

Western Red Cedar

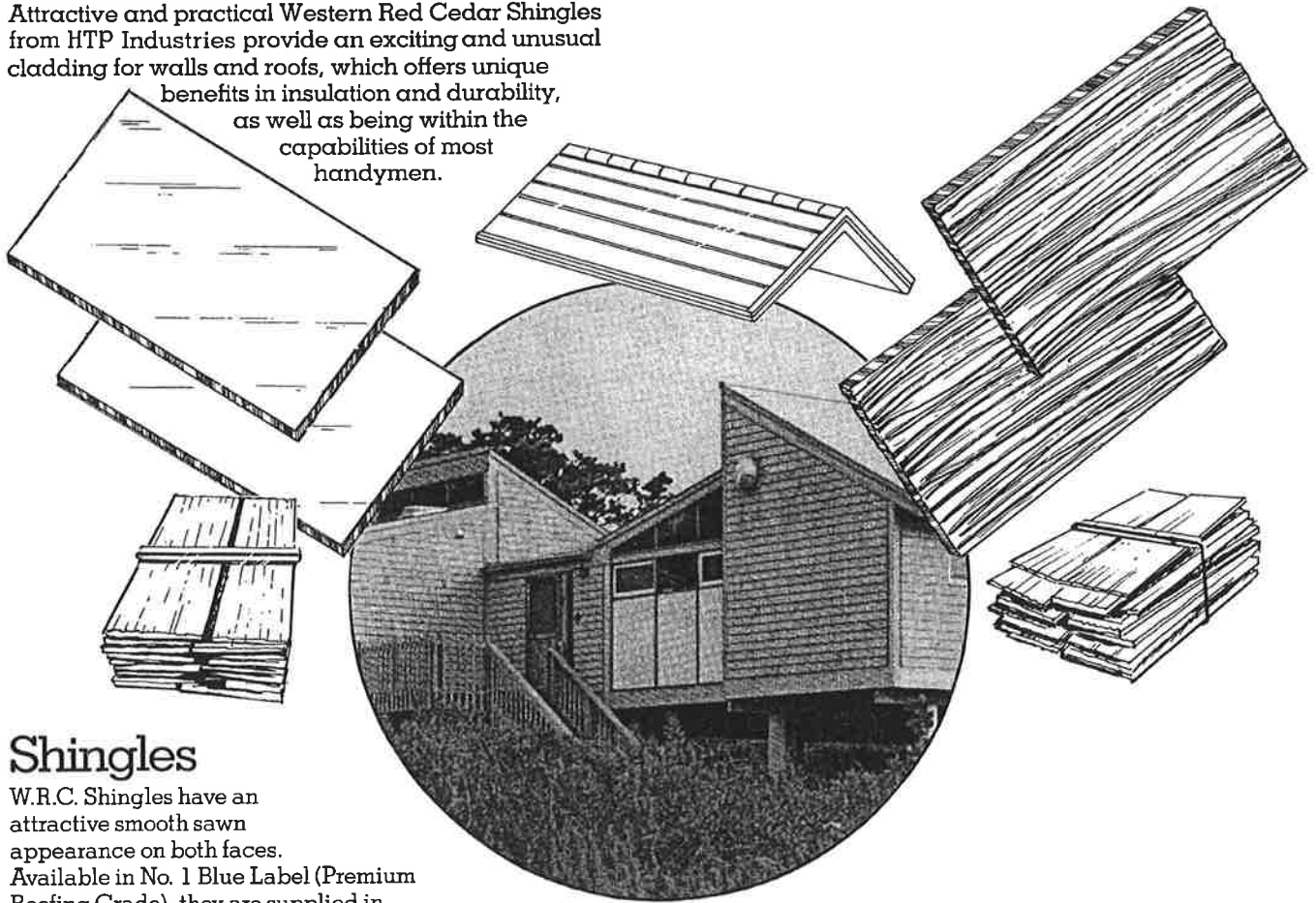
Shingles & Shakes



SHINGLES

Attractive and practical Western Red Cedar Shingles from HTP Industries provide an exciting and unusual cladding for walls and roofs, which offers unique

benefits in insulation and durability, as well as being within the capabilities of most handymen.



Shingles

W.R.C. Shingles have an attractive smooth sawn appearance on both faces.

Available in No. 1 Blue Label (Premium Roofing Grade), they are supplied in bundles, with the coverage (or number of bundles required) depending on the exposure or amount of overlap required. Refer to Exposure Limits table.

WALLS

Shingles can be applied to internal or external walls with a solid nailing base. Timber battens must be applied over brick or other nail resistant surface.

