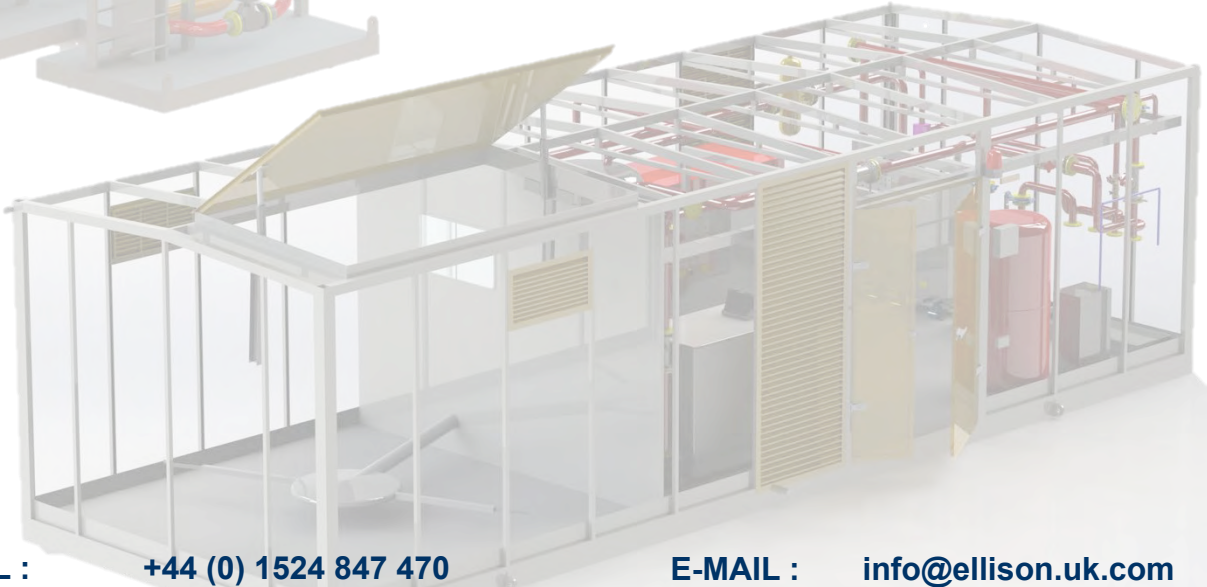




Ellison AC

Packaged Plant Solutions



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EllisonAC Packaged Plant

The Complete Containerised Solution

From inception to hook up on site, EllisonAC designs and constructs each containerised plant room individually to meet the varying needs of the industry such as:

- Heating plant - low, medium & high pressure hot water & steam
- Hot water generation
- Chilled water pump rooms
- Air handling & refrigeration equipment
- Tank rooms incorporating booster sets
- Switchgear & transformer rooms
- Sprinkler system booster sets & fire zone valves
- Stand-by generators
- Gas pressure reducing stations
- Combined heat & power systems
- Fully acoustic & standard non-acoustic containers
- Architecturally designed containers to blend in with all forms of construction
- Standard ISO containers for site plant
- Skid mounted units
- Skid mounted plate heat exchangers, non-storage calorifiers & pump sets
- Water filtration
- Diesel pump units
- Mobile boiler units for hire or lease
- Smoke extract
- Biomass plant rooms

Green Energy Packaged Solutions

In conjunction with our existing brands, EllisonAC now offers 'Green Energy Solutions' through our in-house company, EcoPac Limited, based on our in-house design and manufacturing facilities to select the most cost effective energy saving solutions to comply, more probably exceed, the upcoming Government Carbon Footprint reduction requirements. These schemes compliment our existing systems and include such products and systems as Solar Systems (PV and Wet), CHP and Micro-CHP, Wind and Hydro Turbine Generation and Biomass (Pellet, Woodchip and Logs), amongst others.

Should you wish to incorporate Green Energy products into offsite Packaged Solutions, please do not hesitate to contact us to discuss options available.

The Pre-Packaged Concept

EllisonAC Ltd, an independently owned company, has developed a range of containerised plant rooms which are manufactured totally in-house, ensuring the company is one of the UK's leading containerised plant room manufacturers.

Units are constructed within a factory environment ensuring the pre-packaged concept provides a fast and effective means of production to meet the ever increasing demands of the construction industry; providing the highest level of quality, with the company fabricating in-house the steelwork base frame, bonded cladding system and carrying out the pipework, electrical, plant and insulation within the units.

