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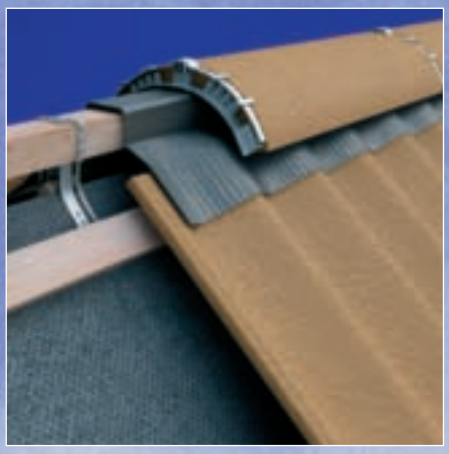
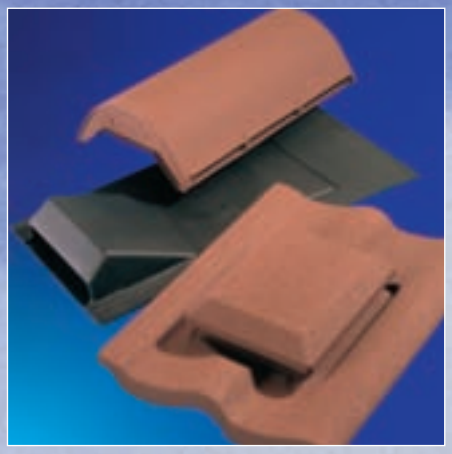
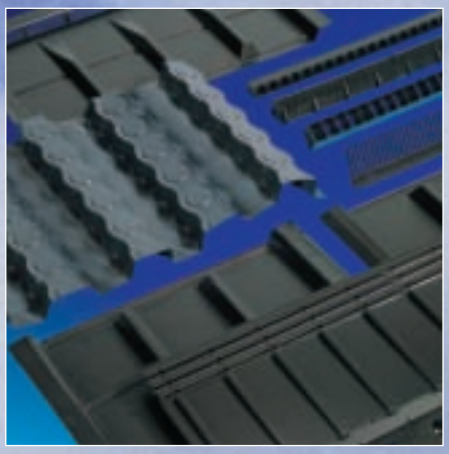
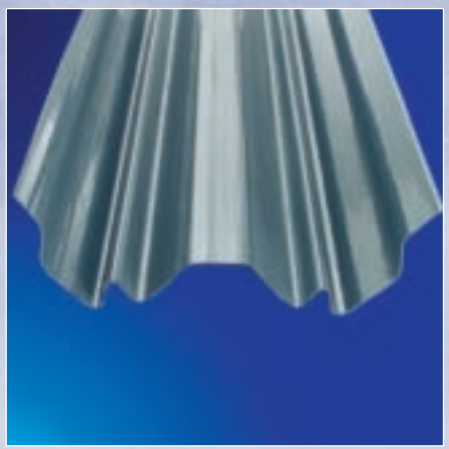
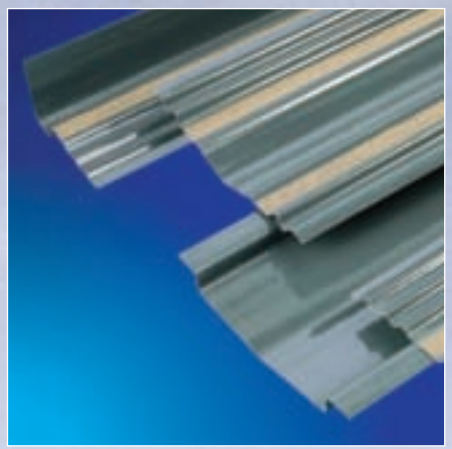