Quantity: Walls

Measure area in square metres, deducting windows, doors etc. From table determine coverage per bundle at intended recommended exposure. Divide area by coverage, adding 5% to give required number of bundles.

Exposure m/m	Approx. Coverage: 450mm Shingles
100	1.7
125	2.1
140	2.3
190	3.2
210	#3.6
290	N/R

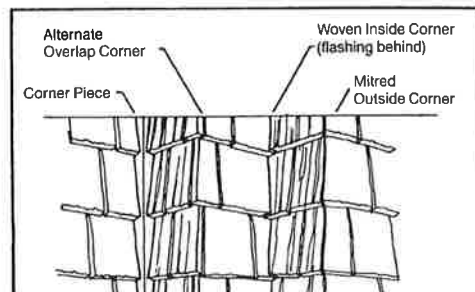
Greater exposures are only possible in non weather exposed applications. #Maximum wall exposure.

Installation: Walls

Set out string line from the lowest common point on total job. Fix lowest row of shingles spaced 5 to 10mm apart to allow for expansion.

Fix the second row of shingles directly over the first row to create a weatherproof double layer situation. Straight edge or random set next row at required exposure.

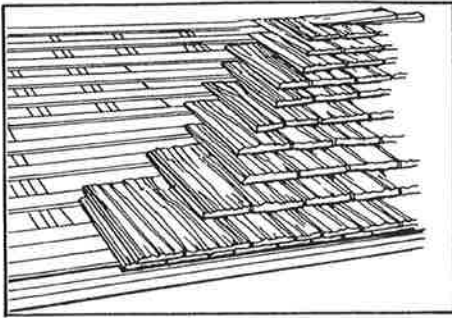
Do not drive nailheads below timber surface. Refer diagram for corner applications.



ROOFS

Sarking

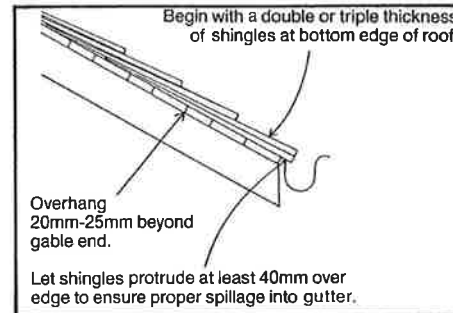
It is essential that only "breather type" (vapour permeable) sarking products be employed beneath battens for either cedar shingle roofs.



Battening

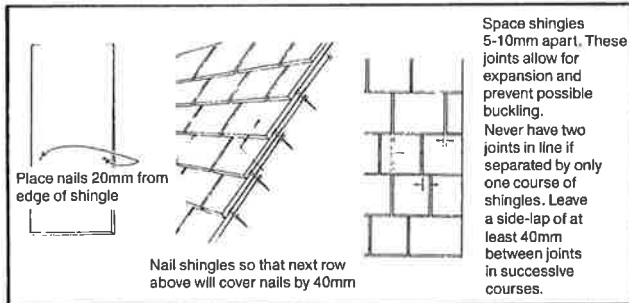
A Cedar roof may be laid on spaced battens or solid surfaced roofs.

In normal conditions, 50 x 25 or 75 x 25mm battens at centres the same as the weather exposure intended will be sufficient. In snow or cyclonic areas special requirements apply.



Installation: Roofs

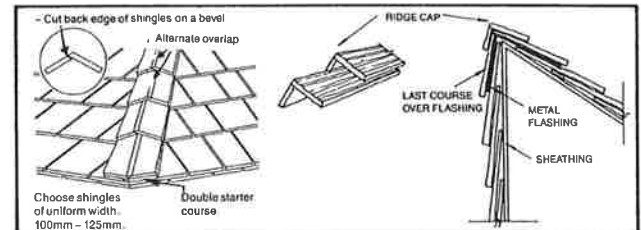
Begin with a double or triple layer at gutter edge of roof. Nail shingles so that following row will cover nails by 40mm. Use a straight edge to line up rows of shingles. For quantity of shingles required, refer to table on Exposure Limits-Roofs.



Hips and Ridges

Factory manufactured hip and ridge cappings are available to complement both shingles.

Alternatively, after sarking, a hip or ridge may be built by selecting uniform-width shingles, bevel cutting exposed face and interlacing between temporary straight edges on either side of the hip. Mitred hips must be flashed with Alcor or possibly lead flashing.

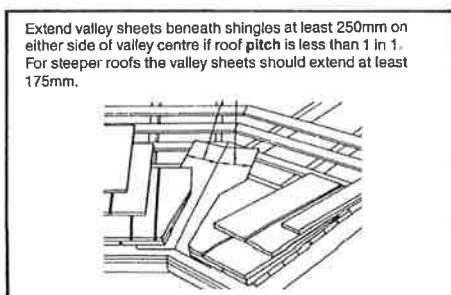


Valleys

Valleys must be constructed with utmost care and from durable materials to avoid leaks.

