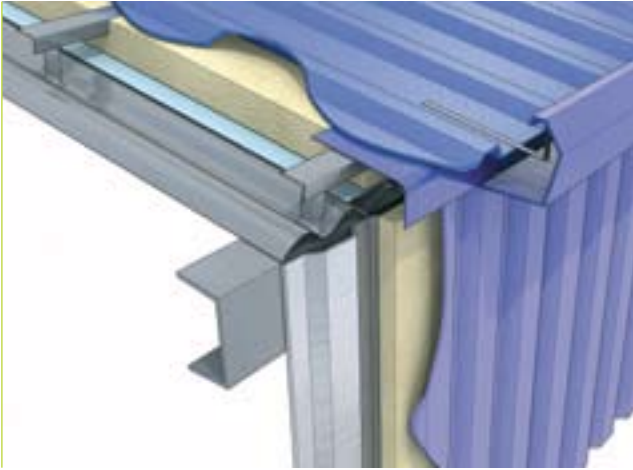


1 - Built-up, insulated over-roof system



This form of over-cladding is ideal for many refurbishment applications but it is important to recognise and address the need for including a Vapour Check or perhaps a breather paper to avoid the problem of interstitial condensation. Old buildings and the construction details they employed, were by their nature very 'leaky' with air and vapour movement not controlled. Over-cladding or over-sheeting will generally require the introduction of a vapour control layer (VC) above the internal sheet and below the insulation.

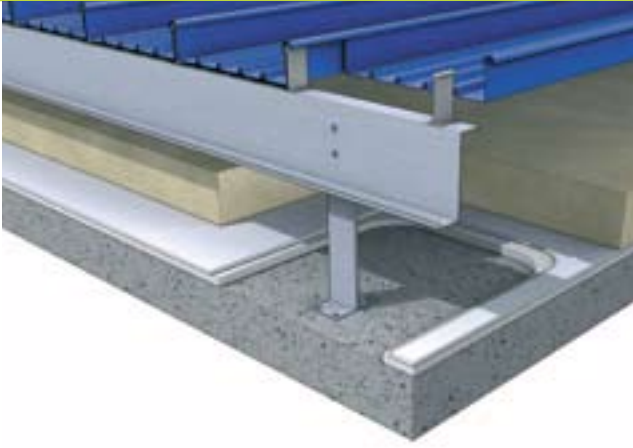
The refurbishment of roofs with existing roof-lights can be a problem, and generally the client would have to accept a reduced level of light through the roof-light as a result of the introduction of a VC. Cutting and sealing the VC around every rooflight could overcome this but can add considerably to the overall cost.

Solution

- Suitable for over-roof cladding failing pitched roofs of any material. The new roof provides long, trouble-free life.
- Retains the old roof cladding for use as a liner.
- Causes minimal disruption inside the building.
- Uses support brackets attached over the old sheeting into the purlins to provide an insulation space with minimal cold-bridging. New insulation is added to reduce heat loss and maintain internal temperature according to current building regulations. Finally, the external top sheet is installed.
- Provides the option for a new vapour protection layer to be added if the old roof cannot be adequately sealed. This is to keep internal moisture out of the roof void and prevent air leakage in line with current building regulations.
- Allows for the existing roof covering to be removed and replaced with a metal lining panel in combination with improved insulation and a new metal top sheet.
- Can be used for wall cladding. The illustration shows a new wall cladding system, which completely revitalises the building appearance. In this case, the previous old single skin sheeting has been removed.

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2 - Metal standing seam pitched over-roof



Metal standing seam systems are the industrial or commercial building equivalent to the copper or lead roof systems traditionally used on churches. They have no through fixings and no end laps to ensure total weather protection. The use of clip fixing and a standing seam profile allows for thermal movement of the full length sheets. The introduction of mini-rib stiffeners provides greater design strength, whilst maintaining the appearance. The design is particularly suitable for aggressive weather conditions.