High Level Quality Control

The whole construction process is carried out within a closely monitored factory environment. This ensures that the quality of workmanship is maintained at a consistently high standard. The company is currently in the process of implementing a quality control system incorporating procedures in accordance with BS EN ISO 9001.

If required, EllisonAC can test the plant room performance whilst the unit is in the works, the aim being to demonstrate as far as practicable that the containerised plant room will function as designed before site installation.

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EllisonAC Packaged Plant

Computer Aided Design

EllisonAC utilises state of the art computer aided design systems, enabling 3D layouts of the proposed plant to be issued to clients, allowing a virtual walk-through, prior to production!

This not only highlights any collisions, health and safety issues, etc, it also reduces lead times as the plant room installations are "right first time", whilst also allowing for any customer design changes / alterations.

EllisonAC offers a flexible approach to procurement, which means that they are able to work directly with the client or provide the necessary support to a consulting engineer acting on behalf of the client; the aim being to develop a containerised plant room that is tailored to meet the client's total needs in terms of both function and appearance.

Client List

EllisonAC's client list includes:

Carillion; Lend Lease; Vodafone; BAM; British Airways; Marks & Spencer; Mace; BP; Rotary; MJL; Balfour Beatty; EMCOR UK; Telecity Group; Briggs & Forrester; Grundfos; MITIE; Alfred McAlpine; Scottish Power; Wates; Crown House Technologies; NG Bailey; KIER; BAE Systems; HSBC; UBS Bank; NHS; Local Authorities; hospitals; universities; factories; office and retail developments; schools and housing developments.

Manufacture & Minimising of Site Construction Time

The containerised plant rooms are manufactured by a skilled workforce in a factory environment. Emphasis is placed on developing a workshop programme tailored for each project, ensuring productive time is maximised.

All employees are committed to the pursuit of excellence. Containerised plant rooms are subjected to continuous design reviews, and improvements are implemented at appropriate times, the final objective being to achieve the correct balance between buildability, function, appearance and cost.

EllisonAC believes that this policy has paid dividends over the years and is currently marketing containerised plant rooms that are at the leading edge of the industry. A number of its manufacturing methods have been patented. UK patent number 2280206 covers:

- Provision of uniform high level ventilation via an acoustically treated ridge vent
- A method of fixing the acoustic cladding panels to container steelwork which conceals fixing points to give a homogenous finish. The fixing method also allows the easy replacement of cladding panels without disturbing internal services

Mobile Boiler Hire & Compatible Products

The company offers for hire fully packaged mobile boiler units. Each unit is complete with pumps and control panels, ensuring the units are both fuel efficient and able to meet a client's technical requirements. Other compatible products include acoustic enclosures, skid mounted units and catering modules.

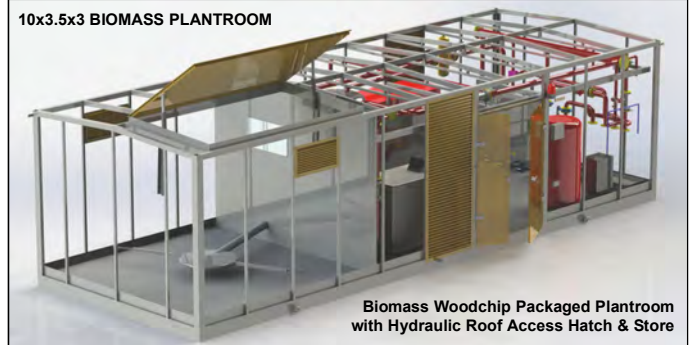
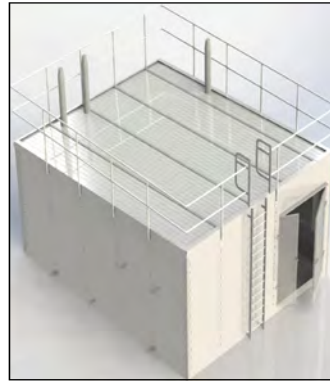
Services & Technical Literature

- Works Test Certificates
- Certified Drawings
- After Sales Service
- Site Commissioning
- Servicing Contracts
- Export Shipping
- Rental & Leasing
- Design
- Feasibility Studies
- Budget Costings
- Full Colour Catalogues
- Individual Brochures
- Technical Specifications

Website

Further details on our company including factory premises, sample projects and images can be found on our website www.ellison.uk.com Also detailed within our website are various items available for sale including diesel generator sets, UPS back up systems, boilers (e.g. 4MW MTHW) and boiler/burner spares.