Metal valley sheets, colourbond or fully painted zincalume at least 500mm wide should be laid over double sarking and only nailed at edge extremities.

Shingles abutting the valley should be trimmed 75mm from the centre line.

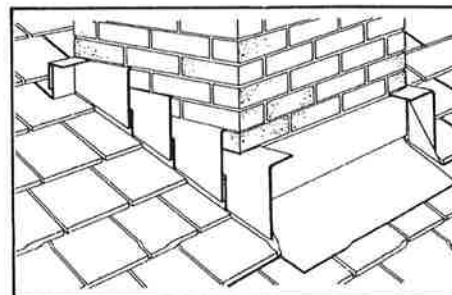


Flashing

Any structural members protruding through the roof should be flashed and counter-flashed on all edges. Flashing should extend at least 150mm under the shingles and should be counter-flashed as illustrated. Metal should be painted after bending to shape, and be dry before installation.

A mastic or silicon caulk should be used to seal all possible water entry areas.

Flashing may also be required at ridges or pitch changes in complex roof structures.



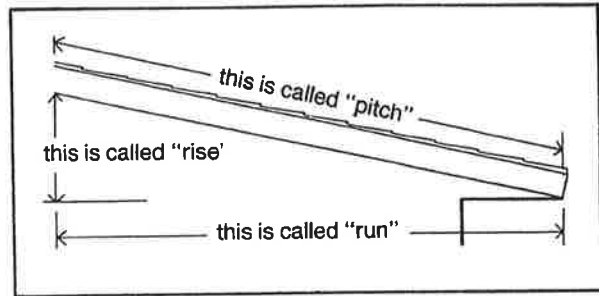
Sizing up the Job: Roofs

Bundle sizes: The coverage per bundle depends on the exposure but will be around 2.3m² for Shingles at the maximum recommended exposures.

Pitch: The pitch of the roof is determined by the increase in height (the rise) over its length (the run).

eg. rises 150mm in 300mm Pitch = 1:2.

Exposure: The portion of each shingle left uncovered. For recommendations refer to Exposure Chart below.



Exposure Limits: Roofs

Shingles 450mm long.

Pitch

1 in 3 and steeper 140mm max.

*Minimum recommended pitch is 1 in 3 (18°).

Shakes 600mm long.

1 in 3 and steeper 190mm max.

*Minimum recommended pitch is 1 in 3 (18°).

A good cedar roof should be a minimum three layers thick - maximum exposures shown will achieve bare three layers and reductions in exposure will result in additional roof thickness.

Exposure mm	Sq. metres per bundle.
	Shingles 450mm
140	*2.3
190	N/R
210	N/R
290	N/R

Quantity Required - Roofing

Determine ground area of the building, including overhangs, in square metres.

Calculate the pitch of the roof and increase ground area total by appropriate percentage

1 in 4 add 3% 1 in 2 add 12% 1 ¼ in 1 add 60%
 1 in 3 add 5½% 1 in 1½ add 20% 1 ½ in 1 add 80%
 1 in 2½ add 8½% 1 in 1 add 42%

Divide adjusted area by coverage per bundle from (exposure limits) chart above to determine quantity required.

For Shingles add 1 bundle per 8 linear metres of hips, ridges and valleys.

For Shingles add 1 bundle per 18 linear metres of perimeter to allow double starter course over guttering.

Nails

Use only corrosion resistant galvanised steel or stainless steel nails, fixed to specification.

Fixing Specification	Fixing Centres	Hardwood Battens	Softwood Battens
Shingles	140mm	40 x 2.5mm flat head hot dipped galvanised straight shank nails.	50 x 2.8mm flat head hot dipped galvanised ring shank nails.

RECOMMENDED FIXING SPECIFICATIONS FOR WESTERN RED CEDAR SHINGLES AND SHAKES IN CYCLONIC AND OTHER HIGH WIND AREAS

Over many decades, Western Red Cedar shingles and shakes have established their reputation as attractive and practical roofing products of long term durability requiring minimal maintenance.

With development expanding into the cyclone prone tropical zones of Queensland and the northern-most reaches of our Australian coastline, the subject of roof fixing has become increasingly significant. There also exists a growing awareness that fixing is an important consideration in many other areas of Australia where high winds are encountered.

In order to determine the necessary fixing restraints for shingle/shake roofing subject to these conditions, Tilling Timber and the Council of Forest Industries of British Columbia, jointly commissioned a series of assessment tests which has been undertaken by the Cyclone Testing Station at the James Cook University of North Queensland.