Solution

- No penetrative fixings and no end-laps ensure total weather protection.
- Offers a flexible and lightweight option for the refurbishment of failed roof cladding systems. In most cases can be installed on top of the existing roof.
- Offers an opportunity to enhance the building's thermal performance and change its appearance. By increasing the amount of insulation beneath the external sheet, higher U-values can be achieved.
- Provides an opportunity to be roll-formed on site in lengths of more than 120 metres.

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3 - Flat and trapezoidal profile over-cladding for walls



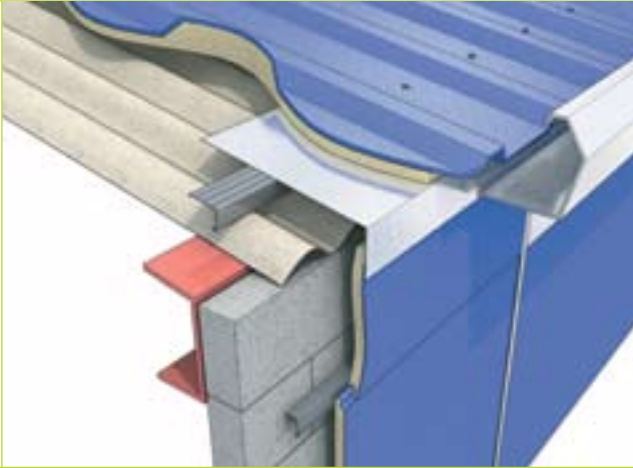
Over-cladding is the most effective and the simplest way to transform the appearance of any building. No matter what the old walls consist of, be it old fibre sheet, block-work or corrugated iron, over-cladding makes the building look like new.

Solution

- Offers the option for a wide plank profile to be used to create a flat façade. Alternatively, a profiled top sheet can be introduced to create light and shade lines. Interesting architectural features can also be incorporated.
- Allows the new cladding to be installed onto a spacer system, fixed back to the existing structure. Insulation can also be installed to upgrade thermal performance.
- Provides a system which insulates and protects the old building and an option for the façade to be designed to reflect corporate image and identity.

Repertoire  confidex

4 - Composite panels for roofs and walls



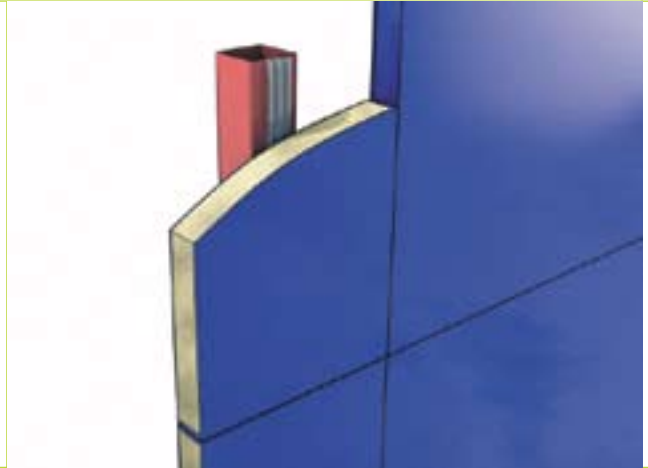
Composite panels are ideally suited to refurbishment projects. Flat, micro-ribbed and profiled panels are available, offering the designer and building owner an opportunity to enhance the appearance and performance of the external building envelope.

Solution

- Offers a fast and economical means of over-cladding an existing wall or roof, with minimal disruption.
- Composite wall panels incorporate factory-sealed, weather-tested tongue and groove side lap joints.
- The continuous method of manufacture ensures total single source quality control, provides the structural integrity of autohesively-bonded steel facings, long panel lengths and uninterrupted insulation coverage – eliminating cold bridges.
- Creates a shield around the old structure, keeping it warm and preventing further deterioration.
- Single roof panels can span up to 3.5 metres, depending upon local loading conditions.
- A range of flashings, fasteners, sealants and flute fillers are available to match composite roof panels. Integrated windows, doors and louvres are available for all architectural wall systems.