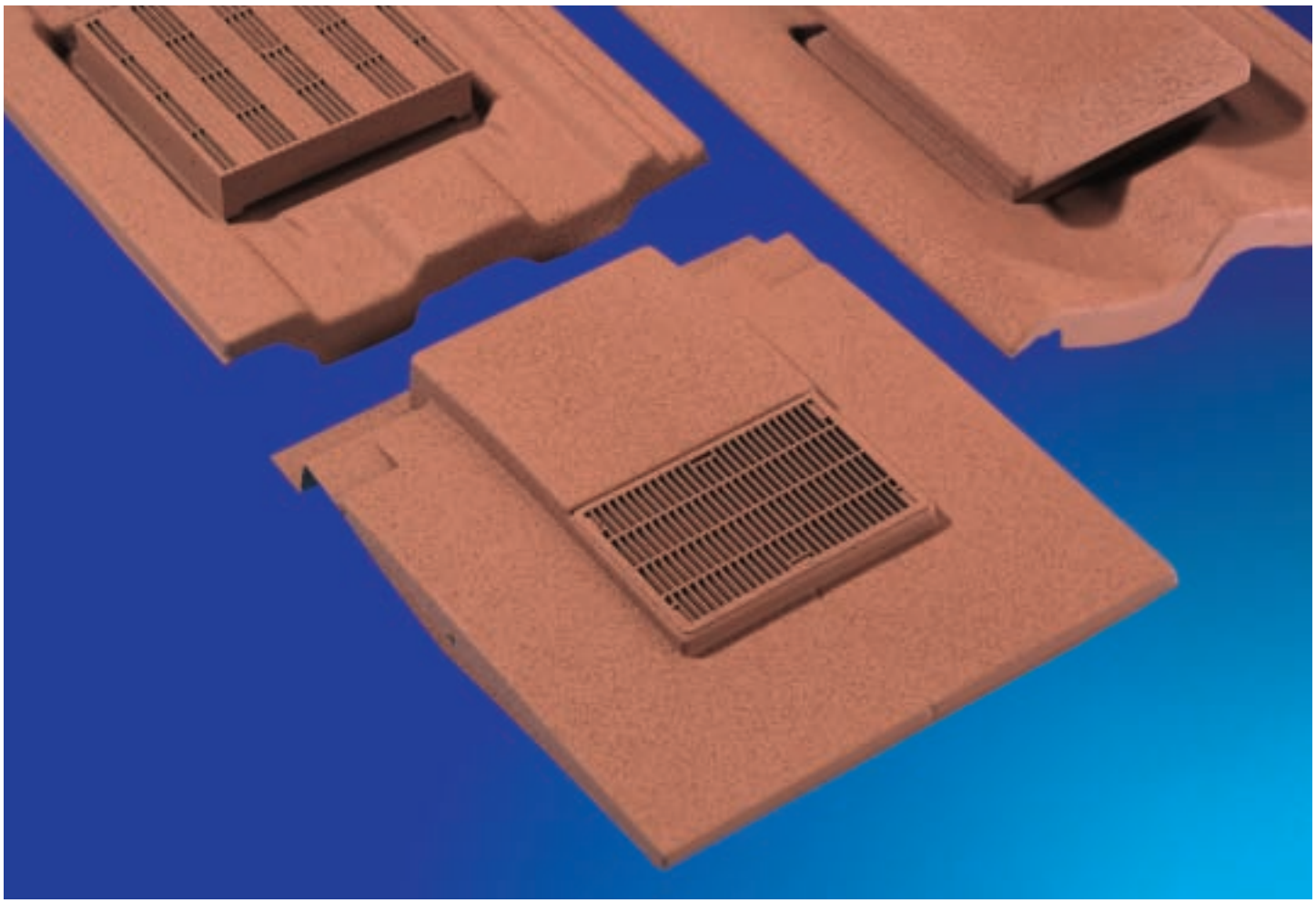


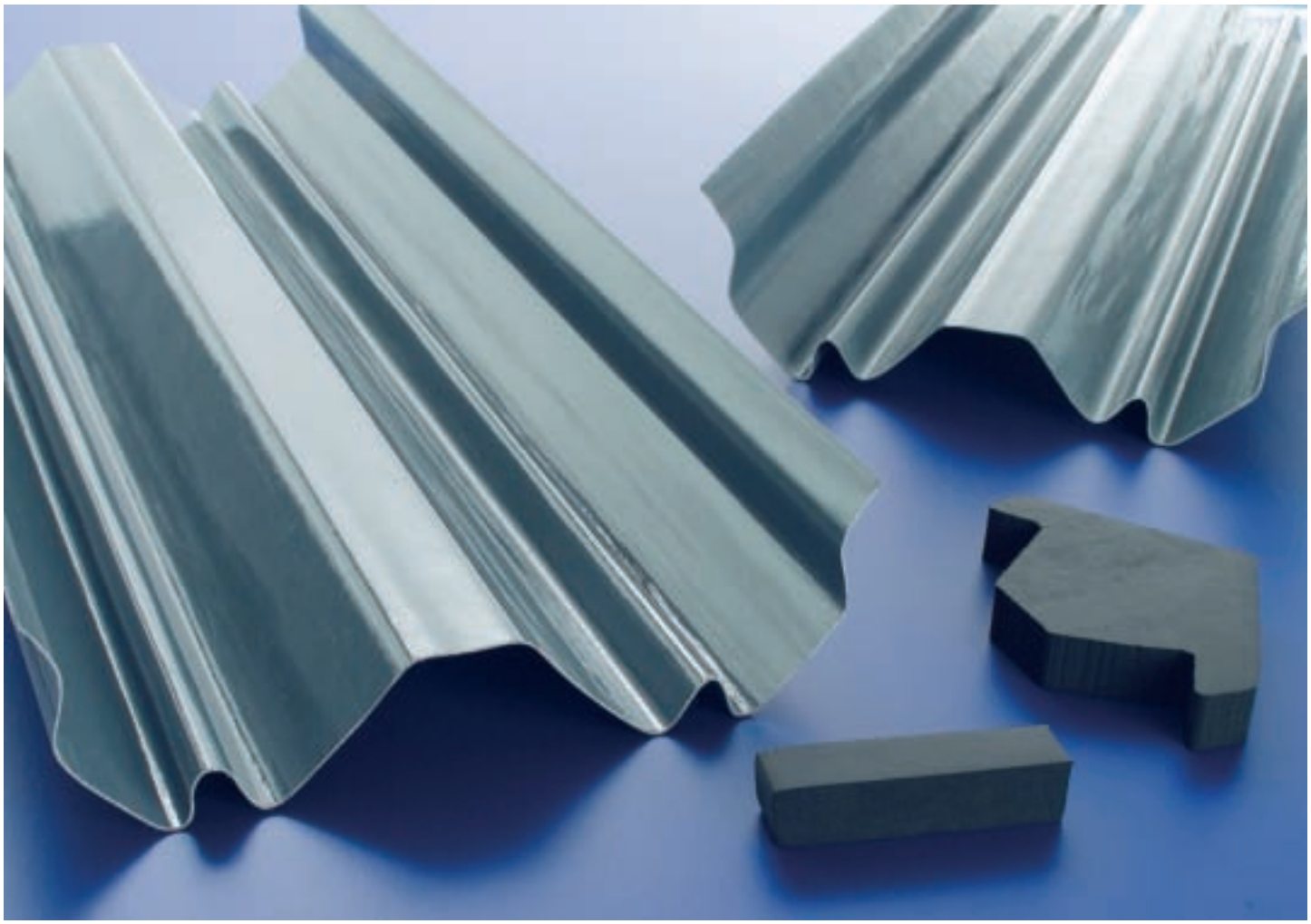
Corovent®
Roof Ventilation

Corodrain®
Roof Drainage

Roof Ventilation and Drainage

BRETT MARTIN harcon





BRETT MARTIN

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Corovent® Roof Ventilation

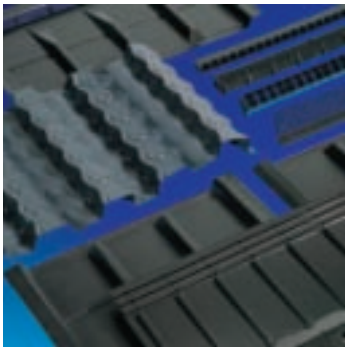
Corodrain® Roof Drainage

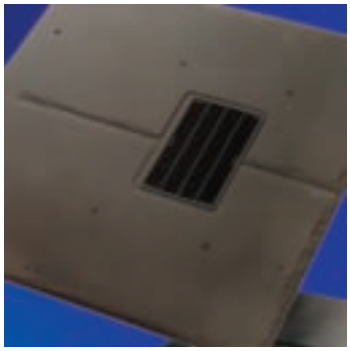
Roofing Accessories

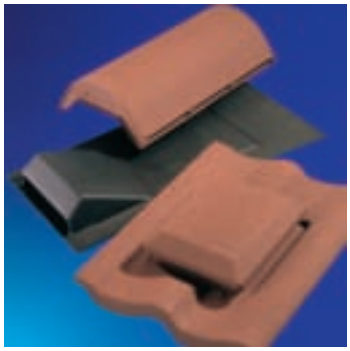
Buildings have become more airtight and more moisture is generated within the structure, making it important to ventilate buildings properly. Corovent is a comprehensive range of roof ventilation options all designed to blend discreetly into the roof and provide straightforward installation.

The Corodrain GRP roof drainage range, like lead, is very durable and will provide many years of trouble free service. It is supplied as a preformed product so is simple to install.

A new universal dry fix ridge system designed to facilitate fast efficient installation has been added to the range.







Detailed technical information and a pdf of this brochure can be found at:

www.harcon.co.uk

Corovent®
Roof Ventilation

Tile Roofline Vent

This comprehensive range of tile vents are available to match most known tiles, with specials available on short lead times. A colour matching service ensures that even on a weathered roof the Corovent will blend discreetly with the existing tiles.

Profiled Tile Roofline Vents

A discreet interlocking tile vent that is almost invisible from the ground. The vent will be the same size as the tile it is matching.

FEATURES

Unique discreet cassette allowing the vent to sit unobtrusively in the roof yet keeping water above the roofline at all times - see page 5 for full details.

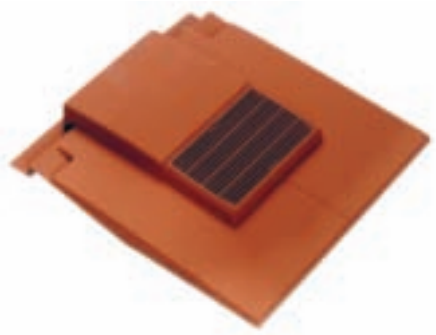
Factory fitted round felt sleeve which significantly reduces the felt tearing that can occur around rectangular spigots.

RV10K Large spigot for roof ventilation

RP10K Pipe terminal that can provide either 110mm or 125mm connections

Ventilation Area:	10 000mm²
Water Resistance:	Exceeds all relevant parts of DoE Partners in Technology Programme
Roof Pitches:	Over 20°

Plain Tile Roofline Vents



A neat and compact design that will maintain the aesthetics of a plain tile roof. This vent is designed for use with the standard 265mm x 165mm plain tile, replacing only 3 tiles without the need to cut any roof battens or surrounding tiles.

FEATURES

Careful design ensures the plain tile roofline vent is virtually invisible from the ground. A box below the vent collects any water that enters it and ducts it back onto the roof.

Rectangular outlet designed to fit between standard plain tile battens with a factory fitted neat felt sleeve.

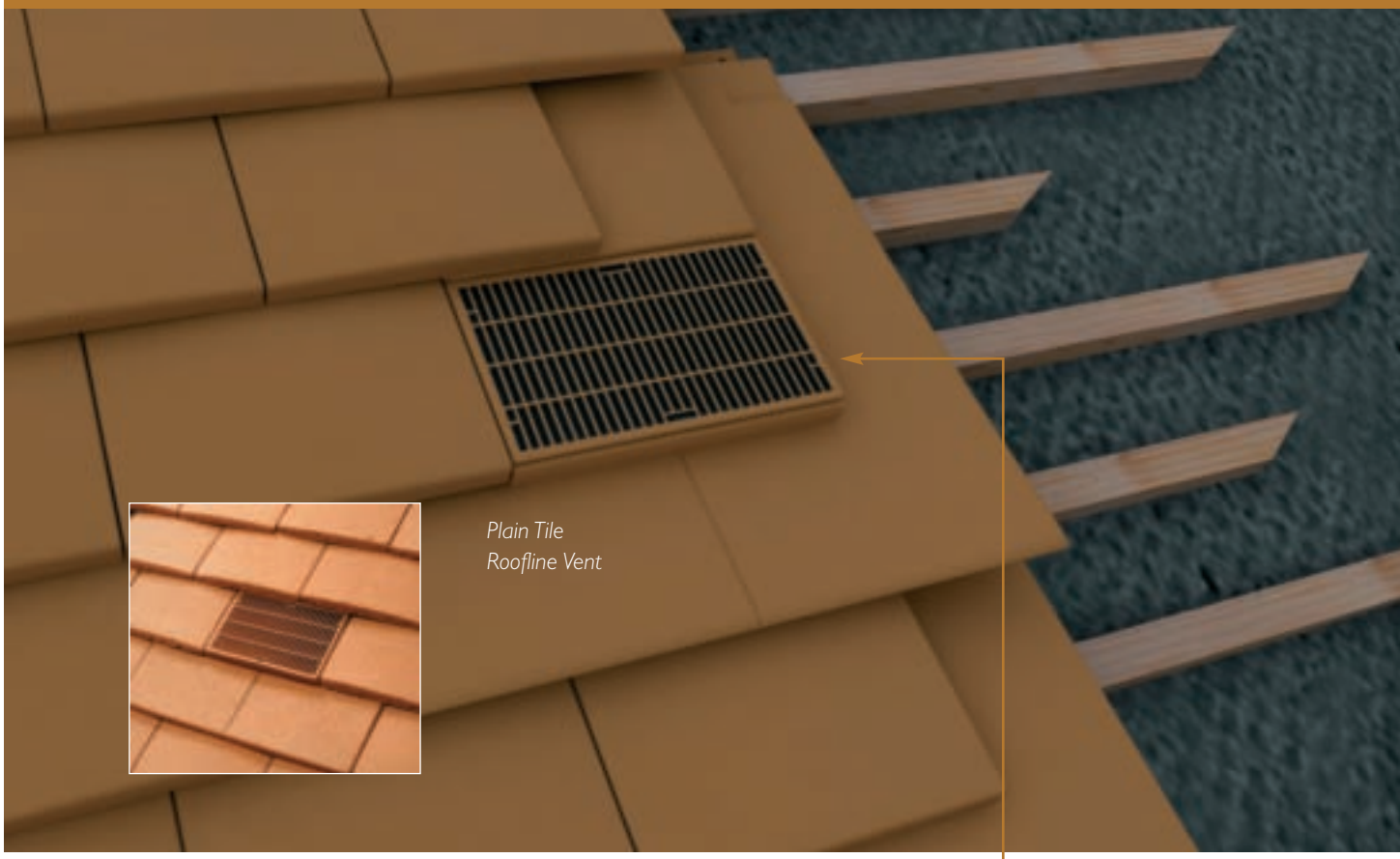
RV8K 110mm diameter spigot for roof ventilation

RP8K Pipe terminal that can provide either 110mm or 125mm connections supplied with separate NSA110 adaptor allowing simple installation without the need to cut tile battens.

Ventilation Area:	8 000mm²
Water Resistance:	Exceeds all relevant parts of DoE Partners in Technology Programme
Roof Pitches:	Over 20°

Please see page 14 for a full range of optional accessories.

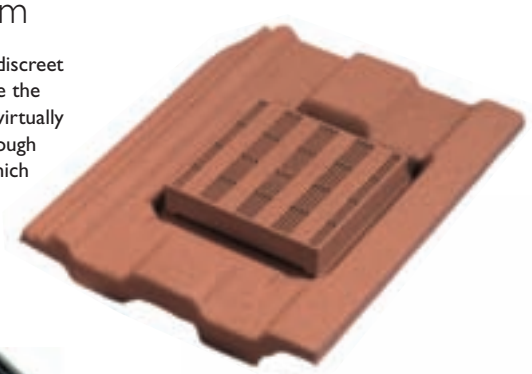
Tile Roofline Vents



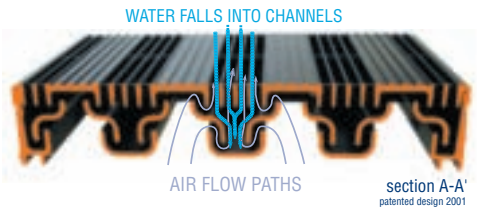
Plain Tile Roofline Vent

Discreet Cassette System

All of the Roofline vents feature the unique discreet cassette system which keeps rainwater above the roofline at all times even though the vent is virtually flush with the roof. Any rainwater falling through the grid is guided into an internal channel which brings it out onto the tile surface, below the vent, to flow down the roof.



