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Installation Guide

CF SHINGLE

CF SHINGLE & CF SHAKE INSTALLATION GUIDE



Introduction

Thank you for choosing Metrotile Roofing Systems for your project. The following installation guide is specifically intended for the Metrotile CF (Concealed Fastener) Shake and Shingle product range. The installation guide is designed to assist design & building professionals on Metrotile's recommended installation guideline for each roof detail. This guide does not cover all areas of each individual roof. The guide covers the majority of commonly referred-to roof details. Local building codes always supersede the manufacturer's recommendations. We highly recommended using a licensed & insured roofing contractor to install any roofing system. Please contact Metrotile Roofing Systems at any time through the installation should a detail not be covered in the installation guide. Also refer to the Metrotile warranty for helpful tips on maintaining your roof's performance. Thank you again for choosing Metrotile.

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REFER TO THE FOLLOWING LIST TO VIEW DETAILS			
DETAIL	DETAIL AREA	METROTILE ROOFING SYSTEM COMPONENTS	
1	Eave Treatment	913 CF NZ Starter	
2	Rake / Gable / Barge	905 CF Barge Channel 903 CF Barge Cover	
3	Hip	904 Hip Under Channel 400 CF Shingle Cap 914 CF Shake Cap	
4	Valley	116 Metal Tile Valley	
5	Side Wall	104 Standard Side Flashing	
6	Metrotile Panel	CF Shake CF Shingle	
7	Change of Pitch	901 CF Short Course	
8	Head Wall / Roof to Wall	104 Standard Side Flashing	
9	Specialty: Skylights, Dormers, Chimneys	104 Standard Side Flashing 901 CF Short Course	
10	Roof Penetrations	907 CF Underpan	
11A	Ridge Ventilation	400 CF Shingle Cap 914 CF Shake Cap	
11B	Ridge	400 CF Shingle Cap 914 CF Shake Cap	

Detail Map Complete Part Overview



Ross Roof Group stone coated steel roofing systems are manufactured in accordance with NZ Standard 4217:1980 "Pressed Metal Tile Roofs"

Tools

Overview		
Tape Measurer	Silicone Gun	Nail gun
24		
Hammer	Impact driver or Drill	Soapstone
		A PA
Snips (Right and Left)	Skillsaw with cold cut blade (corded or cordless)	Handbenders
A REG		
Guillotine	Bender	Bevel

SAFETY STATEMENT

In any roofing installation, safety is priority #1. Review and follow local and regional safety guidelines.

ROOF PITCH

Metrotile CF roofing systems should be installed on roof pitches 15° or greater.

COLOUR MATCHING

Ensure that only tiles of the same *colour code* are dispatched for every roof lot. Where possible, use tiles from the same date of manufacturing. (Date noted on the back of tiles)

STORAGE

Store in a dry place at all times before installation.

CAUTION

- *Dissimilar metals*: LEAD and COPPER and any other dissimilar metals are not compatible shall (1) not come in contact with and / or (2) leach onto Metrotile's products.
- *Treated lumber*: Do not use pressure treated lumber i.e. decking or battens in conjunction with Metrotile products.
- Fire treated decking and battens with copper or silver nitrates cannot be used.

CF PANELS

Metrotile Concealed Fastener (CF) Installation Guide



CF SHINGLE

Our CF Shingle panels are nominally 1335mm long by 422mm wide, and have a coverage of 1260mm long and 370mm wide. Each tile is 3.5 Kg's with an installed weight of 7.5 Kg's per square metre. Minimum roof pitch: 15°

Cover dim: 1260mm x 370mm

Panels per square: 2.15

Installed weight: 7.5 Kg / Square Metre

Gauge: 0.39mm

METROTILE CF ROOFING SYSTEMS COMPONENTS



CF PANELS CONTINUED

Metrotile Concealed Fastener (CF) Installation Guide



1335mm

CF SHAKE

Our CF Shake panels are nominally 1335mm long by 424mm wide, and have a coverage of 1260mm long and 370mm wide. Each tile is 3.5 Kg's with an installed weight of 7.5 Kg's per square metre. Minimum roof pitch: 15°

Cover dim: 1260mm x 370mm

Panels per square: 2.15

Installed weight: 7.5 Kg / Sqaure Metre

Gauge: 0.39mm



Construction Details

DECK PREPARATION

Metrotile products shall be applied to on 50mm x 40mm battens or a solid plywood decking minimum 15mm. The sheathing must be structurally sound and adequately fastened to resist wind loads.

UNDERLAYMENT

• Minimum requirement is one layer of DriStud (24, 36 or 38) or Thermakraft (215) or other BRANZ Appraised or CodeMark Certified underlay.

