

QBT450™

Patented ventilated
quick batten tray system

Innovative, cost-efficient tray roofing

This innovative system combines the timeless elegance of European tray roofing with modern features that make it fully ventilated, self supported and easier to install.

Built specifically for New Zealand conditions, QBT450 is NZ's only BRANZ appraised tray roofing system. It has a proven track record and material options suitable for all environments.

European-inspired design with unmatched practicality

QBT450 is more than just a roofing solution – it's a new standard in style, performance, and cost-efficiency. Combining the sleek aesthetics of tray roofing with innovative engineering, QBT450 delivers superior ventilation, durability and functionality.

Perfectly suited to New Zealand conditions, it's the ultimate choice for homeowners, architects, and installers.

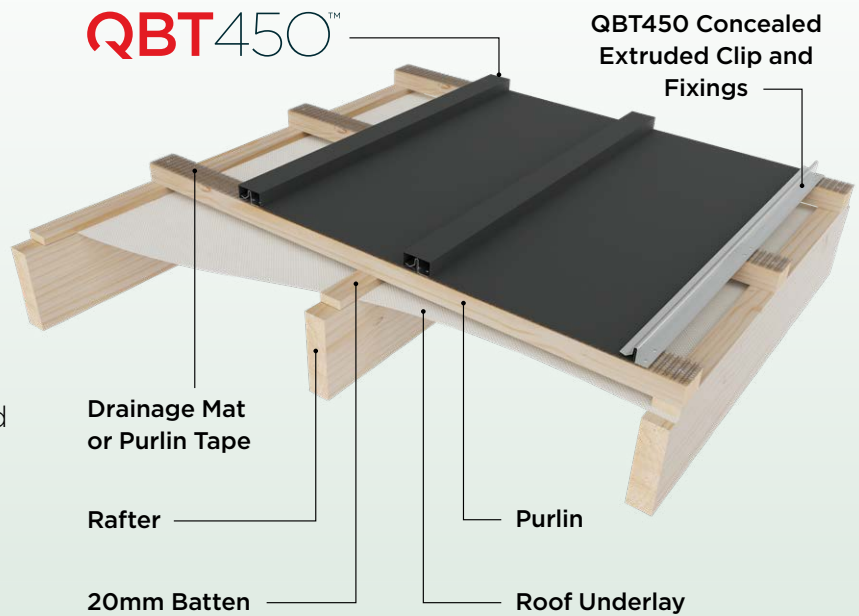


Figure 1: QBT450 installed over a vapour permeable membrane with timber rafters.

Product Description

Profile Size and Materials



Figure 2: QBT450 Profile Section.

Quick Batten Tray 450™ (QBT450) is an interlocking system that resembles the look of traditional tray roofing. The wide tray profile has an effective cover of 450mm.

QBT450 Tray, Hip, Ridge and Flashings are manufactured from 0.9 mm thick pre-painted aluminium (COLORSTEEL ALTIMATE®); or 0.55 mm thick Grade G300 steel with AM150 (COLORSTEEL MAXAM®) coating class in accordance with AS 1397 and pre-painted in accordance with AS/NZS 2728. Specifiers should select materials suitable for the relevant NZS 3604 Exposure Zone and the required durability performance.

System Inclusions

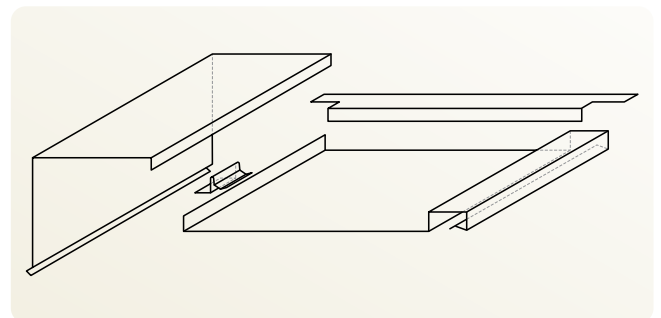


Figure 3: System Components.

The QBT450 System is completed with manufactured flashings and fixing clips with concealed or non-concealed options.

Key components and accessories include:

- **Quick Batten Tray 450™ Concealed Clips** - concealed fixing clips 53 mm wide manufactured from 1.5 mm thick continuous extruded aluminium.
- **Clip fixings** - 10 gauge x 50 mm long Grade 304 stainless steel timber screws (two per connection).
- **Purlin tape** - foam purlin tape to provide a separation layer.
- **Drainage mat / Woven mesh** - to help reduce drumming noise in high winds.

Product Details

Scope of Use

QBT450 has been appraised as a roofing system for buildings within the following scope:

- the scope limitations of NZBC Acceptable Solution E2/AS1, Paragraph 1.1, with regards to floor plan area and building height; and,
- constructed with timber roof framing complying with the NZBC: and,
- where the roof slope is 3° or greater: and,
- situated in NZS 3604 Wind Zones up to and including Extra High.