Working from a tile sample the finish can be colour and texture matched - new or weathered. Corovent uses a UV resistant, hard wearing, acrylic finish that is highly weather resistant ensuring colour stability for the life of the product.



Tile Vent Technical Data

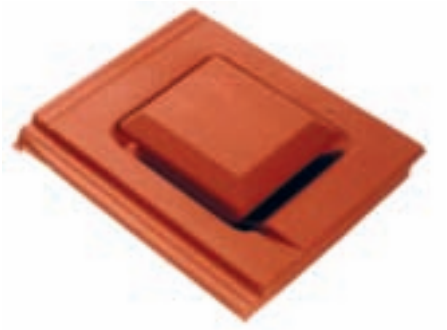
TILE VENT	VENTILATION AREA	AIRFLOW RESISTANCE	ROOF PITCHES	WATER RESISTANCE
RV10K	10 000mm²	N/A	Over 20°	Exceeds all relevant parts of DoE Partners in Technology Programme
RP10K	10 000mm²	19.5 Pascals @ 30ltr/sec	Over 20°	Exceeds all relevant parts of DoE Partners in Technology Programme
RV8K	8 000mm²	N/A	Over 20°	Exceeds all relevant parts of DoE Partners in Technology Programme
RP8K	8 000mm²	20 Pascals @ 30ltr/sec	Over 20°	Exceeds all relevant parts of DoE Partners in Technology Programme

Corovent®
Roof Ventilation

Tile Cowl Vent

A comprehensive range of tile cowl vents available to match most known tiles, with specials available on short lead times. A colour matching service ensures that even on a weathered roof the Corovent will blend discreetly with the existing tiles.

Interlock and Plain Tile Cowl Vents



A low profile cowl vent with a small cowl.

FEATURES

Cowl incorporates barriers to prevent water ingress and block wind driven rain, allowing the water to drain away down slope.

Factory fitted round felt sleeve which significantly reduces the felt tearing that can occur around rectangular spigots.

CV10K Large spigot for roof ventilation
CP10K Pipe terminal that can provide either 110mm or 125mm connections

Ventilation Area:	10 000mm²
Water Resistance:	Exceeds all relevant parts of DoE Partners in Technology Programme
Roof Pitches:	Over 20°

A low profile cowl vent with a large cowl.

FEATURES

Cowl incorporates barriers to prevent water ingress and block wind driven rain, allowing the water to drain away down slope.

Factory fitted round felt sleeve which significantly reduces the felt tearing that can occur around rectangular spigots.

CV20K Large spigot for roof ventilation

CP20K Pipe terminal that can provide either 110mm or 125mm connections

Ventilation Area:	20 000mm²
Water Resistance:	Exceeds all relevant parts of DoE Partners in Technology Programme
Roof Pitches:	Over 20°

Please see page 14 for a full range of optional accessories.

Tile Roof Vents

CV10K - Small Cowl

CV20K - Large Cowl

Working from a tile sample the finish can be colour and texture matched - new or weathered. Corovent uses a UV resistant, hard wearing, acrylic finish that is highly weather resistant ensuring colour stability for the life of the product.

Tile Cowl Vent Technical Data

TILE VENT	VENTILATION AREA	AIRFLOW RESISTANCE	ROOF PITCHES	WATER RESISTANCE
CV10K	10 000mm²	N/A	Over 20°	Exceeds all relevant parts of DoE Partners in Technology Programme
CP10K	10 000mm²	18.5 Pascals @ 30ltr/sec	Over 20°	Exceeds all relevant parts of DoE Partners in Technology Programme
CV20K	20 000mm²	N/A	Over 20°	Exceeds all relevant parts of DoE Partners in Technology Programme
CP20K	20 000mm²	9.5 Pascals @ 30ltr/sec	Over 20°	Exceeds all relevant parts of DoE Partners in Technology Programme

Corovent®
Roof Ventilation

Slate Cowl Vent

A range of slate vents available riven to match natural slate or plain, matching man made tiles.

CV10K Slate Cowl Vent
CP10K Slate Cowl Vent with Pipe Connectors
This is a low profile cowl vent featuring a small cowl with a ventilation area of 10 000mm². The CV10K and CP10K are 600mm x 300mm, designed for use with 500mm x 250mm slates and feature a simulated joint line. Both CV10K and CP10K are available in either a riven finish to match natural slate or a plain finish to match man made tiles.

FEATURES
Cowl incorporates barriers to prevent water ingress and block wind driven rain, allowing the water to drain away down slope.

Factory fitted round felt sleeve, significantly reducing the felt tearing that can occur around rectangular spigots.

CV10K Large spigot for roof ventilation

CP10K Pipe terminal that can provide either 110mm or 125mm connections

Ventilation Area:	10 000mm²
Airflow Resistance:	18.5 Pascals at 30 litres per sec
Water Resistance:	Exceeds all relevant parts of DoE Partners in Technology Programme
Roof Pitches:	Over 20°

CP20K Slate Cowl Vent
CV20K Slate Cowl Vent with Pipe Connectors
This is a low profile cowl vent with a large cowl providing a ventilation area of 20 000mm². The CV20K and CP20K are available in 2 sizes: 600 x 300mm and 500 x 500mm designed for use with 500 x 250mm slates and features a simulated joint line.

FEATURES
Cowl incorporates barriers to prevent water ingress and block wind driven rain, allowing the water to drain away down slope.

Factory fitted round felt sleeve, significantly reducing the felt tearing that can occur around rectangular spigots.

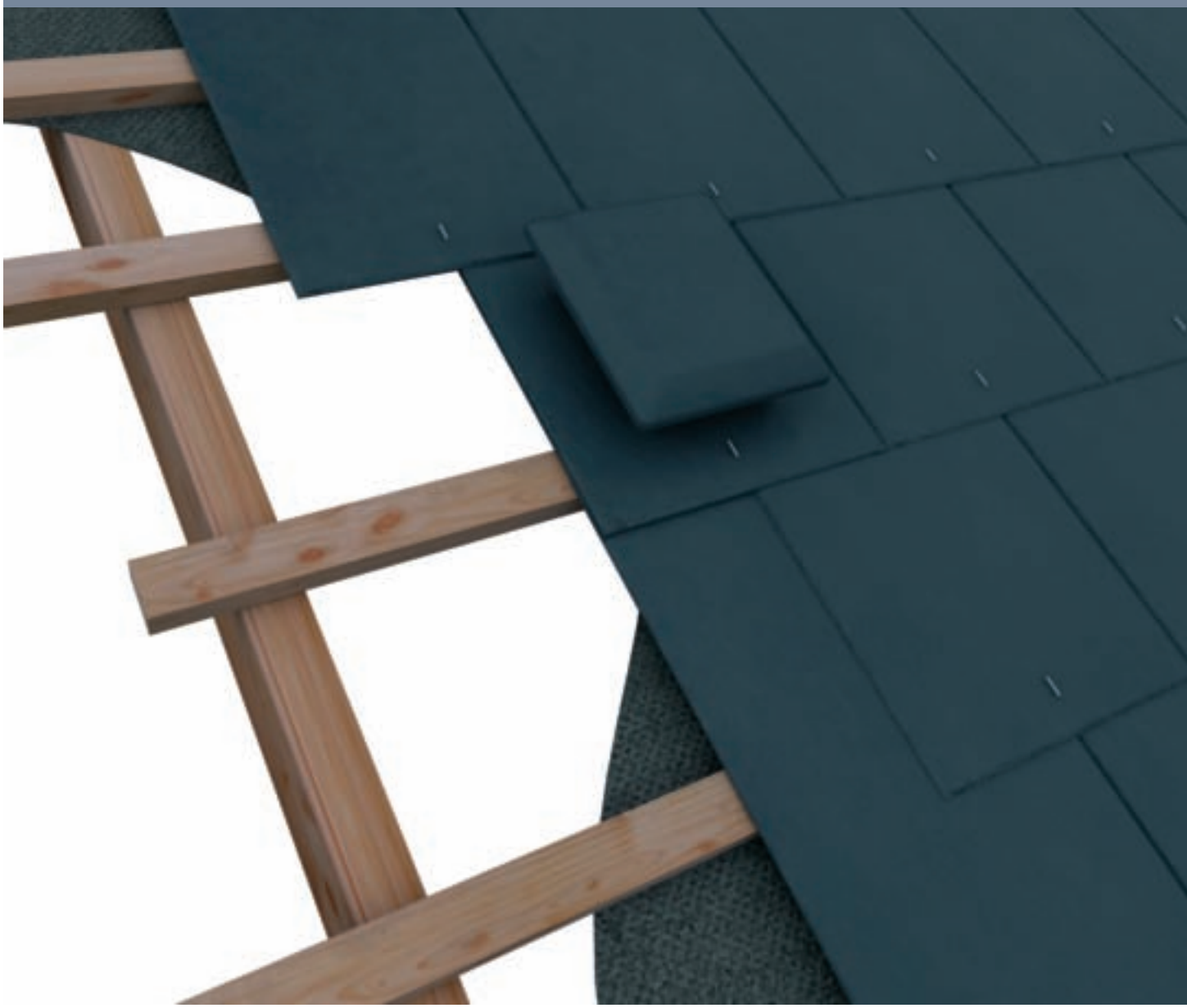
CV20K 110mm diameter spigot for roof ventilation

CP20K pipe terminal that can provide either 110mm or 125mm connections

Ventilation Area:	20 000mm²
Airflow Resistance:	9.5 Pascals at 30 litres per sec
Water Resistance:	Exceeds all relevant parts of DoE Partners in Technology Programme
Roof Pitches:	Over 20°

Please see page 14. for a full range of optional accessories.