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5 - Façade panel system



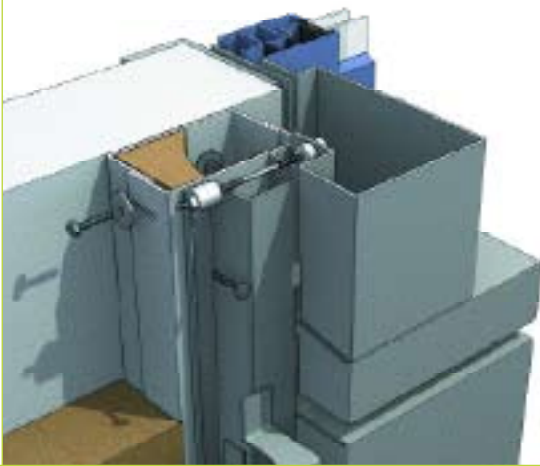
The flat panel façade systems are fully interchangeable and can be used to refurbish or 'reface' conventional brick, stone or concrete walls or existing panel-based cladding systems. The façade panels can either be fixed to a new lightweight supporting steelwork structure, which is fixed to the existing walls, or can be fabricated to a size which will suit the existing supporting steelwork, after removal of the old panels. The latter is often considered where the original panel system may have failed or where refurbishment is required for cosmetic purposes.

Solution

- Manufactured to the highest standards.
- Offers outstanding levels of thermal and acoustic performance.
- Fully engineered joints to all four edges to ensure a neat, watertight detail.
- Generally manufactured to bespoke dimensions in all axes so particularly well suited to combining with existing structures.

Repertoire  confidex

6 - Rainscreen cladding



This solution is similar to the flat panel systems described previously, but without the need for edge sealing strips. The systems are attached over, and spaced away from, the external face of the existing façade. As the name suggests, the system provides the building with a degree of weather screening from the prevailing elements. Rainscreen systems allow the façade to breathe and enable the introduction of additional insulation within the newly formed cavity. This system will improve the thermal performance of the façade and reduce the ingress of water through permeable construction methods. It will also enable the building to be visually transformed by the use of flat panels manufactured from pre-finished steel.

Solution

- Ideally suited for the refurbishment and re-finishing of the façades of commercial buildings suffering from the ingress of water.
- Uses panels that are factory-produced for the specific application and are available in a wide range of pre-finished steel products.
- Uses panels that are easily attached to the structure via a pre-formed sub-structure.
- Provides a ventilated cavity which can accommodate additional insulation.

Repertoire  confidex

7 - Flat to pitch framed roof systems



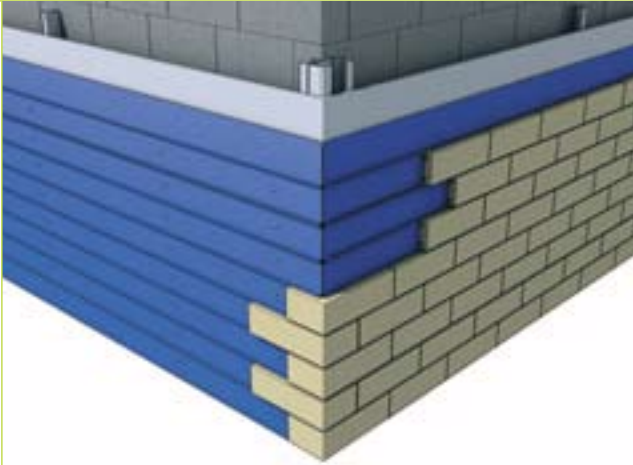
Flat to pitch conversions completely transform the appearance of the building. In some cases, they are the only effective way of waterproofing the existing roof structure but do require a detailed structural survey to be carried out. This is to ensure that the existing roof structure or supporting walls are capable of withstanding the additional dead and imposed load or the loads which are transmitted from the new structure.