NZBC Regulations

The QBT450 System, if used in accordance with BRANZ Appraisal 926, will meet or contribute to meeting the following provisions of the NZBC:

- **Clause B1 STRUCTURE:** B1.3.1, B1.3.2 and B1.3.4. QBT450 meets the requirements for loads and creep B1.3.3 (a, b, g, h, j and q).
- **Clause B2 DURABILITY:** B2.3.1 (b), 15 years and B2.3.2.
- **Clause E2 EXTERNAL MOISTURE:** E2.3.1 and E2.3.2.
- **Clause F2 HAZARDOUS BUILDING MATERIALS:** F2.3.1. QBT450 will not present a health hazard.

Limitations

- BRANZ Appraisal 926 must be read, considered and used in full together with the Technical Literature.
- QBT450 is not subject to a warning or ban under section 26 of the Building Act 2004 when used in accordance with the product scope.

Handling and Storage

QBT450 System components and accessories must be transported and handled with care to avoid damaging the pre-finished surfaces. Long term storage of roof trays and accessories must be under dry, ventilated cover. For short term storage on site, roof trays must be stored flat, and off the ground. Care must be taken to avoid damage to painted surfaces. Other accessories must be kept clean, dry and undamaged.

General Design

Range of Colours

QBT450 is available in an extensive range of colours in pre-painted aluminium (COLORSTEEL ALTIMATE®) and (COLORSTEEL MAXAM®) steel.

[View the Colour Range here.](#)

Design

Roof design must take into account requirements for areas subject to regular snowfalls in accordance with NZBC Acceptable Solution E2/AS1. Paragraph 1.3.

Roof Ventilation

Roof ventilation space is provided between the roof underlay and the underside of the battens by the installation of a 20 mm timber spacer which is fixed over the roof underlay to the truss top chord or rafter.

Additional ventilation is provided by a woven mesh, installed over the battens prior to fixing the roofing.

Roof Framing

- Timber framing must comply with NZS 3604 for buildings or part of buildings within the scope limitations of NZS 3604. Buildings or part of buildings outside the scope of NZS 3604 must be designed in accordance with NZS 3603 and AS/NZS 1170.
- Timber framing, battens and spacers must be treated as required by NZBC Acceptable Solution B2/AS1.
- Roof framing (trusses or rafters) must be at max. 900 mm centres. Roof battens must be installed at max. 450 mm centres on the flat over the 20 mm spacer.

Structure

Mass: The approximate mass of the QBT450 System when installed is 3.60 kg/m² for aluminium roof cladding and 5.75 kg/m² for steel roof cladding.

Wind Zones: QBT450 is suitable for use in all NZS 3604 Wind Zones, up to, and including Extra High.

Snow: QBT450 is suitable for use in areas where buildings are designed for 1 kPa snow loading.

Durability

Serviceable Life:

- QBT450 is expected to have a serviceable life of at least 15 years provided the system is maintained in accordance with the Technical Literature.
- The pre-painted material options of QBT450 meet the intended durability performance of NZBC Acceptable Solution E2/AS1 Table 20. For pre-painted coated steel, specifiers should select either Type 4 or Type 6 depending on the NZS 3604 Exposure Zone.

Maintenance

- Regular maintenance is required to maximise the lifetime of metal roofing and wall cladding products. Areas not exposed to rain washing such as soffits, wall cladding under eaves, undersides of gutters, fascias and sheltered areas such as garage doors, will require programmed maintenance.
- Refer to New Zealand Steel Maintenance Recommendations Bulletin & Environmental Categories, Warranty & Product Maintenance Recommendations brochure.

Fire Prevention

Protection must be provided to QBT450 from heat sources such as fireplaces, heating appliances and chimneys, as per Part 7 of NZBC Acceptable Solution C/AS1, C/AS2 and NZBC Verification Method C/VM1.

Moisture Control

External Moisture: QBT450 will shed precipitated moisture and therefore meet the performance requirements of NZBC Cause E2.3.1. It will also prevent the penetration of water that could cause undue dampness or damage, therefore meeting the performance requirements of NZBC Clause E2.3.2.

