



BY TREVOR PRINGLE†  
ANZIA, BRANZ PRINCIPAL  
WRITER, †DIED 2019

# Mind your roof claddings

Proper on-site management of roof cladding is critical to delivering quality buildings. This is the final in a series on materials storage requirements and outlines how to store and handle roof claddings.

**ROOF PERFORMANCE** can be compromised when roof cladding materials have been stored and handled incorrectly, or lower roofs are unprotected when work is carried out above.

### Challenges with delivery and storage

Looking after roof claddings during delivery, storage and installation means:

- planning deliveries so claddings such as long run metal can be lifted directly on to the roof
- employing the correct manual handling techniques to lift and distribute the materials
- designating an area where concrete and clay tiles and asphalt shingles can be stored on their delivery pallets and protected until moved to the roof
- ensuring materials stored on the ground on pallets are protected from weather.

Additional challenges include:

- weather and wind conditions – calm and dry is best as wind can cause havoc if lightweight roofing is not tied down
- accommodating the cladding length – for example, profiled metal roofing and flashings may be up to 12 m long and may require additional labour when handling
- the weight and bulk of clay and concrete tiles, asphalt shingle bundles and membrane rolls
- protecting the roofing as most claddings are prefinished
- working safely at height.



Long-run metal roofing.

### Transporting metal claddings

Metal cladding should be packed and handled carefully. Packs of metal cladding should be labelled, put on the truck deck without overhanging, securely strapped and protected. Short sheets should be packed on top of longer ones.

Bundles should be supported on dunnage that lines up vertically. Packaging must protect edges and corners against damage, avoiding abrasion from movement and preventing corrosion or staining by rain or condensation.

Slings or strops should be nylon with leather sleeves to prevent fraying or cutting, and damaged slings. Don't use single slings or chains to lift packs of cladding.

Use lifting frames or spreader bars with slings to prevent crushing damage to the edges of sheet packs.

### Prefinished profiled long run metal claddings

There is a risk of damage to the prefinished surface and denting of the material, so careful handling is required:

- Packs must not be tipped or slid from the deck of the delivery truck.
- Securely tie down stored material and accessories.
- Sheets stored on the ground must be stacked topside up, horizontally on firm and level

ground. Position the materials on evenly spaced dunnage to prevent deformation under a water-resistant cover. Packs should be no greater than 1 m high and allow a slight incline to enable water runoff.

- Store the material in the order it will be installed, clear of the ground with adequate air flow around the bundle. Store away from areas where they may be walked on.
- Keep material clear of dirt, cement, concrete, lime, mortar, fertiliser, chemicals and other substances which may be detrimental to the product.
- Keep metal cladding and accessories dry before installation, including during storage on the roof as white rust or storage stain can occur with all metals including factory-painted material if close-stacked cladding, or packing becomes wet.
- Material that has become wet must be dried by filleting to ensure air circulation between the sheets. If sheets have been wet for longer than 3 days, they should not be used as permanent unnoticeable damage may have occurred.
- Peel and lift the sheets off the bundle. Never slide the sheets off the bundle.
- Sheets or planks longer than 3 m should be handled by two persons and carried on edge to avoid buckling.
- Swarf generated during installation must be removed from the roof and gutters at the end of each day.
- Never clean the roof with solvent or abrasive cleaners. High pressure water is not recommended.
- Avoid sunscreen contact, for example on hands, as it can damage the coating.

Soft-soled shoes must be worn when fixing roof cladding, to provide safe handling and prevent damage to the coating.

Once installation begins, check to ensure

the surface of the sheets are free of noticeable defects or damage. This is particularly important with precoated materials.

### ***Pressed metal tiles***

These should be stacked on a level, hard base, ventilated and protected. Moisture must not be allowed to build up between sheets in a stack. Long term storage of tile panels and accessories must be under dry, ventilated cover.

For short-term site storage, panels and accessories must be stored flat off the ground and not more than two pallets high. Care must be taken when handling, cutting, bending and installing to avoid damage to the surface. The paint finish must be kept clean.

Those authorised to walk on a metal tile roof must walk in the pan of the tile where it is supported by the batten and wear soft-soled shoes to prevent damage. Brief other trades on how to walk on pressed metal tiles without causing damage, and that the cost of repairing damaged tiles is their responsibility.

### ***Clay and concrete tiles***

Pallets should be lifted from the delivery truck onto a flat surface clear of adjacent buildings or fences to allow adequate air circulation and easy handling. Limit stacks to two pallets.

When handling clay and concrete tiles:

- leave the shrink wrapping on until the tiles need to be lifted onto the roof
- take care when removing wrapping to avoid loose tiles falling out of the stack.