SEALANT

Sealants shall be acceptable for exterior use and adhere to the materials to which they are applied. The sealants shall be covered with matching stone granules where applicable. Metrotile's Touch-Up Kit should be used on panel repairs for appropriate matching colour/finish.

CUTTING PANELS

Metrotile panels can be cut with a guillotine or cold cutting circular saw.

FASTENING REQUIREMENTS

- Minimum of 5 corrosion resistant fasteners are required per panel.
- Screws: Minimum requirement are galvanized or painted #10 x 1 ½" with a ¼" hex head
- Nails: Minimum requirement are galvanized 8D ringshank nails.
- High wind details, please refer to NZS 3604 for specific fastening requirements.

Detail	Detail Area	Product	Recommended Fastener	# of Fasteners / Spacing
1	Eave Treatment	913 CF NZ Starter	#10 x 1 ½" screws 50mm 8D Ring-Shank Nails	8 @ 300mm Centres
2	Rake / Gable / Barge	905 CF Barge Channel	#10 x 1 ¹ / ₂ " screws w/ washers 8D Ring-Shank Sealsure Nails	6 @ 300mm Centres
		903 CF Barge Cover	#10 x 1 ½" screws 50mm 50mm 8D Ring-Shank Nails	3 (1 at each lap, 1 in the middle)
3	Hip	904 Hip under Channel	#10 x 1 ¹ / ₂ " screws w/ washers 8D Ring-Shank Sealsure Nails	6 @ 300mm Centres
		400 CF Shingle Cap 914 CF Shake Cap	#10 x 1 ½" screws 50mm 8D Ring-Shank Nails	2 (1 in each tab)
5	Side Wall	104 Standard Side Flashing	#10 x 1 ¹ /2" screws 50mm 8D Ring-Shank Nails	4 @ 500mm Centres
6	Metrotile Panel	CF Shingle CF Shake	#10 x 1 ¹ /2" screws 50mm 8D Ring-Shank Nails	5 (1 at each lap, 3 @ 250mm Centres)
7	Change of Pitch	901 CF Short Course	#10 x 1 ¹ / ₂ " screws 50mm 8D Ring-Shank Nails	6 @ 300mm Centres
8	Head Wall / Roof to Wall	104 Standard Side Flashing	#10 x 1 ¹ / ₂ " screws 50mm 8D Ring-Shank Nails	4 @ 500mm Centres
9	Skylights, Dormers, Chimneys	104 Standard Side Flashing	#10 x 1 ½" screws 50mm 8D Ring-Shank Nails	4 @ 500mm Centres
		901 Short Course		6 @ 300mm Centres
10	Roof Penetrations	907 CF Underpan	#10 x 1 ½" screws 50mm 8D Ring-Shank Nails	4 @ 150mm Centres
11A	Ridge Ventilation	400 CF Shingle Cap 914 CF Shake Cap	#10 x 1 ¹ / ₂ " screws 50mm 8D Ring-Shank Nails	2 (1 in each tab)
11B	Ridge	400 CF Shingle Cap 914 CF Shake Cap	#10 x 1 ¹ / ₂ " screws 50mm 8D Ring-Shank Nails	2 (1 in each tab)

CONSTRUCTION DETAILS CONTINUED

DECK PREPARATION

Batten Layout

- The first batten is spaced 320mm from the front of the fascia to allow a 50mm overhang into the gutter.
- For CF Shake the battens are then spaced 370mm from front of batten to front of batten.
- For CF Shingle the battens are also spaced at 370mm but there is a support batten placed 120mm from the back of the 370mm spaced batten.

CF SHAKE



CF SHINGLE



Plywood

- Plywood must be a minimum of 15mm thick and fastened at 150mm centres with 65mm Ring Shank nails up the rafters.
- Plywood must must sit flush with the fascia board.
- Where LOSP treated plywood is used, the solvents must be alloed to evaporate off for at least one week before installation of the roofing tile underlay.
- Trusses must be at maxiumum 900mm centres for plywood. Closer rafter spacings may be required dependent on the spans and the different Wind Zones and must be determined by NZS 3604, Table 10.1.
- Sheet end butt joints must be installed with a fap of 2-3mm over timber framing.
- The plywood face grain must be laid at right anbgls to supports. The sheets must be laid with staggered joints in a brick bond pattern.
- Tounge and groove plywood edges must be butt-jointed with no gaps between the sheet edges. Square plywood edges must have a 2-3mm gap between the sheet edges.