Slate Cowl Vents



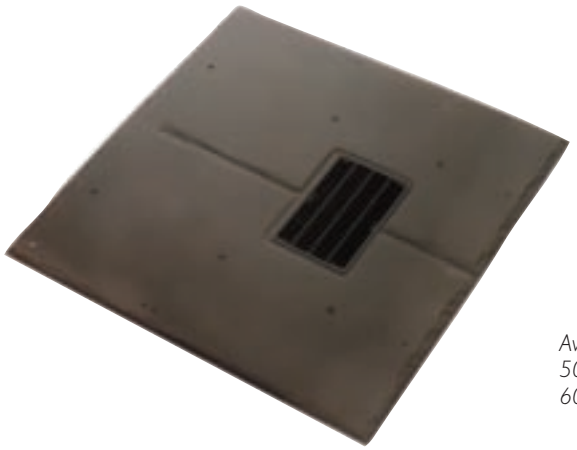
Slate Cowl Vent Technical Data

SLATE VENT	VENTILATION AREA	AIRFLOW RESISTANCE	ROOF PITCHES	WATER RESISTANCE
CV10K	10 000mm²	N/A	Over 20°	Exceeds all relevant parts of DoE Partners in Technology Programme
CP10K	10 000mm²	18.5 Pascals @ 30ltr/sec	Over 20°	Exceeds all relevant parts of DoE Partners in Technology Programme
CV20K	20 000mm²	N/A	Over 20°	Exceeds all relevant parts of DoE Partners in Technology Programme
CP20K	20 000mm²	9.5 Pascals @ 30ltr/sec	Over 20°	Exceeds all relevant parts of DoE Partners in Technology Programme

Corovent®
Roof Ventilation

Slate Roofline Vent

A range of slate roofline vents available riven to match natural slate or plain, matching man made tiles.



Available in
500mm x 500mm
600mm x 300mm

An exceptionally discreet vent designed for use in slate roofs. The RV10K and RP10K Roofline Slate vent are available in two sizes: 600 x 300mm and 500 x 500mm. The 500 x 500mm unit positions the vent in the centre with a simulated joint line, so it blends into a roof of 500 x 250mm slates. Both RP10K and RP20K are available in either a riven finish to match natural slate or a plain finish to match man made tiles.

FEATURES
Careful design ensures the slate roofline vent is virtually invisible from the ground. A box below the vent collects any water that enters it and ducts it back onto the roof.

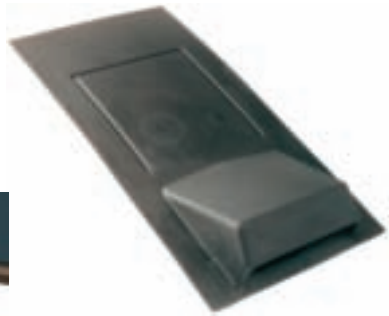
RV10K Large spigot for roof ventilation

RP10K pipe terminal that can provide either 110mm or 125mm connections

Ventilation Area:	10 000mm²
Airflow Resistance:	19.5 Pascals at 30 litres per sec
Water Resistance:	Exceeds all relevant parts of DoE Partners in Technology Programme
Roof Pitches:	Over 20°

Economy Slate Vent

The Economy Vent provides a discreet, efficient and cost effective ventilation option for slate roofs.



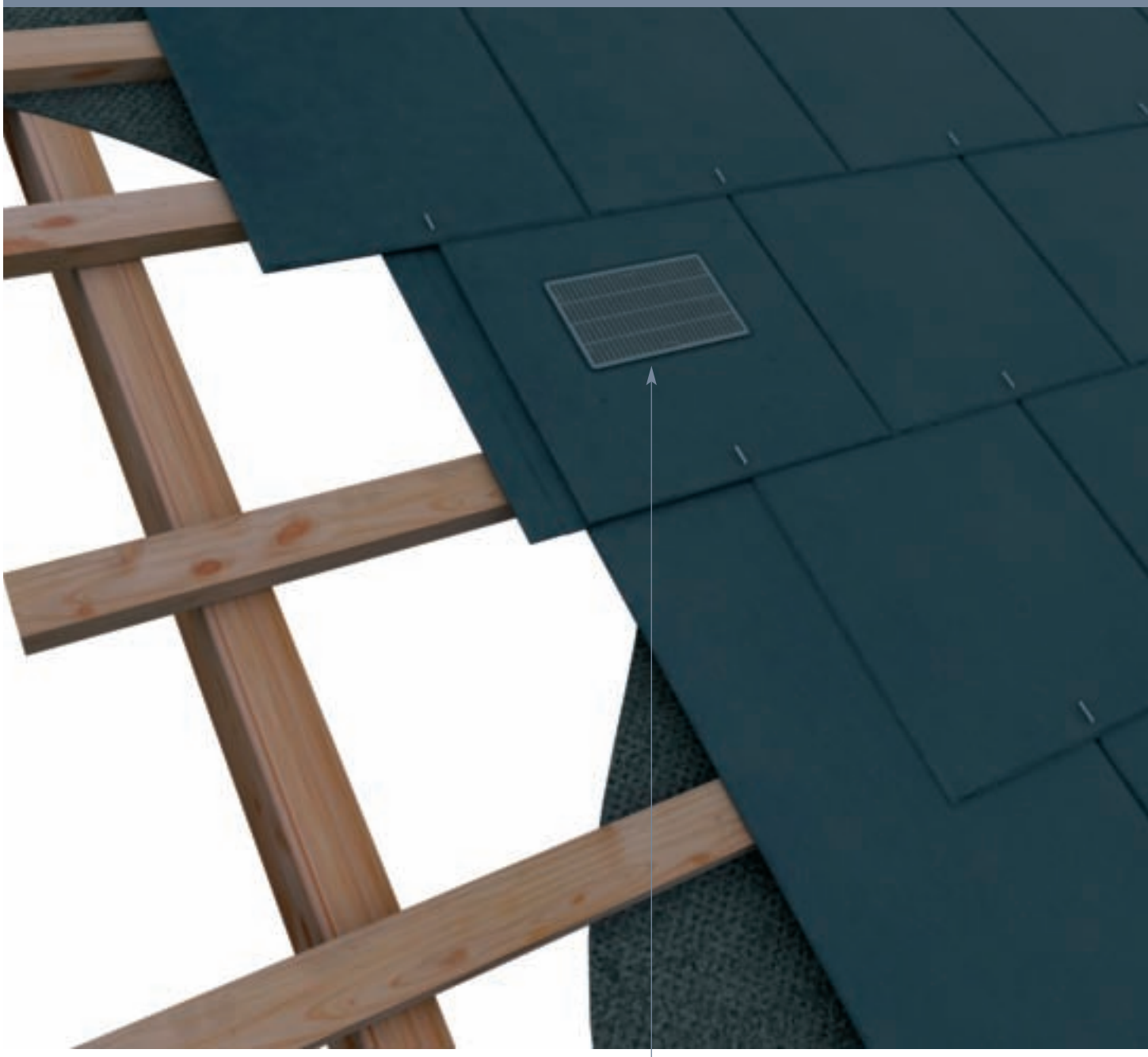
The Corovent economy slate vent is a durable, injection moulded polypropylene vent in a matt grey finish.

FEATURES
It is 600 x 300mm as standard but can be trimmed to 500 x 250mm if required

Ventilation Area:	7 200mm²
Water Resistance:	Exceeds all relevant parts of DoE Partners in Technology Programme
Roof Pitches:	Over 20°

SLATE VENT	VENTILATION AREA	AIRFLOW RESISTANCE	ROOF PITCHES	WATER RESISTANCE
HV1/HP1	7 200mm²	20 Pascals @ 30ltr/sec	Over 20°	Exceeds all relevant parts DoE Partners in Technology Programme

Slate Roofline Vents



Working from a tile sample the finish can be colour and texture matched - new or weathered. Corovent uses a UV resistant, hard wearing, acrylic finish that is highly weather resistant ensuring colour stability for the life of the product.

Slate Roofline Vent Technical Data

SLATE VENT	VENTILATION AREA	AIRFLOW RESISTANCE	ROOF PITCHES	WATER RESISTANCE
RV10K	10 000mm²	N/A	Over 20°	Exceeds all relevant parts DoE Partners in Technology Programme
RP10K	10 000mm²	19.5 Pascals @ 30ltr/sec	Over 20°	Exceeds all relevant parts DoE Partners in Technology Programme

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Corovent®
Roof Ventilation

Ridgeline Vent

Extracting from the highest point of the roof can increase the efficiency of airflow giving ridge ventilation significant advantages over other types of ventilation.

Ridgeline Vent

TV3N Ridgeline Vent
TV31N Ridgeline Vent with Extension Sleeve
TV3SN Ridgeline Vent with Extension Sleeve and Pipe Adaptor
Designed to replace a normal ridge tile they are available to match all popular ridge tiles and can also be made to match obsolete tiles making them virtually indistinguishable from original tiles.

FEATURES
Unique design allowing it to be fitted without cutting any existing ridge board.

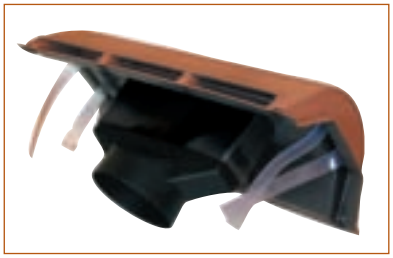
The large ventilation capacity of 12 500mm² means it is suitable as an outlet terminal on most passive ventilation systems.

Tiles less than 300mm long will have a lower ventilation capacity.

Particularly suitable for heritage and conservation projects as it prevents interfering with historic sweeps of tiles.

Ventilation Area:	12 500mm² for ridge vents over 300mm long, shorter ridge vents will have a lower ventilation area
Airflow Resistance:	With 125mm outlet 4.0 Pascals at 30 litres per sec With 110mm outlet 9.9 Pascals at 30 litres per sec
Water Resistance:	Exceeds all relevant parts of DoE Partners in Technology Programme

TV31N - incorporates a factory fitted rectangular extension sleeve that maintains a clear path through the felt, no other felt sleeve is needed.

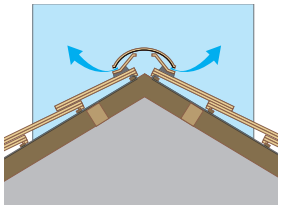


TV3SN - incorporates an extensive sleeve and a pipe terminal that can provide either 110mm or 125mm connections.

