or associated literature.

Rocco Forte Hotel Manchester

The Terracotta tile system is supported on slab-to-soffit spanning Ayrshire Steel Framing.

All the elements of the wall were installed by a single subcontractor, giving the main contractor a "one stop shop".

Horizontal top hat sections, fixed to the studs through the breather membrane and the cement particle board, allowed the stud centres and tile centres to be independent of each other. The vertical tile rails were fixed to the top hat section with brackets for adjusting the line.

Citygate Manchester

Citygate, Manchester, features a curved blue terracotta façade supported on faceted Ayrshire Steel Framing.

A brick outer leaf, a western red cedar timber rainscreen, and an externally insulated render system are also supported.

The Ayrshire Steel Framing was chosen by Mowlem, the design and build contractor, after finding the versatility and speed of erection to their liking on the previous City South project, also for Bellway homes.

Paul Strickland Cyclotron

Since the substantial internal fit out is on the critical path, Hospital builders have quickly become conscious of the programme savings with Ayrshire Steel Framing.

The tiles on this façade of the Paul Strickland Cyclotron were finished off the critical path. The building was at "Dry Envelope" stage as soon as the cement particle board and breather membrane were fitted.

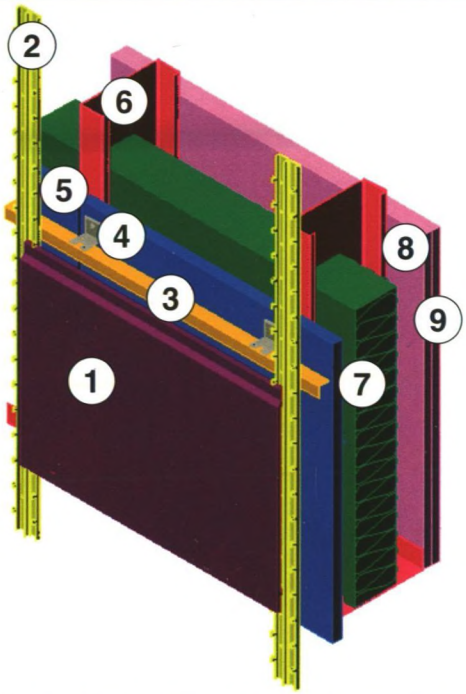
Insulated steel sandwich panels, running horizontally were also fitted to the Ayrshire Steel Framing.

When a plasterboarded finish is required internally, this is much cheaper and quicker to install than a purlin mounted system. It also requires less drawing time and occupies less space.

ASF SUPPORTING TERRACOTTA TILES ON VERTICAL RAILS

DATA SHEET: TV01

1. Terracotta tile
2. Vertical tile rail at tile edge
3. Horizontal Aluminium angles
4. Aluminium angle brackets
5. Hard insulation board under Cement particle board, with waterproof, vapour permeable membrane over
6. Galvanised Ayrshire Steel Framing stud
7. Mineral fibre insulation to suit fire, thermal and acoustic performance requirements
8. Plasterboard including vapour barrier
9. Plasterboard to fire and acoustic requirements



- Ayrshire Steel Framing is used to form the inner leaf of the external wall of a concrete, or a hot rolled steel framed building. It rapidly forms a dry enclosure, so that internal fit out can begin earlier. This is normally as soon as the slab over the next floor is finished. The erection of the outer leaf can therefore be taken off the critical path.
- Fast track steel framing can be erected in all weathers, unlike masonry solutions. The minimum reduction in programme is therefore equal to the number of frosty and rainy days during construction of the buildings' fabric. In practice the actual speed of erection is also greater than for blockwork.
- The studs act as integral wind posts to laterally support the outer skin. The system is designed, using condensation risk analysis, so that the studs are warm and dry. This ensures long life without the expense of using stainless steel.
- With minimal wall thickness, the studs also provide space for wiring and plumbing, support for dry lining, and zones for enough insulation to match and exceed the recommended "Part L" "U" factor requirements for 2002 and beyond. Maximum thermal efficiency will lead to reduced energy bills, and also a more cost effective heating installation.
- The low weight of the system leads to easy handling, and to reduced frame and foundation costs, if designed in soon enough.
- In commercial and multi-residential applications, (built in hot rolled steel or concrete framing), floor to soffit heights are usually less than column to column spans. It is therefore more economical to use vertical support steelwork.
- A large variation in floor to soffit height can be expected within normal building tolerances. Ayrshire Steel Framing is carefully designed to allow the prefabricated components to be altered to fit.
- **Installation from prefabricated panels**
  If Ayrshire Steel Framing is to be placed outside the slab, the accuracy of the framing elements simplifies construction. In this situation prefabricated panels can speed erection on site. Partnering is advisable because final panel design needs to be started earlier than normal, to allow time for prefabrication. Savings accrue from the reduction in programme time, with factory quality as an added bonus.

  The need to line up terracotta tiles very accurately at panel edges can be overcome with sightline breaking flashings between panels; or by mounting the tiles after the fitting of the prefabricated panels has made the building watertight.

System Performance

Typical Figures are:

Thermal 'U' value

0.3 to 0.15 w/m^{2}k

Sound Insulation

48 - 57 RwdB

Fire Resistance

30mins to 120mins

Wind Loads

Integral wind posts to suit

These figures are based on various combinations of vertical steel studs, drywall boards, insulation and external cladding.

Method of Construction:

Use individual prefabricated components screwed together in-situ, or factory assembled bare or clad panels for speed, accuracy, and quality.

Your choice will be influenced by cost, specific application, and site conditions. Generally, walls spanning between floors are built in-situ from individual components, and incorporate a deflection head detail.

Walls outboard of the floor slab can be built either as above, but without a deflection head, or from prefabricated panels, which are available from us on a longer leadtime.

Stud options range from 70 mm to 340 mm deep, in 390 N/mm^2 material, with service slots @ 610 centres for a speedy first fix.

Ayrshire Steel Framing
Part of the
Ayrshire Metal Products Group
Irvine, Ayrshire KA12 8PH

Phone: 01294 274171
Fax: 01294 275447
email:ayrframing@ayrshire.co.uk
www.ayrshire.co.uk