EllisonAC Packaged Plant Solutions is also on Facebook and LinkedIn.



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Benefits & Specification of Packaged Plant Rooms

Benefits of Using & Specifying EllisonAC

- Design & fabrication is carried out totally in house
- Consultancy & management time together with the associated costs are significantly reduced
- Patented acoustic vented ridge for optimum temperature control
- Patented method of fixing cladding panels giving a homogeneous finish
- Concealed gutters & downspouts
- Insulated floor preventing underfloor condensation & corrosion
- Integrated electrical containment system
- Removable cladding panels
- Modular units extendable by 1172mm panels
- Integral floor drainage
- Acoustic & non-acoustic units
- Delivery & installation normally carried out within one working day
- The delivery will not have an effect on the critical path of the programme, as in-built plant does
- The units can be fully tested, pre-commissioned & witnessed off site
- Delivery time is normally 8-10 weeks from approval of drawings

Specification for EllisonAC

General

The container shall be manufactured by EllisonAC, provided with adequate means for lifting and positioning into final position utilising suitable cranes.

Construction

The container shall be a double skinned insulated one-piece unit which is capable of accommodating the full operating load of the installed equipment/installations (both point loads and uniformly distributed loads).

Walls

External walls are to be constructed of steel panels, complete with adequate steel vertical supporting members at suitable centres. Heavy duty galvanised channel 41mm x 41mm x 2mm gap and 6mm return to be provided within each supporting member for pipework support and electrical containment systems as required.

External Finish

The steelwork frame to be generally painted with two coats air drying enamel to Colour Code BS.10A05 Goosewing Grey or equal.

Internal Finish

The steelwork frame to be as above. Silicone type sealant to be applied to panel joints where a weatherproof/air seal is required.

External / Internal Panels

Option A - Bonded Panels (also available as fire rated)

The walls shall be preformed removable panels manufactured from Plastisol coated steel sheeting and shall be 40mm thick zero ODP slab insulation.

Internally the panels will have bright white liner enamel affixed, encasing the whole panel.

Option B - Acoustic Panels (also available as fire rated)

The walls shall be preformed removable panels manufactured from Plastisol coated steel sheeting and shall be 80mm thick rockwool insulation.

Internally the panels will have a galvanised perforated sheet fixed with a glass fibre tissue membrane to prevent migration of the insulation.

Option C - Bonded/Acoustic Panels (also available as fire rated)

The walls shall be preformed removable panels manufactured from Plastisol coated steel sheeting, and shall be an 80mm thick combination panel of 40mm thick zero ODP slab insulation and 40mm thick rockwool insulation.

Internally the panels will have a galvanised perforated sheet fixed with a glass fibre tissue membrane to prevent migration of the insulation.

All cladding panels shall be affixed to the container from the outside thus allowing them to be removable should they be damaged or for plant replacement **Patent No. 2280206**. All joints should have cover strips fitted, manufactured from the same materials as the external finish thus ensuring the unit has a homogeneous finish.

Roof

The roof shall be pitched from the central ridge, and shall be double skin, of steel construction, insulated to maintain minimum thermal transmittance. Roof finish to be same as walls (option A, B or C). Eaves to overhang walls. Guttering and downpipes shall be concealed type, manufactured from plastisol in the same colour as the unit.

Sub-Floor

Generally for container up to a gross weight of 20 tonnes, the sub-floor and floor shall be as follows:

All steel shall receive a coat of weldable primer. The U-section of the channel shall be facing all internal elevations. At 1M centres through the length of the container, channel shall be fitted and run from side to side. All channels shall be fully welded and receive 2 welds to all joints and butt joints. Running from end to end of the container shall be 2 sections of 100 x 100 angle which shall be welded prepped and fully welded.

Floor

On the floor shall be laid 4.5mm thick durbar plate and shall have no more than 4 joints throughout the total floor area. The durbar plate shall be welded to the sub-floor by stitch welding and there shall be a minimum of 20% of the steel contact area of the floor to the sub-base welded.