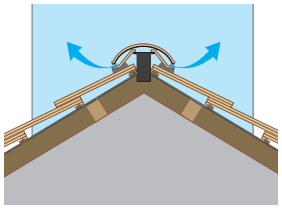
Ridgeline Vents

Refurbished Roof

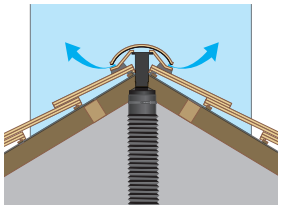
New Roof



TV3N Ridgeline Vent



TV31N Ridgeline vent with extension sleeve



TV3SN Ridgeline Vent with extension sleeve and pipe adaptor shown with optional CT1C Flexitube

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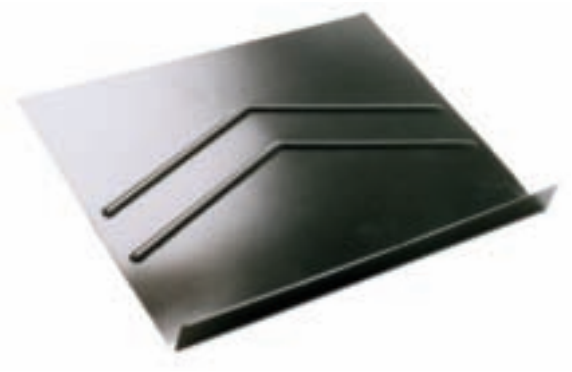
Corovent®
Roof Ventilation

ACCESSORIES FOR USE WITH COROVENT

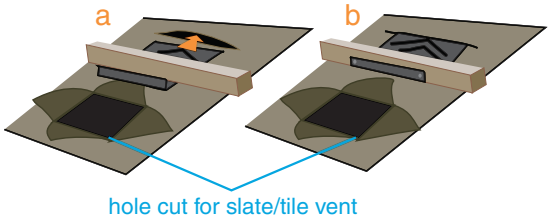


FW1 Felt Weir
To fit any vent it is necessary to cut the felt. If the felt is cut carefully in line with recommended fixing instructions moisture leakage through the cut should not occur. It is however good practice to fit a felt weir above any opening in the roof felt.

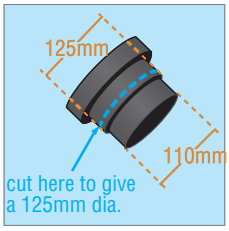
The felt weir features ridges which guide any condensation or rainwater away from the opening in the felt. It helps to ensure that no moisture will penetrate the opening

THE FELT WEIR IS VERY SIMPLE TO INSTALL

1. Cut a slit in the felt, approximately 50mm above the batten
2. Slide the weir under the batten directly above the opening in the roofing membrane, inserting top of weir into slit above the batten
3. Nail the weir to the batten
4. Nail membrane over the batten in the normal way



CT1C Flexitube
A highly durable flexible tubing that connects pipe terminals to 110mm diameter soil or extractor pipes. It is pressure tested in accordance with BS5250 and is supplied compressed and netted with fixing clips.



COA1 Pipe Adaptor
Provides a 110mm diameter outlet as standard which can be cut down to provide a 125mm diameter section if needed.

The COA1 Converts
RV10K to RP10K
CV10K to CP10K
CV20K to CP20K
RV8K to RP8K

Installation

INSTALLATION: Cowl or Roofline Vents for Slate Roof

1 Complete roofing to one course below the position for the slate vent.

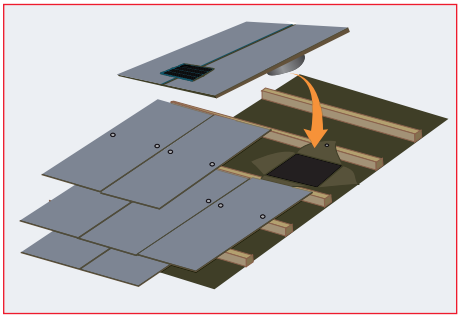
2 Hold vent in position as centrally as possible between the rafters and mark where the vent spigot touches the underlay.
For 500mm x 250mm slates only - cut and remove section of batten.

3 Cut underlay in a cross, fold up and back, nail over battens.

4 Cut slates for next course below vent.

5 Fit slate vent and nail to batten.

6 Cut slates for next course (not for 600mm x 300mm roofline vents).



INSTALLATION: Cowl or Roofline Vents for Tile Roof

1 Complete roofing to one course below the position for the tile vent.

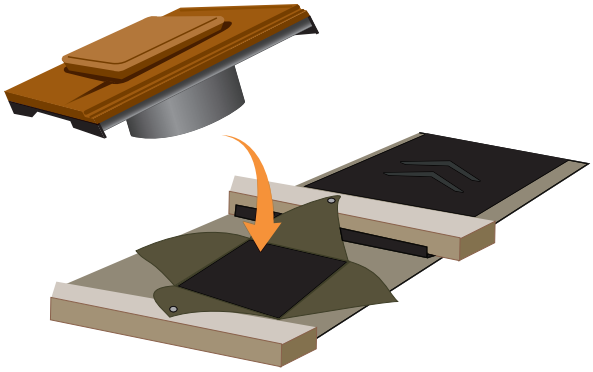
2 Hold vent in position as centrally as possible between the rafters and mark where the vent spigot touches the underlay.

3 Cut underlay in a cross, fold up and back.

4. Insert felt weir, if using, under batten above opening, positioning it centrally above the hole.

5. Nail felt weir to the batten.

6. Nail felt over the battens.



INSTALLATION: Ridge Vent

1 Hold ridge vent in position and mark the underfelt directly below the ridge vent outlet. Cut and remove the underlay as marked.

2 Bed ridge vents in mortar in a similar manner to the standard ridges. Nail the retaining straps to rafters/ridge board.

3 Complete ridge in normal manner.

If using pipe adaptor, clip to felt sleeve and attach CT1C flexitube, after fitting into roof.

Corovent®
Roof Ventilation

Universal Dry Fix Ridge System

Dry fix ridge systems speed on-site installation. They eliminate the need to carry mortar to the top of the roof making ridge installation easier, quicker and safer.

Corovent URS is suitable for use with both curved and angular ridges. It accommodates more ridge tiles than any other system.

Union strip and cap are available in black or mortar grey

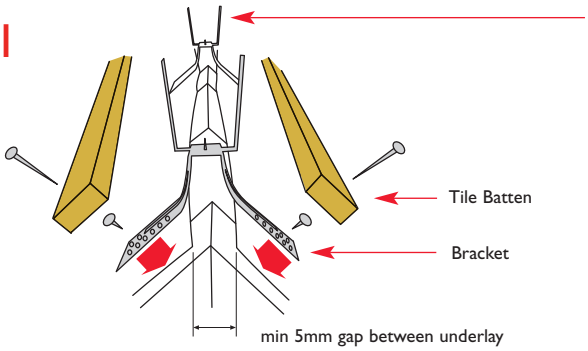
URS6 Dry Ridge System consists of:

- 6m Dry Ridge Roll Out Tray
- 13 Dry Ridge Union Strips
- 13 Dry Ridge Caps
- 13 Dry Ridge Brackets

Designed for standard ridge tiles 450mm width.
If shorter ridges are being used more strips will be required - these can be purchased separately.

Simple Installation

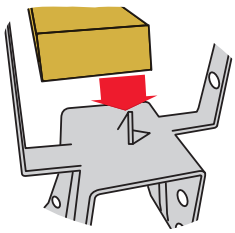
1



Fix one bracket at each rafter.
Bend lower legs of bracket to suit chosen ridge tile, allowing stainless steel fixing screw (see Stage 6) to penetrate ridge batten at a minimum of 20mm.

Correct bending position is best found by temporarily placing top tile batten and a few roof and ridge tiles and eyeing up bracket position beneath ridge tile. Subsequent brackets should be bent identically to the first.

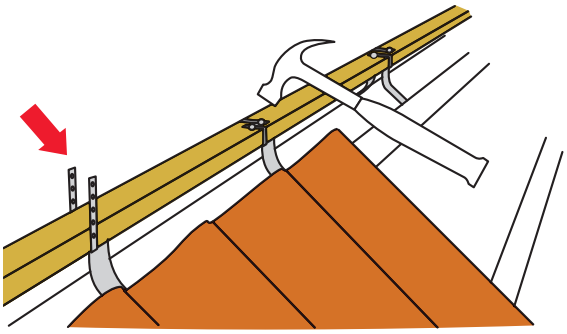
2a



Push ridge batten (min25x50mm) firmly onto location spikes.

CAUTION:
DO NOT USE A HAMMER
- PUSH BATTEN ONLY!

2b

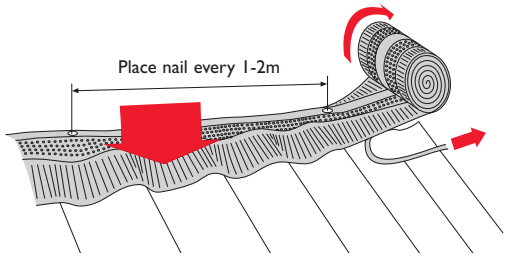


When ridge batten is in place, bend bracket upper legs over and fix through holes with nails provided.

CAUTION: TAKE CARE NOT TO FURTHER BEND BRACKET LOWER LEGS WHEN FIXING!

Proceed to lay top row of roof tiles.

3

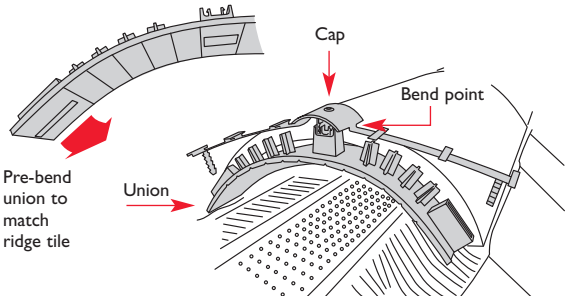


Unroll ridge-roll[1] and fix with a nail at 1-2m centres.

Peel backing from mastic strips and press firmly onto tile, checking for good adhesion. Do not attempt fixing if tile is wet or temperature is below 5°C.

If ridge is longer than 6m, overlap rolls by a minimum of 75mm and place a nail in the centre of the lap.