This data sheet details the background of those tests and presents installation specifications appropriate to the usage of Western Red Cedar shingle and shake roofs on cyclone prone sites.

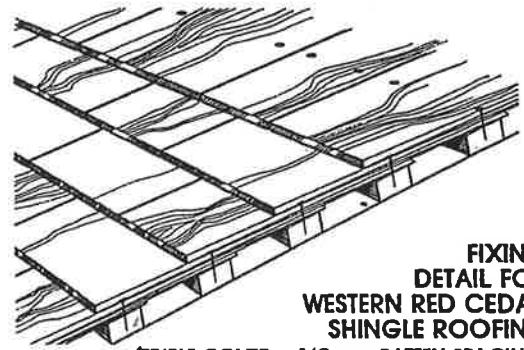
The following specifications are also applicable to the less severe high wind sites such as exposed locations situated on open seacoasts along the entire coastal zone of the continent of Australia.

BASIC TEST DETAILS

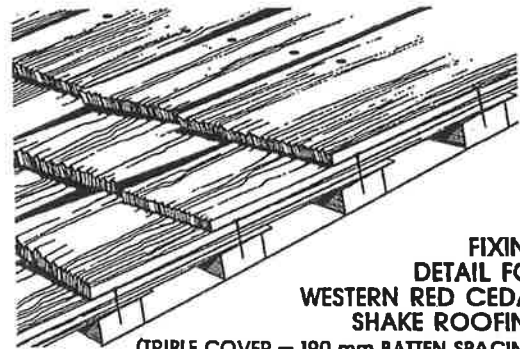
Within the series of tests, Western Red Cedar shingles and shakes were affixed to both hardwood and softwood roofing battens with both conventional straight shank galvanised nails and annular grooved (or ring shank) nails.

Blue Label No. 1 shingles, measuring 450 mm in length were installed on a batten network spaced at 140 mm

centres to provide the necessary "three layer" configuration (see below diagram). Likewise, No. 1 grade "handsplit and resawn" shakes — measuring 600 mm long — were fixed to conform with this installation pattern, but on 190 mm centred battens.



**FIXING
DETAIL FOR
WESTERN RED CEDAR
SHINGLE ROOFING**
(TRIPLE COVER — 140 mm BATTEN SPACING)



**FIXING
DETAIL FOR
WESTERN RED CEDAR
SHAKE ROOFING**
(TRIPLE COVER — 190 mm BATTEN SPACING)

The widths of both shingles and shakes ranged between 100 and 200 mm — each shingle/shake was fixed with two nails in the manner depicted in the diagrams.

No. 3
MAY
1990
Revised

**ARCHI-
TEXT**
TECHNICAL DATA SHEET

... TECHNICAL DETAIL AND
DATA DEVOTED TO THE
DEVELOPMENT OF CONCISE
& CORRECT SPECIFICATIONS

CEDAR WOOD SHINGLES PROJECT LIST

- 1) National Parks Board - Bukit Timah natural reserve.
- 2) 41 Bin Tong Park - Gazebo.
- 3) Sentosa Food Centre.
- 4) National Parks Board - Coach stop at Tyersall Road.
- 5) Ministry of Foreign Affairs - Tennis court changing rooms.
- 6) 18 Balmoral Park - Rain shelters.
- 7) 9A Ewark Park - Gazebo.
- 8) Singapore Zoological Gardens - Maken Terrace.
- 9) NPB - 3 Blocks of Public toilet at Pasir Ris Park
- 10) Keppel Club - Gazebo.
- 11) Amaranda Gardens Condominium - 'Tree House'
- 12) Ridge Wood Condominium - BBQ / swimming pool shelters.
- 13) 18 Peirce Hill
- 14) 18 Oei Tiong Ham Park
- 15) Jurong Bird Park - Entrance Linkway
- 16) Ngee Ann Polytechnic - Linkway
- 17) No.19 Yarwood Ave - Whole house, Gazebo.
- 18) No.5 Jalan Kembang Melati
- 19) No.1 The Lady Hill
- 20) 108 Pasir Ris Road
- 21) Orchard Scotts Condo
- 22) Kechubong Terrace
- 23) No.1 Jalan Kerayong - Whole house roof top
- 24) Limau Garden
- 25) 77 Saraca Walk
- 26) 15A Brizay Park
- 27) Neo Tiew Lane 2

BERLIAN (IRONWOOD) SHINGLE PROJECTS

- 1) Nursery office, toilet block and rain shelters at Singapore Botanical Gardens.
- 2) Singapore Zoological Gardens - Tigers exhibit shelters.
- 3) Singapore Zoological Gardens - Amphi Theatre