All joints within the floor area shall be fully welded and prior to welding have been levelled from beneath to prevent ponding of water. A 200 x 4.5mm durbar kicker plate shall be welded to the completed floor to prevent damage to the container side panels. After the welding of the kicker plate the container shall be tested for leakage.

The completed floor shall receive 2-No. coats of epoxy non-slip semi matt floor paint to an approved colour. 1-No. coat shall be applied after completing all site works or commissioning. The sub-floor shall receive 2-No. coats of black bituminous paint applied by airless spray to ensure even coat to all steelwork.

Underfloor Insulation

To all the sub-floor area foil faced insulation board shall be affixed thus ensuring no underfloor condensation will form resulting in corrosion to the underfloor steelwork taking place.

Where entry point is requested through the floor, a 200mm high upstand detail can be provided, matching the general 200mm high skirting throughout the container.

Internal Drainage

Drainage will take place through the door thresholds out onto the roof area, or through an alternatively specified drain gully.

Doors

Outwards opening steel doors are to be provided as requested and hung on stainless steel security pattern hinges. Suitably designed internal door stays are also to be fitted and door clips to hold the doors back fully, if required.

The minimum door opening is to be 1M wide x 2M high and is to be sized to facilitate removal of major plant/equipment items.

All doors to be constructed and insulated to the same thermal transmittance value as the container walls. A security lock is to be fitted.

Internal Plinths / Bases

Suitably designed pump plinths/bases can be provided where required, to comply with the requirements of equipment manufacturers.

Where bases are provided, they shall make all necessary provision to isolate vibration/noise transmission as required.



Details & Specification of Packaged Plant Rooms

Ventilation

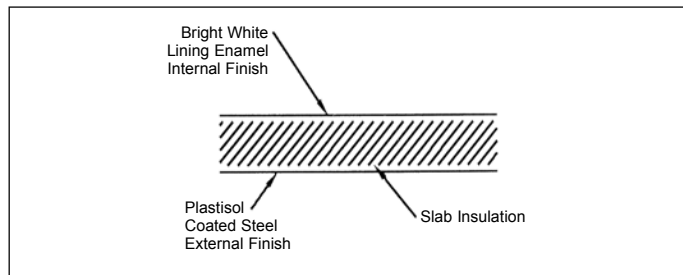
High level ventilation shall be by means of the acoustic ridge vent **Patent No. 2280206**. Ventilation at low level shall be by means of louvres, which will be suitably sized and manufactured from plastisol in the same colour as the unit.

Weatherskirt

A suitably designed weatherskirt will be provided to match the finish of the container, to be installed after installation and final positioning of the plant room, thus ensuring no steelwork will be exposed to the elements with the unit's exterior being maintenance free.

Container Panel Option A

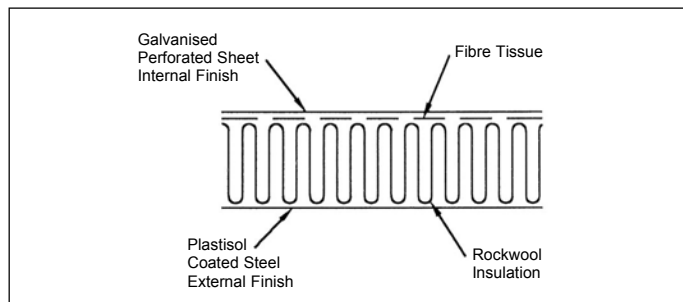
40mm Thick Bonded Panel (also available as fire rated)



The panel construction as detailed above is a very robust construction giving excellent protection and sound qualities. The construction process involves pressing the panels in a purpose built press, for a period of 24 hours. The external skin is a plastisol coated steel sheet with a 40mm thick zero ODP slab insulation board. The internal skin is a white enamel coated steel sheet, which gives an excellent surface for cleaning and light reflection.