Profile		CF Shingle / CF Shake		
	Battens			
	Up to and including Extra High	5 x 50mm x 2.8mm Ruspert coated ring shank nails		
ones		or		
Z pu		5 x #10 1-1/2 inch screws		
i Ni	Plywood			
Tile fastenings in Wind Zones	Up to and including High	8 x 25 mm x 3.05 mm galvanised ring shank nails		
faste		or		
Tile		5 x #10 1-1/2 inch screws		
	Up to and including Extra High	10 x 25 mm x 3.05 mm galvanised ring shank nails		
		or		
		#10 1-1/2 inch screws		
	Batten Dimensions	50 mm x 40 mm		
Batten fastening in Wind Zones	Up to and including Medium	90mm x 3.15 mm D-head, bright steel		
Bat faster Wind	Up to and including Extra High	10 g self-drilling 80 mm screws		
	Plywood thickness	15 mm - 21 mm		
	Plywood fastenings	65mm Ring Shank Nails		
Min	imum / Maximum Roof Pitch	15º / 60º		

DETAIL #1 Eave Treatment



FIG. 01.A

- 1. Position 913 NZ CF Starter with a 50mm overhang at the fascia (Fig. 01.B).
- 2. 913 NZ CF Starter sits on top of the battens so the drip edge is parallel with the fascia board.
- 3. Butt the 913 NZ CF Starter when joining two pieces together.
- 4. Fasten with your desired faster 150mm OC.
- 5. At hips and valleys the starter shall be notched and mitred to fit corners.
- 6. Install underlayment flush with front edge of CF starter.
- 7. In high wind areas, fasten the 913 NZ CF Starter 150 mm OC with #10 1-1/2" screws.









DETAIL #2 Rake / Gable / Barge Treatment



FIG. 02.A

- 1. 905 CF Barge Channel shall be installed along all gable edges.
- 2. Position outside edge of 905 CF Barge Channel to be flush with the barge fascia and over 913 NZ CF Starter and flush with the leading edge at eave.
 - 3. Install first fastener into the first batten behind the fascia with your desired fastner WITH a rubber washer.
 - Fasten at each batten and in the outside channel nearest the hemmed edge. When adjoining, fold the outside hem of the bottom 905 Barge Channel out and overlap the next 905 Barge Channel min. 150mm, before folding hem back up.
 - 5. Miter at ridge line cut and fold min. 25mm over the ridge line.
 - 6. Install 903 Barge Cover aligning 50mm past fascia. Install prior to installing panels. For subsequent pieces, fold the hem out of the top 903 Barge Cover and overlap a min. 150mm.
 - 7. Fasten 903 Barge Cover with 3 fasteners; (1) at each overlap and (1) in the middle using your desired fastner.
 - 8. Miter and cut at ridge overlapping 25mm.

DETAIL #2 CONTINUED

Rake / Gable / Barge Treatment



Next piece slides inside of existing 905 Barge Channel piece

FIG. 02.B

DETAIL #2 CONTINUED

Eave Closure on Barge Cover



DETAIL #2 CONTINUED

Eave Closure on Barge Cover



FIG. 02.D

DETAIL #3 Hip



FIG. 03.A

- 1. At the eave, if the 904 CF Hip Channel is being used, position hip underchannel and cut flush with 913 NZ CF Starter.
- 2. Install Metrotile 904 CF Hip underchannel and fasten to the battens using your desired faster with rubber washers and install through both sides of outer channel near the hem into the batten.
- 3. Overlap pieces 150mm.
- 4. Optional: In wooded areas, install debris blocker in the middle groove of the underchannel.
- 5. Measure the distance from the lap of the last installed tile to the centre of the hip or the 904 CF Hip Channel if that is being used. Take measurements from the top and bottom of the tile. Mark these on a full tile, this is your CUTTING line.

DETAIL #3 CONTINUED

Hip



FIG. 03B

- 6. ALTERNATIVELY Set a bevel to the angle formed at the hip and the batten. Plave the bevel on the tile so that the measured mark on the bottom of the tile lines up with the inside of the bevel. Mark along the inside of the bevel to give your CUTTING line.
 - 7. Cut the tiles with a guillotine or cold cut circular saw and install up the hip.
 - 8. Once tiles have been installed, peel and stick Aluband up the hip if the 904 CF Hip Channel ISN'T being used.
 - 9. Mitre the first 400 CF Shingle Cap or 914 CF Shake Cap to fit into the 913 NZ CF Starter and fasten with one faster in each tab.
 - 10. Slide the next cap flashing into place and fasten, continue up the hip until you meet the ridge line.