4

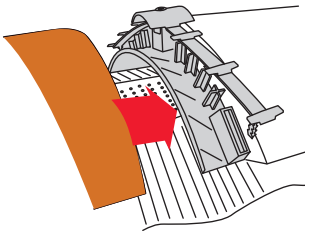


Assemble cap to union and push onto ridge tile.
Cap & Union assembly should grip ridge tile without deformation to cap.

Only if needed i.e. triangular ridge tiles, cap arms can be bent at bend point indicated.

CAUTION: BEND ONCE ONLY. REPEATED BENDING CAN OVERSTRESS THE COMPONENT AND LEAD TO PREMATURE FAILURE!

5



Push next ridge tile firmly into place, trapping it between the cap and union[2]

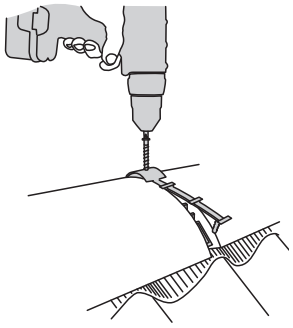
6

Fix through hole in centre of cap using 75mm stainless steel screws provided.

CAUTION: DO NOT USE NAILS!

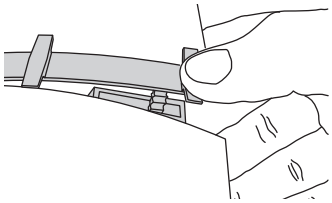
Screw should be tightened so that ridge tiles do not lift.

Cap should not deform more than 3mm from its original shape.



7

Click side arms into place



NOTE:
IF AT THIS POINT IT IS DISCOVERED THAT THE BRACKETS WERE NOT SET HIGH ENOUGH AT STAGE 1, ANOTHER BATTEN CAN BE SCREW FIXED ON TOP OF THE ORIGINAL TO ACHIEVE CORRECT ENGAGEMENT. ENSURE ADDITIONAL BATTEN DOES NOT BLOCK VENT HOLES IN RIDGE ROLL.

1: Ridge roll should overlap at edge of gable end by approx. 50mm when using a dry verge or block end ridge tile. When using a bedded verge, stop ridge roll 50mm short from edge of gable end.

2: Ridge tiles at end of ridge must be full tiles, do not cut down.

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Corovent®
Roof Ventilation

Eaves Ventilation

Eaves ventilation is a simple and effective way of providing the necessary air movement within a cold roof. It is most effective when used in conjunction with high level roof ventilation, provided by Corovent slate, tile and ridge vents, as it utilises the natural thermal uplift in a roof void. The Building Regulations demand eaves ventilation in most cold roofs and often high level ventilation as well. Appendix 1, Roof Ventilation and the Building Regulations provides basic guidance on the ventilation requirements for different roof types.

Corovent Eaves Fascia Trays

Developed to provide a neat membrane finish preventing puddling and the risk of felt rotting. These lightweight, rigid trays support the lower edge of the underlay allowing it to be cut back short of the gutter.

FT60
600mm long fascia tray

Simple on site handling as only 600mm long and lightweight

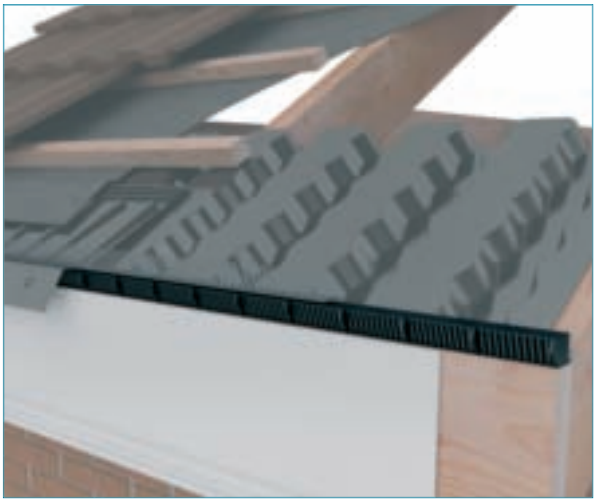
Suitable for use with all slates and tiles

FT150
1500mm long fascia tray

Easier to install as fewer are needed on each roof

Suitable for use with all slates and tiles

Eaves Ventilation



Corovent Over Fascia Vent

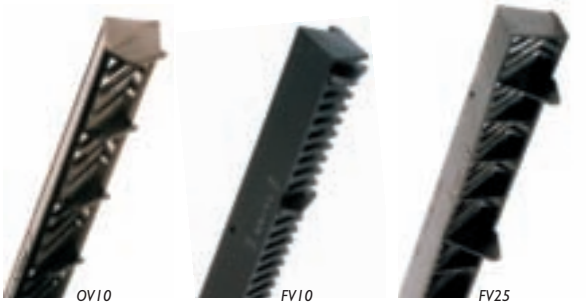
Discreet eaves ventilation which is highly effective despite being virtually invisible and is suitable for use on buildings with or without soffit overhangs and with corbelled eaves. Made from lightweight yet, very strong polypropylene, it features a 4mm grill stopping large insects or small rodents getting into the roof void.

OV10

- Unique low profile design is only 16mm high
- Minimum disruption to eaves detail
- 10mm continuous ventilation into the roof void
- Matches FV10 in all other respects

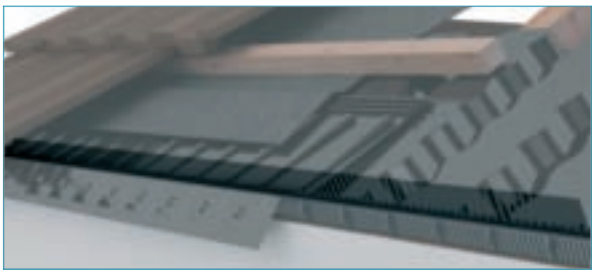
FV10 & FV25

- Discreet eaves ventilation available for 10mm and 25mm of continuous ventilation respectively
- Undetectable once installed
- Extremely strong, resists the weight of tiles and crushing of foot traffic whilst roof is being finished
- Corrosion and rot resistant
- Integral 4mm grill prevents entry of large insects or rodents into the roof void
- Ideal for use on all slate or tile roofs



OV10 *FV10* *FV25*

Corovent Eaves Comb Filler



CF1

Designed for use with profiled tiles

Creates a barrier against birds, large insects and small rodents, preventing them from entering the cavity between the tiles and the roof felt

Simple installation

Corovent Eaves Kits

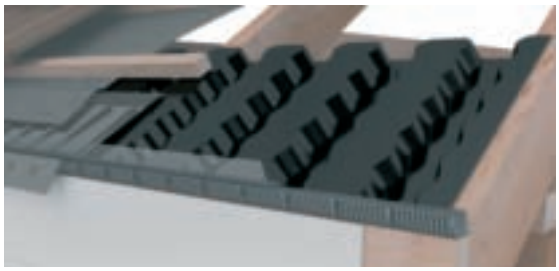
To simplify ordering and installation the Corovent eaves ventilation kit provides a complete system to ventilate 6m of eaves at any common rafter centres.

Each kit contains:

- 6m roll Corovent continuous rafter tray
- 6 Corovent over fascia vents
- 10 Corovent eaves fascia trays

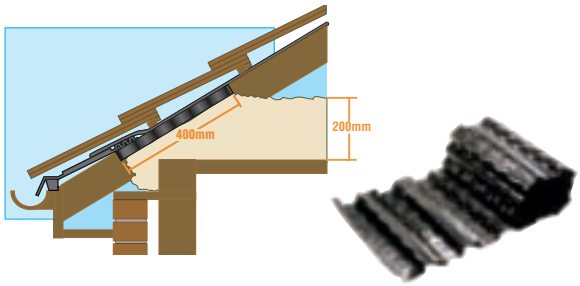
Code	Continuous Ventilation	Rafter Tray Width
HK1	10mm	400mm
HK2	25mm	400mm
HK21	10mm	800mm
HK22	25mm	800mm

Corovent®
Roof Ventilation



Rafter Trays

The rafter tray maintains a clear air space of either 10 or 25mm from the eaves to the roof void, by creating a barrier for the roofspace insulation.



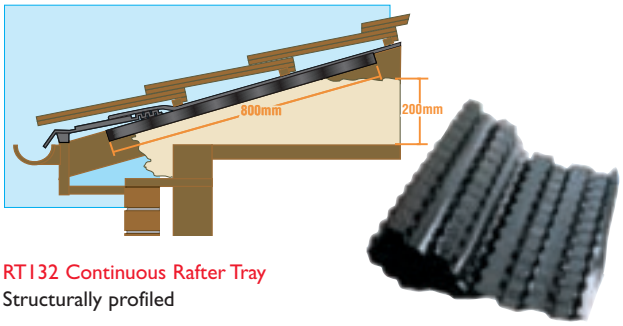
RT66 Continuous Rafter Tray
Structurally profiled

Better rigidity than standard continuous rafter trays

Maintains a full 25mm air path down the line of the roof

400mm deep

Will cover a 200mm depth of insulation at a minimum 30°pitch



RT132 Continuous Rafter Tray
Structurally profiled

Better rigidity than standard continuous rafter trays

Maintains a full 25mm air path down the line of the roof

800mm deep

Will cover a 200mm depth of insulation at a minimum 15°pitch, 250mm at a minimum 18°pitch, 300mm at a minimum 22°pitch or 400mm depth of insulation at a minimum 30°pitch

RT60, 45 & 40 Standard Rafter Trays
These trays provide 10mm of continuous ventilation with options for 400, 450 & 600mm rafter spacings. Versions providing 25mm of continuous ventilation are available for 400 & 600mm spacings.

RT61 & 41 Warm Roof Rafter Trays
These trays are designed for warm roofs or roofs below 15° providing 25mm of continuous ventilation

RF60, 45 & 40 Combined Eaves Ventilator Rafter Tray
Specially designed for open or cottage style eaves these units act as an eaves ventilator and a rafter tray

10mm continuous ventilation

Maintains a 10mm spacing between the insulation and the roofing membrane

Incorporates an insect grill

Versions for 400, 450 & 600mm rafter spacings

RR46 Refurbishment Rafter Tray
Designed for refurbishment situations

Fitted from within the roof void

Can accommodate a wide range of roof pitches

Provides 25mm of continuous ventilation

Corovent Eaves Ventilation Quick Reference Table

	Continuous Rafter Tray		Standard Rafter Tray			Standard Rafter Tray		Flyscreen Rafter Tray			Refurb.
PRODUCT CODE	RT66	RT132	RT60	RT45	RT40	RT61	RT41	RF60	RF45	RF40	RR46
RAFTERS	All	All	600mm	450mm	400mm	600mm	400mm	600mm	450mm	400mm	All
AIR GAP	25mm	25mm	10mm	10mm	10mm	25mm	25mm	10mm	10mm	10mm	10mm

Soffit Ventilation

A range of vents designed for use with a traditional fascia and soffit board.