Container Panel Option B

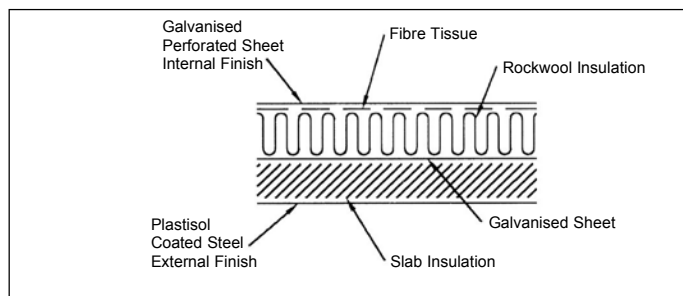
80mm Thick Acoustic Panel (also available as fire rated)



The panel construction as detailed above has the primary function of its excellent sound qualities. It allows sound to be absorbed into the panel thus minimising external noise breakout. The external skin is a plastisol coated steel sheet with 80mm thick rockwool LR insulation. The internal skin is a galvanised perforated steel sheet having a glass fibre tissue membrane affixed thus preventing the migration of the rockwool insulation.

Container Panel Option C

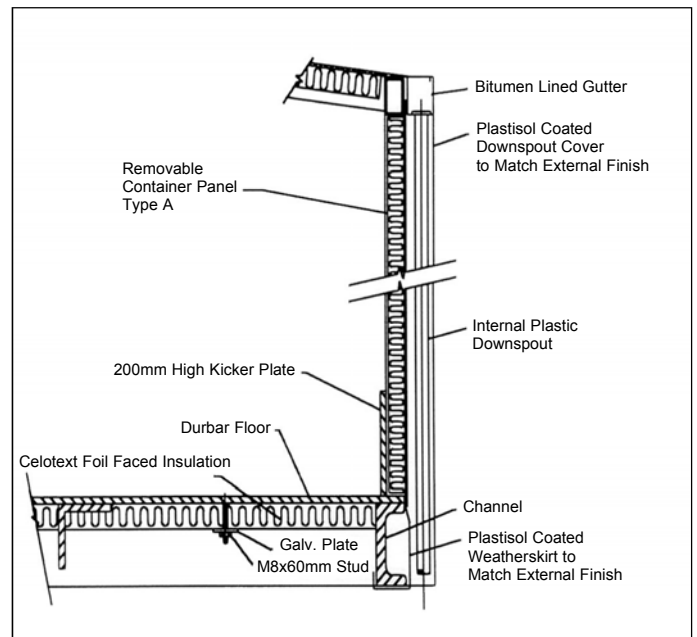
80mm Thick Bonded/Acoustic Panel (also available as fire rated)



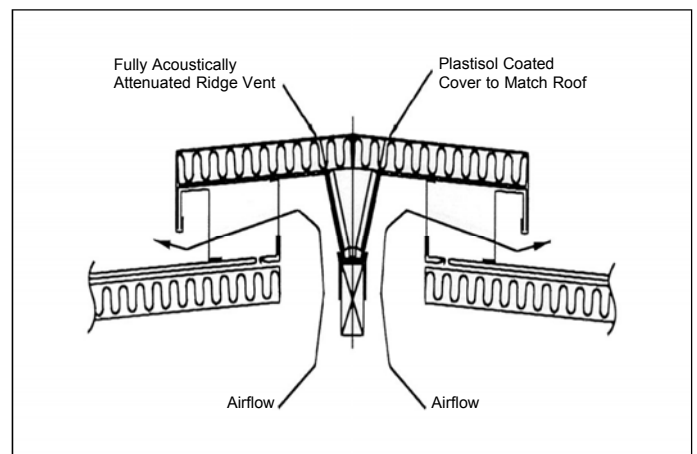
The panel construction as detailed previous is similar to the option B choice but the construction combines the option A panel. This gives a far superior construction and greater sound qualities.

This panel manufacturing process takes a total of 48 hours minimum construction per panel. The external skin is a plastisol coated steel sheet with 40mm thick zero ODP slab insulation bonded with a galvanised steel sheet. The final process involves laying 40mm thick rockwool insulation and a glass fibre tissue membrane. The internal skin is a galvanised perforated sheet.

Section Through Container Detailing Underfloor Insulation



Detail of the Patented Fully Acoustically Attenuated Ridge Vent



The benefit of the acoustic ridge is that the whole plant room is vented at the highest point, thus ensuring no uneven heat build-up occurs, and if the external temperature rises, the low level louvres allow air to rise within the plant room and escape through the vented ridge.

Acoustic Enclosures

The sound reduction index of the cladding panel option C makes it an effective barrier to airborne plant noise. This allows containerised plant rooms to be located adjacent to potentially noise sensitive areas without the risk of noise breakout.

All air inlets and outlets are acoustically treated to maintain the necessary acoustic performance.