Solution

- Uses a completely new lightweight galvanised steel frame superstructure to fit over the existing flat roof. The framework provides support for a new pitched metal roof, which quickly clears rainwater from the area. The lightweight structure does not impose a high dead load onto the existing roof, although during the design process this extra load has to be taken into account to ensure that the structure can accommodate it.
- Can incorporate additional habitable space within the new roof structure. This will depend upon the result of the structural survey and the layout of the existing services and access.
- Can be further insulated with low-density mineral wool roll insulation on top of the old roof to improve u-values and reduce heat loss from the building.
- Allows for a standing seam system to be chosen for the new roof, especially where the pitch is low. For a greater pitch, a simple, through-fix trapezoidal profile can be employed.

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8 - Brick façade systems



Brick façade systems combine the appearance of traditional brickwork with the construction benefits of a fast-track approach. The systems offer design freedom. Brick tiles are available in a broad range of colours, textures and sizes, giving the potential to create any bond pattern without affecting performance or build time.

The natural clay-profiled brick tiles are mechanically fixed into a proprietary pre-finished steel backing section. Brick façade systems are capable of being fixed to a wide range of substructures including timber, steel, concrete and traditional masonry.

Solution

- Provides a modern alternative to brickwork, is cost and time-effective to install and is suitable for a wide range of projects.
- The fast-track construction technique employed reduces dependence on both site skills and weather. It reduces construction time and in many cases also eliminates the need for additional groundwork.
- Offers long-term durability and high performance standards.
- Allows the designer the opportunity to install additional insulation between the existing façade and the new exterior face.

Checklist of items to consider when planning refurbishment

The following checklist should be consulted before embarking on a major refurbishment project. This is not intended to be definitive, but will highlight the main areas for consideration.

Over-painting

- Determine what level of refurbishment is required. Does the building require a major upgrade or change of colour? Over-painting is particularly suited to the latter.
- Determine what life the refurbished building needs to offer. Over-painting can extend the building life by 10-15 years, metal cladding by 30-40 years.
- Check the condition of the metal cladding. If the original coating has delaminated or the steel has underlying rust, then over-painting may not offer the most appropriate solution.

Overcladding versus recladding

- Research what each solution will cost.
- Find out what disruption you will encounter during the process and whether this is acceptable.
- Find out if the cladding has to meet current Building Regulations, particularly those for conservation of fuel and power.
- Check if either of these options will affect the cost of heating and lighting.

Pre-finished steel selection

- Establish which is the most appropriate product for use on the roof.
- Determine which is the most appropriate product for the façade.
- Understand the life expectancy of the product and how this fits with the building requirements.
- Check the detail of any guarantees that are available.

Future maintenance

- Establish whether the pre-finished steel product chosen requires a planned maintenance programme.
- Find out who could do the work for you.
- Check which materials should be specified or used.
- Consider whether the refurbishment should include integrated access hatches and walk ways.
- Establish whether it is your responsibility to provide a safe approach to future maintenance.
- Check whether the building has latch on safety wires across the roof.

continued overleaf

Checklist of Items to consider when planning refurbishment – continued

Asbestos

- Check the grade of asbestos you are dealing with.
- Consider the implications of its encapsulation or removal.
- Research who can assist in making a valued judgement.
- Check the costs of the options available and the availability of any grants.
- Consider whether encapsulation will affect the future value of the property.
- Ensure a full understanding of current legislation.
- Find out if over-sheeting might cause any condensation problems.

Flat to pitch conversion

- Find out if there is a need for a structural survey with this option.
- Consider how it will change the appearance of your building.
- Find out if you can include an additional habitable roof space.
- Check if you will have to move the existing equipment on the roof.

Slate and tile support systems

- Find out if the system limits the type of external roof covering that can be specified.
- Establish whether the system provides an opportunity to have a warm roof construction.

Rainscreen cladding

- Check whether you can incorporate insulation into a rainscreen system.
- Establish whether a rainscreen will eliminate the ingress of water through the existing façade.

Façade panel systems

- Check that the system seals the existing façade from the elements.
- Find out if the fasteners will be exposed.
- Consider whether you can specify a truly flat panel.
- Determine whether the façade has to have a full survey.

Composite panels

- Establish whether you can choose a flat or micro-rib profile for wall-panels.
- Check that seals are included in the side laps of the panels.
- Find out if composites integrate with accessories.