SV10/SV25 Continuous Soffit Vent

Provides continuous ventilation along the length of the soffit

Neat fixing between the soffit board and the vent

Can accommodate soffit boards 4 -10mm thick

Options to provide 10mm or 25mm of continuous ventilation

Incorporates an insect grill

SA10 Angled Soffit Vent

Versatile soffit vent that can be used with vertical or angled fascia boards

Can be used at the top or bottom of the soffit board

Suitable for use with a soffit of any thickness

Provides 10mm of continuous ventilation

Incorporates an insect grill

SD 20 Soffit Disk Vent

Easy to retro fit to a soffit during refurbishment

Can be used with any soffit over 4mm thick

Each unit provides 2 000mm^2 of ventilation

Incorporates an insect grill

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Corodrain®
Roof Drainage

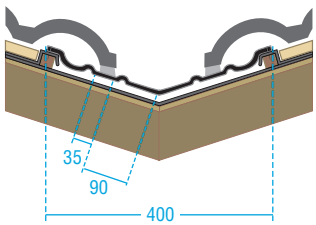
Valley Troughs

Corodrain valley troughs and gutters can be used with almost any form of slate, clay or concrete tiles. They provide an economic and durable alternative to lead.

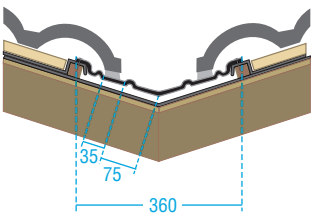
- BBA approved
- Last as long as lead, minimum of 30 years
- At least as durable as lead
- More resistant to accidental damage
- Less prone to theft
- Quicker to install
- Similar appearance
- Considerable cost savings
- UV light and acid rain resistant
- Smooth surface inhibits the growth of moss & lichen and the build up of debris
- Fire resistant to SAB to BS476 part 3 and Class 3 to BS476 part 7

	ROOF AREA LESS THAN 25m²		ROOF AREA 25 – 100m²		
RAFTER PITCH	VALLEY TYPE	MAX. VALLEY LENGTH	VALLEY TYPE	MAX. VALLEY LENGTH	MIN. LAP LENGTH
17.5° to 22°	B / D	7.0m	—	—	350mm
22.5° to 29°	A / B / D	7.0m	B / D	14.5m	300mm
30° to 34°	A / B / D	7.5m	B / D	15.0m	200mm
35° to 39°	A / B / D	7.5m	B / D	15.5m	200mm
40° to 44°	A / B / D	8.0m	B / D	16.5m	150mm
45° to 49°	A / B / D	8.5m	B / D	17.0m	150mm
50° to 55°	B / D	9.0m	B / D	18.5m	150mm

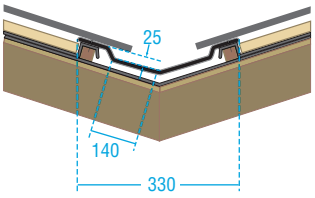
UNITS IN MM



UNIVERSAL VALLEY HD/DX



UNIVERSAL VALLEY HA/AX

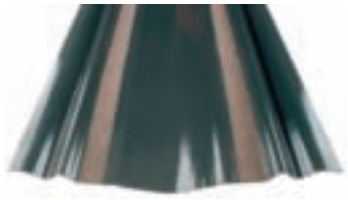


SLATE VALLEY HB/BX

Type B and Type D valley troughs meet the requirements shown in NFRC technical bulletin 28 for 'standard' valley troughs and Type A meet the requirement for 'narrow' valley troughs.

Valley Troughs

A VALLEYS - UNIVERSAL VALLEY TROUGH



SPECIFICATION STANDARD

Width	360mm
Weight	1.83kg/m²*
Lengths & Codes	3 000mm HA30
	2 400mm HA24
	1 800mm HA18
Thickness	1.3mm

SPECIFICATION HEAVY DUTY

Width	360mm
Weight	2.4kg/m²*
Lengths & Codes	3 000mm AX30
	2 400mm AX24
Thickness	1.6mm

FEATURES

Suitable for use on roofs with pitches from 22.5°to 49°

Designed for use with interlocking tiles, can also be used with natural and man made slates

35mm wide sanded strips for mortar adhesion

Can accommodate a maximum difference between 2 rafter pitches of 10°

D VALLEYS - UNIVERSAL VALLEY TROUGH

SPECIFICATION STANDARD

Width	410mm
Weight	1.83kg/m²*
Lengths & Codes	3 000mm HD30
	2 400mm HD24
	1 800mm HD18
Thickness	1.3mm

SPECIFICATION HEAVY DUTY

Width	410mm
Weight	2.4kg/m²*
Lengths & Codes	3 000mm DX30
	2 400mm DX24
Thickness	1.6mm

FEATURES

Suitable for use on roofs with pitches from 17.5°to 55°

Designed for use with interlocking tiles, can also be used with natural and man made slates

35mm wide sanded strips for mortar adhesion

Can accommodate a maximum difference between 2 rafter pitches of 15°

* These are finished product weights

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Corodrain®
Roof Drainage

Diamond 60

SPECIFICATION

Widths Available	360mm & 410mm
Standard weight	2.4kg/m²
Lengths & Codes	3 000mm BD30 B-Valley
	3 000mm DD30 D-Valley
Thickness	1.6mm

FEATURES

Available in Tile 'D' valleys & Slate 'B' valleys

Unique coating improves weather performance

Resistant to virtually all chemicals, solvents and pollutants

The durability of Diamond 60 has been recognised as matching code 7 lead[1]

1 *Recognised by (HAPM) Housing Association Property Mutual. It is designed for very harsh environments and prestige buildings.*

Plain Tile & Slate Valley Troughs

SPECIFICATION

Width	360mm
Standard Weight	1.83kg/m²
Lengths & Codes	3 000mm HB30
	2 400mm HB24
	1 800mm HB18
Thickness	1.3mm

FEATURES

Suitable for use on roofs with pitches from 17.5°to 55°

Designed for use with natural slate, man made slate and plain tiles

Can accommodate a maximum difference between 2 rafter pitches of 15°

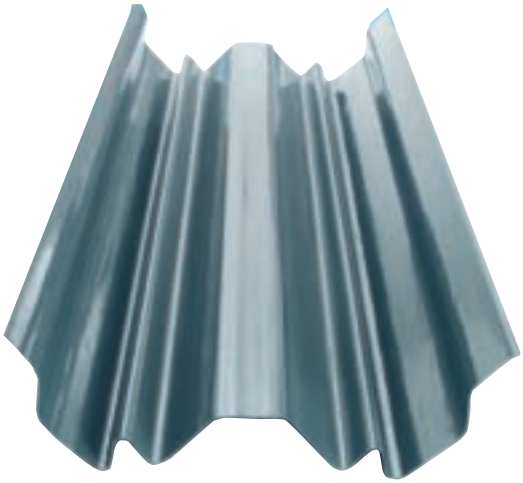
Fixes over the batten for fast and simple installation

Neat unobtrusive design

Slate and Plain Tile Valley Installation

Dry Fix Valley Troughs

Plain Interlocking Tile Dry Fix Valley



SPECIFICATION

Standard Weight	1.83kg/m²
Lengths & Codes	3 000mm DVA30
	2 400mm DVA24
Thickness	1.3mm

FEATURES

Designed for use with interlocking plain tiles

Fixes over the batten for fast, simple installation

Completely eliminates the risk of water coming into contact with the batten

No clips needed, reducing time and hassle on site

No wet trades needed, can be fitted in any weather

Requires less maintenance than an ordinary valley

Upstand designed to compensate for slightly offset tiles, improving the appearance from the ground

Suitable for use on roofs with pitches from 22.5° to 49°

Can accommodate a maximum difference between 2 rafter pitches of 10°

ACCESSORIES

DVA-EF Eaves filler for plain tile dry valley trough

DV-TS20 Strip of 20 self adhesive tile supports for use with dry valley trough

Profiled Tile Dry Fix Valley

SPECIFICATION

Standard Weight	1.83kg/m²
Lengths & codes	3 000mm DVB30
	2 400mm DVB24
Thickness	1.3mm

FEATURES

Fixes over the batten for fast, simple installation

Completely eliminates the risk of water coming into contact with the batten

No clips needed reducing time and hassle on site

No wet trades needed so can be fitted in any weather

Requires less maintenance than an ordinary valley

Upstand designed to compensate for slightly offset tiles, improving the appearance from the ground

Suitable for use on roofs with pitches from 22.5° to 49°

Can accommodate a maximum difference between 2 rafter pitches of 10°

ACCESSORIES

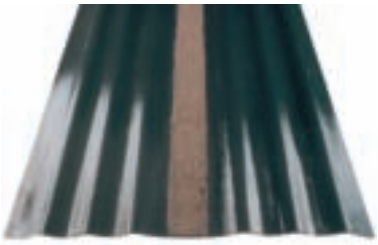
DVB-EF Eaves filler for profiled tile dry valley trough

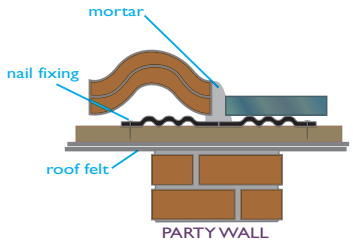
DV-TS20 Strip of 20 self adhesive tile supports for use with dry valley trough

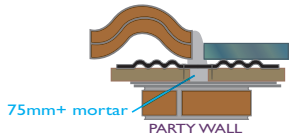
Corodrain®
Roof Drainage

Roof Gutters

Corodrain valley troughs and gutters can be used with almost any form of slate, clay or concrete tiles. They provide an economic and durable alternative to lead.