DETAIL #4 Valley



DETAIL #4 CONTINUED

Valley



Underside of second panel and all following panels

FIG. 04.D

- 4. Where valley joins occur, the higher valley tray must overlap the lower valley tray by a minimum of 200mm.
- 5. Measure the distance from the lap of the last installed tile to the desired finished tile line in the valley (approximately 40mm from the centre of the valley). This measurement is done at the top and bottom of the installed tile, using a bevel or straight edge join those to marks. This is your BEND line.

DETAIL #4 CONTINUED

Valley



- 6. For your CUTTING line, add another 40mm to the BEND line and mark this.
- 7. Cut with a guillotine of cold cut circular saw and bend the down the tile at the BEND line.
- 8. Install in the normal manner, endeavouring to place one nail at the end of the batten adjacent to the valley tray so the fixing is as close as possible.

DETAIL #5 Side-wall flashing



FIG. 05.A

- 1. Install underlayment and turn 20mm up the side wall
 - 2. Measure from the lap of the last layed tile to the termination point, hard up against the side wall. This measurement is your BEND line, add 40mm to allow a turn up along the sidewall, this is your CUTTING line.
 - 3. Cut and bend the tiles and install onto roof face, tucking the turn ups behind the pre installed 104 Standard Side Flashings.
 - 4. Roofs where the wall continues past the roof rewuire a stopend flashing that ensures water is directed into the gutter.

DETAIL #6

Panel Installation, Layout, Overlap & Fastening



FIG. 06.A

- 1. Starting at the first course, going from left to right, start with a full panel at gable, valley, hip or sidewall.
- 2. Install five fasteners using the sequencing above.
- 3. Continue installing first course of panels across to termination point at gable, hip, valley or sidewall.
- 4. Continue installing panels up the roof randomly. (Fig. 06D)
- 5. Panels terminate at the center of the ridge.
- 6. Start and terminate panels tight to gable, hip or sidewall and 40mm of the centre of the valley.
- 7. No panel fasteners shall penetrate flashing at gable, valley, hip or sidewall



FIG. 06.C





FIG. 07.A

- 1. Install panel on the upper starter strip at the transition so the under lap is flush with the inside of the barge channel.
- 2. Install full panel covering the underlay on the transition panel so the headcheck is past the upper starter strip.
- 3. Cut off excess material above 901 CF Short course as not to interfere with the next course of panels.
- 4. Snap horizontal line on transition panel (*FIG*. 07.B) where the short course will start.
- 5. Align 901 CF Short course on transition panel line.
- 6. Fasten through the panel into the neasest batten using your desired fastner
- 7. Continue panel installation across short course at the transition (*FIG.* 07.C).
 * Water channel flush with offset in barge.

DETAIL #7A CONTINUED

Short Course



FIG. 07.B







HIGH TO LOW



FIG. 07.D

- 1. Measure and bend the panels at the pitch change to follow the pitch of the roof.
- 2. Continue to install panels on low pitch by interlocking into the headcheck of the bent panel.
- A 901 CF Short Course may be needed depening on batten spacings. If so install the Short Course and cut off excess material above 901 CF Short Course as not to interfere with the next course of panels.

DETAIL #7B CONTINUED

Pitch Change



FIG. 07.E

- 1. Measure and bend the panels at the pitch change to follow the pitch of the roof.
- 2. Continue to install panels on high pitch by interlocking into the headcheck of the bent panel.
- A 901 CF Short Course may be needed depening on batten spacings. If so install the Short Course and cut off excess material above 901 CF Short Course as not to interfere with the next course of panels.

DETAIL #8 Headwall / Roof to Wall



FIG. 08.A

For New Construction: Underlayment 200mm up sidewall / headwall

- 1. Install panels up to bottom of headwall.
- 2. Cut the last panel transitioning into the headwall both vertically and horizontally to fit lower left corner condition, allowing for a 40mm turn up against the sidewall and headwall.
- 3. Cut and install the next panels(s) with a 40mm turn up against headwall. (Fig. 08B)
- 4. Last panel to be cut both vertically and horizontally to fit lower right corner condition allowing for a 40mm turn up against the sidewall and headwall. (*Fig. 08B*)
- 5. Install 104 Standard Side Flashing to counterflash. (Fig. 08C)