When storing materials on the roof:

- place stored groups of tiles evenly across the roof and directly over a main structural member
- lay tiles flat on the roof plane – ideally limit the number of tile panels on the roof to the amount that can be installed in a day's work

- load tiles and fittings safely out on the roof, supported by battens to avoid slippage and distribute evenly
- limit to six concrete or clay tiles per stack on the roof.

### ***Asphalt shingles***

These are supplied in bundles for distributing across the roof. Their mineral chip finish can be damaged by abrasion. This occurs where shingles are dragged across each other or the upper surface is dragged across another component or material.

Take care when storing, handling and installing asphalt shingles:

- Longer-term storage must be under a dry ventilated cover in a cool area.
- Protect stored shingles from hot sunlight. In warm weather shingles may stick together, particularly when double-stacked, making damage likely as they are pulled out of their bundle. To break the bond snap each bundle.
- Keep to a two pallet maximum stack height as double-stacking pallets may indent, deform or stain the shingles over time, particularly in hot weather or when shingles are exposed to direct sunlight.
- Lay shingle bundles flat on the roof plane – ideally limit the number of bundles on the roof to the amount that can be installed in a day.
- Do not drop bundles.
- Do not drape bundles across a ridge.
- Only break open the shingle bundles once carried onto the roof and just before installation.
- Handle shingles in pairs when removing from the bundle.
- Do not leave individual loose shingles on the roof at the end of the day's work.
- Take care when handling shingles when the temperature is below 4°C as they may be more brittle. In warm conditions they will soften. ➤

To minimise the risk of damage during installation:

- In summer or hot conditions:
  - work around the sun – that is, work on the west-facing and north-facing slopes in the morning and the east- and south-facing slopes later in the day
  - install shingles early before the temperature reaches its maximum
  - remove all off cuts immediately.
- In winter or colder weather:
  - work in the sunshine to allow any heat to activate the adhesive strips
  - leave the ridge shingles in the sun for a period before installation, allowing them to be more easily formed to the ridge and to reduce the risk of cracking of hip and ridge cap shingles.

### **Timber shingles**

These are stored on wrapped pallets on a flat, smooth level surface.

Shingles should be manually lifted in bundles onto the prepared roof surface immediately before installation. Lay shingle bundles flat on the roof plane. Don't leave loose shingles on a roof at the end of the day.

### **Polymer modified torch-on bitumen**

Rolls are shipped on shrink-wrapped pallets handled by a crane. All membrane rolls must be stored in a cool place on a flat surface and in a dry and protected environment.

When placing materials onto the roof deck, put them directly above a major structural support until ready for use.

If possible, when lifting materials onto the roof, spread them out to reduce point loadings. If this is not possible, spread as soon as practicable after lifting is completed.

### **Liquid-applied membranes**

Store coating system containers in a dry internal environment protected from frost and higher temperatures. Lift containers onto the prepared substrate at the start of the day's work.

Application should not begin until any moisture has evaporated from the substrate surface.

### **Sheet membranes**

Rolls of sheet membranes (such as EPDM, TPO,



### **Membrane roofing.**

butyl etc.) are generally stored horizontally – confirm with the product manufacturer. Store in dry conditions and out of direct sunlight, away from sources of puncture or physical damage, ignition sources, open flame and oxidising agents.

Rolls of sheet membranes and adhesive containers should be lifted on to the prepared substrate with enough time to allow the material to be unrolled and relax before cutting to length and installation begins.

### **When storing materials on the roof**

Bundles or packs of roof cladding must remain banded when being lifted by a crane and placed adjacent to the portal frame and not mid span on the purlins. The weight must be spread over the entire roof area and should be positioned with the laps in the direction of laying.

Workers receiving a bundle of roof cladding, must have enough mobility to avoid the load, and use tag lines to control swinging when the load is out of reach.

Care must be taken when walking on roofs, especially those incorporating ribs with obtuse or flatter angles. Any permanent deformation or damage to the ribs of profiled sheeting or metal roof tiles will reduce their performance and they may leak or not meet the design load requirement.

Damaged roof cladding sheets are likely to be unacceptable and require replacing.

### **Cladding system components**

Completing the installation of roof cladding systems requires installing:

- flashings
- sealants
- mortars
- roof windows.

General storage requirements for accessories and trims are:

- flexible roof underlays – under cover to protect from damage, water and UV
- cement based mortar – unopened packaging in dry conditions
- metal flashings – on a level surface supported at approximately 1200 mm centres
- wood-based roof sarking – dry level covered storage
- timber tile battens and purlins – dry level covered storage
- roof windows – in their packaging on dry level internal storage.

Liquid or flexible components must be stored:

- in frost-free conditions
- where temperatures do not exceed those recommended by the manufacturer. ◀