Installation Information

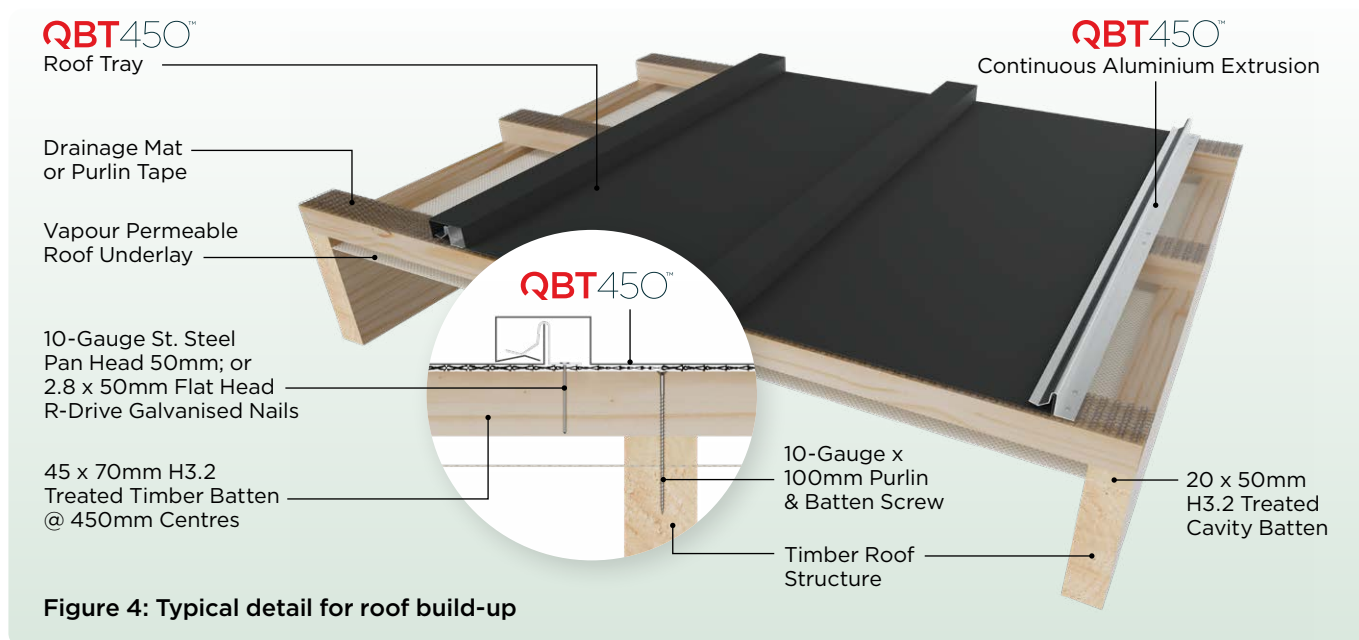


Figure 4: Typical detail for roof build-up

Installation Skill Level Requirements

Installation must be carried out in accordance with the Technical Literature by, or under the supervision of, a Licensed Building Practitioner (LBP) with the relevant Licence Class.

System Installation

- The roof underlay must be installed in accordance with NZBC Acceptable Solution E2/AS1 or the roof underlay manufacturer's instructions.
- Timber spacers, 20 mm thick, are fixed over the roof underlay to the roof framing. The timber spacers are temporarily fixed in place with 40 x 2.5 mm hot-dipped galvanised flat head nails.
- Roof battens must be installed at maximum 450 mm centres. They must be fixed through the timber spacers to each framing member with two 10 gauge x 100 mm long self-drilling screws. The screw head must be driven flush with the top face of the batten.
- The woven mesh is installed over the battens and is temporarily fixed in place with staples.
- QBT450 is fixed to all battens over the drainage mat or purlin tape using the continuous fixing clips and

two 10 gauge x 50mm long Grade 304 stainless steel timber screws, or by two 2.8 mm x 50 mm power driven nails. Flashings, hips, ridges and barges are fixed in accordance with the Technical Literature.

- While working, apply loads to the upper part of the profile, where it is supported by the battens.

Finishing

QBT450 is pre-finished and does not require painting at the completion of installation. Products must be protected from other construction and finishing work carried out on, or near the installation.

Inspections

The Technical Literature must be referred to during all inspections of QBT450 installations.

Health and Safety

Safe use and handling procedures for QBT450 are available on request. See contact information below.

Warranty

Standard Warranty applies. Refer to Warranty Statement for further details.

For more information on QBT450:

Phone **0800 333 247** or visit qbt450.nz

QBT450™ is a product of Steel & Tube.

BRANZ Appraisal No.926 covers QBT450 as a roofing system only, and QBT450 as a cladding system is not disclosed in this appraisal.

The recommendations contained in Steel & Tube's literature are based on good building practice, but are not an exhaustive statement of all relevant information and are subject to any conditions contained in the Warranty. All product dimensions and performance claims are subject to any variation caused by normal manufacturing process and tolerances. Furthermore, as the successful performance of the relevant system depends on numerous factors outside the control of Steel & Tube (for example quality of workmanship and design), Steel & Tube shall not be liable for the recommendations in that literature and the performance of the Product, including its suitability for any purpose or ability to satisfy the relevant provisions of the Building Code, regulations and standards. Literature subject to change without notification. Latest documentation can be found online. E&OE.