DETAIL #8 CONTINUED

Headwall / Roof to Wall



FIG. 08.B



104 Standard Side Flashing

FIG. 08.C

DETAIL #9 Chimneys, Skylights & Dormers

For New Construction: Underlayment 200mm up sidewall / headwall



FIG. 09A. Dormer



FIG. 09.B Skylight

DETAIL #9 CONTINUED

Chimneys, Skylights & Dormers

- 1. Crickets may be required on the ridge side of any chimney or skylight more than 750mm wide.
- 2. Install panels up to bottom of chimney, skylight or dormer.
- Cut the last panel transitioning into the chimney, skylight or dormer both vertically and horizontally to fit lower left corner condition with a 40mm turn up against the side wall and head wall. (*Fig. 09.B*)
- Horizontally cut and install the next panel(s) along the headwall with a 40mm turn up. Last panel to be cut both vertically and horizontally to fit lower right corner condition with a 40mm turn up agasint the head wall and side wall. (*Fig. 09.B*)
- 5. Counter flash with 104 Standard Side Flashing.
- 6. Follow manufacturers instructions when installing the skylights and use flashings provided in the kit.
- 7. Install cricket (provided by others) if required.
- 8. Continue installing panels around chimney, skylights or dormers connecting left and right sides. (901 CF Short course maybe required along the top depending on panel layout)

DETAIL #10 Roof Penetrations – Pipes & Vents



FIG. 10.A

- 1. Cut and install the 907 CF Underpan to fit around the pipe with the 8mm bend over headcheck of panel below.
- 2. Install panel by cutting tight around pipe flashing.
- 3. Seal around the bottom of the Dektite or other pipe flashing. Install over pipe and on top of the tile and fasten.
- 4. Seal pipe where it meets the pipe flashing.
- 5. Mould flashing to the profile of the panel.
- 6. Wipe away excess silicone.
- 7. ENSURE the point of the pipe flashing is facing the ridge line to minimise water being trapped behing the top edge. (*Fig. 10.B*)

DETAIL #10 CONTINUED

Roof Penetrations – Pipes & Vents



FIG. 10.B

DETAIL #11A Ridge Ventilation



FIG. 11.G

- 1. Measure and cut tiles to allow a 40mm turn back at the top of the tile and a 50mm air gap at the ridge between the two faces.
- 2. Install last course of CF Shingle panels up to the opening on both sides of the ridge.
- 3. Install ventialted batten on both sides of the ridge.
- 4. Install 400 CF Shingle Caps or 914 CF Shake Caps over the top of the ridge vent securing with one fastener on each tab and into the top batten.

DETAIL #11B Ridge





- 1. Measure and cut tiles so that they meet at the apex of the ridge, allowing for a 40mm fold back at the top of the tile.
- 2. If Aluband is being used, install this along the ridge line.
- 3. Install 400 CF Shingle Caps or 914 CF Shake Caps with one fastener on each tab and into the top batten.

WALKING INSTRUCTIONS

Correct / Incorrect



Correct

Incorrect

NOTES |

- 1. Step on the headcheck or where the two tiles meet.
- 2. DO NOT step on a single tile, or side lap make sure each step is placed where both tiles meet.

CLEANING & TOUCH-UP

During Installation

- 1. Metal shavings need to be removed daily during installation.
 - 2. If you need to touch up finish either during or after installation, use a Metrotile Touch-Up Kit matching the stone coated panel finish of your installation.
 - 3. After installation is complete, be sure to clean all debris off of the roof, and surrounding areas especially any metal shavings.

MAINTENANCE & CLEANING

NOTES Maintenance

Metrotile's Roofing Systems require minor maintenance to ensure the continued performance of the roof over its life.

Where possible a visual ground inspection of your roof should be performed every year, or after any significant storm, for the following items. Maintenance or repairs to these items should help prevent any major problems occurring:

- Damaged or displaced tiles or flashings.
- Blocked valleys, spouting or downpipes with debris such as leaves, other plant matter or foreign objects such as toys.
- Wash down any roof areas not effected by rain washing (see Cleaning below).

When repairs or maintenance are needed we recommend that you consult a metal tile roofing specialist, as additional damage to the roof tiles can be caused by inexperienced foot traffic (If you must access the roof follow these instructions, to avoid denting or damaging the roof tiles, you should wear soft sole shoes and place your foot on the lowest point of the tile and at the front edge of the tile). Also, house holders unfamiliar with working at height pose considerable risk of injury to themselves by falling from ladders or the roof

Cleaning

Metrotile roofs must be washed down regularly with fresh water in all areas not washed by rain, such as those areas sheltered by the eaves overhang of a higher roof. In areas near the sea, where salt deposition is noticeable on windows and similar surfaces, or near areas of industrial pollu- tion, washing down should be carried out every 2-3 months. In other areas, washing down every 6 months should suffice.

Lichen and mould growth must be removed with chemical cleaners recommended by Metrotile, such as Mossboss. Metrotile recommends to chemically clean the roof once every 2-4 years to maintain a good appearance and prevent the growth of algae, moss and lichen. Failure to carry out this maintenance program will void the coating warranty (see Metrotile Coating Warranty).