Corodrain Joining Gutter

SPECIFICATION

Width	260mm
Lengths & Codes	3 000mm HC30
	2 400mm HC24
	1 800mm HC18

FEATURES

Designed to provide a weather proof seal between adjacent roofs

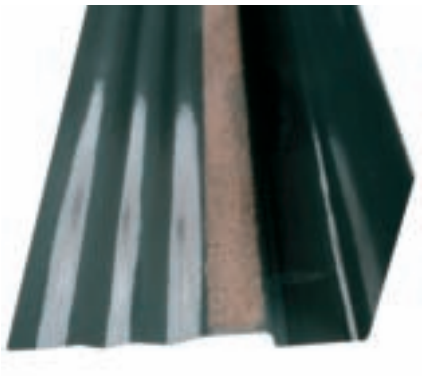
Can join any combination of roof tiles or slates

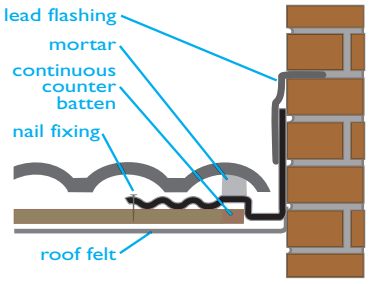
Will give only minimal disturbance to the adjacent roof

Design ensures slates don't 'kick-up'

50mm wide sanded strip for mortar retention

Roof Gutters





Corodrain Abutment Soaker

SPECIFICATION

Width	260mm
Length	3 000mm

FEATURES

Provides weatherproof protection between a sloping roof and a vertical abutment

25mm wide sanded strip for mortar adhesion

Two water bars in the horizontal section prevent moisture entering the roofspace

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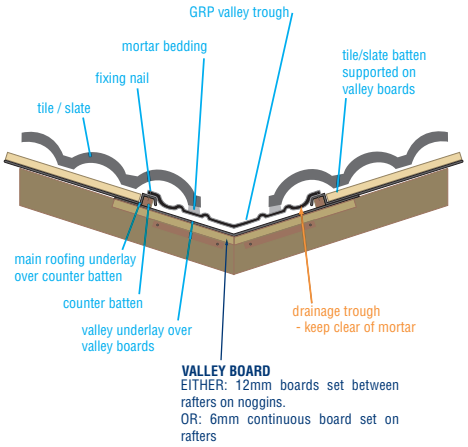
Corodrain®
Roof Drainage

Installation Instructions

NFRC technical bulletin 28: 'Use of Inclined Preformed GRP Valley Troughs' installation recommendations are summarised as follows:



1 Valley boards must be fitted of sufficient width to provide support for the roofing battens, either: min. 12mm ply lay boards set between the rafters, or 6mm continuous ply boards laid over the rafters.

2 A single strip of roofing underlay should be laid up the centre of the valley.

3 Counter battens the same depth as the roofing battens should be fitted onto the valley boards.

4 The main roofing underlay should be laid over the counter batten. Roofing battens should be fitted with the ends firmly located onto the valley boards, positioned close to the counter batten, with care taken to avoid damaging the underlay.

5 The fascia board should be cut to allow the GRP valley trough to pass through and discharge into the gutter without flattening out. The end of the GRP valley trough should be trimmed using a fine toothed hacksaw to the approximate centreline of the gutter - which normally entails a 'V shaped' cut.

6 The GRP valley trough should be fitted with care taken to ensure it is centrally located between the valley boards: the sides should be nailed into the counter battens at max. 500mm centres.

WARNING:
Concealed water troughs behind the mortar bonding strip MUST be kept clear and not blocked with mortar. Take care to maintain correct width between cut edges. NFRC recommend that tiles should not be cut in-situ and should not be laid dry and then back fill pointed.

INSTALLATION OF JOINING GUTTER (new roof to existing roof)

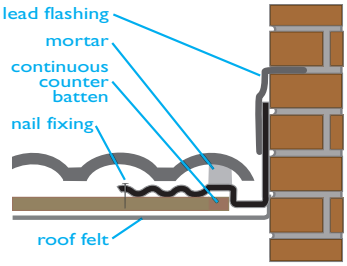
1 Make good underlay and battens over the party wall.
2 Prepare adjoining roof – renew nails, cut slates or tiles to middle of party wall.
3 Push Joining Gutter under the adjoining slates or tiles to the middle of the party wall.
4 Allow 150mm overlap between lengths, and extend by 150mm over gutter.
5 Nail in place.
6 Butt new roof up to existing roof, bed the tiles or slates onto mortar laid on the sanded strip (see diagram).

INSTALLING AS A FIREBREAK

Roofing battens need to be cut back leaving a gap of 75mm across the party wall. A bed of mortar must be laid in the gap, joining the party wall to the bottom of the gutter (see diagram). Fit as above.

INSTALLATION OF ABUTMENT SOAKER

1 Lay underlay and fix the tile battens, finishing the tile battens approximately 100mm from the abutment.
2 Lay counter batten parallel to the abutment wall, fix in line with tile battens to provide a continuous support.
3 Place Abutment Soaker with the flat surface vertical against the wall, push tightly against the wall and nail to the continuous batten below.
4 End lap – allow 150mm on roofs over 30^0
– allow 225mm on roofs below 30^0
Extend by 150mm over gutter, cut back flat vertical surface at the overhang. At a ridge use a lead saddle.
5 Lay slates or tiles, bed the tiles on a mortar bed laid on the sanded strip.
6 Weather the upstand with a stepped lead flashing over the vertical surface (see diagram).



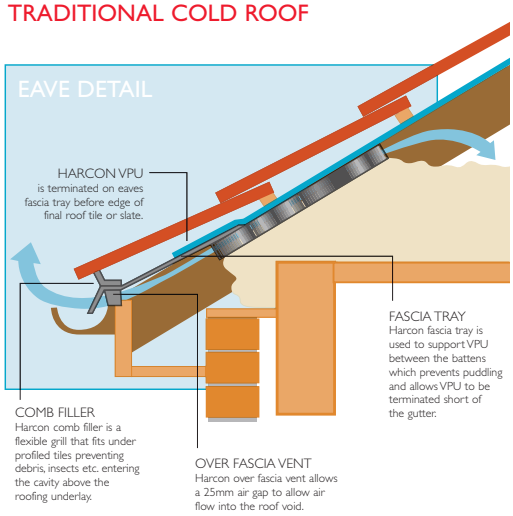
harcon VPU

A new premium quality underlay with superb vapour permeability and very high water resistance.

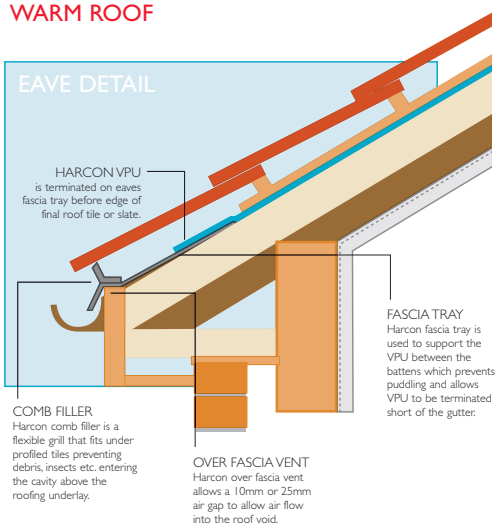
MATERIAL

Harcon VPU has a 3 layer composite structure with the highly vapour permeable film bonded between two layers of non woven polypropylene. The top polypropylene layer provides high levels of water resistance while the bottom layer provides the strength for this flexible vapour membrane which can be used in both unsupported and fully supported applications.

TRADITIONAL COLD ROOF



WARM ROOF



TECHNICAL DETAILS

PROPERTY	TEST	PERFORMANCE
Water Vapour - Permeability - Resistance	EN 1931 (25°C / 75%RH)	1020 g/m²/day 0.20 MNs/g
Slip Resistance - Dry - Wet	BBA T1/10	0.97 0.65
Resistance to Water Penetration	BS 4016	pass
Tensile Strength - Length - Width	BS EN ISO 527-1 and 527-3 (speed 100mm/min) BS EN ISO 527-1 and 527-3 (speed 100mm/min)	7.9 N/mm² 4.8 N/mm²
Elongation at Break - Length - Width	BS EN ISO 527-1 and 527-3 (speed 100mm/min) BS EN ISO 527-1 and 527-3 (speed 100mm/min)	38% 43%
Tear Resistance - Length - Width	MOAT 27:5.4.1 MOAT 27:5.4.1	106 N 94N

SPECIFICATIONS	
Thickness	0.5mm
Weight	0.125kg/m²
Width	1 000 & 1 500mm
Length	50m
Roll Weight	6.25kg and 9.38kg
Colour	Bright Blue

harcon NPU

A new premium quality non permeable underlay.

SPECIFICATIONS	
Thickness	0.4mm
Weight	116kg/m²
Width	1.0mm
Length	45m
Roll Weight	5.8kg

Building Regulations for all types of roof ventilation

Harcon roof ventilation products comply with all British Standard requirements and N.H.B.C. regulations.

FOR ROOF SPACE VENTILATION REFER TO:

Building Regulations Approved Document C2: 2004 'Site preparation and resistance to contaminants and moisture' and subsequent amendments.
Building (Scotland) Regulations 2004: Part 3. (where applicable) BS5250:2002 Code of Practice for control of Condensation in Building BS5534: 2003 'Code of practice for Slating and Tiling'.

FOR SOIL VENT APPLICATION REFER TO:

Building Regulations Approved Document H: 2002 'Drainage and Waste disposal' and subsequent amendments.
BS EN 10256-2: 2000 'Gravity drainage systems inside buildings, Sanitary pipework, Layout and Calculation'.

FOR MECHANICAL VENTILATION REFER TO:

Building Regulations: Approved Document F: 2006 'Means of Ventilation' and subsequent amendments.

FOR PASSIVE STACK VENTILATION REFER TO:

BS5925:1991 (1995) 'Code of Practice for ventilation principles and designing for natural ventilation'.
Building Regulations : Approved document F: 2006 'Means of Ventilation'.
BRE Information paper 13/94 'Passive Stack Ventilation systems: design and installation'.

FOR FURTHER GUIDANCE REFER TO:

NFRC Technical Bulletin No.20 'Roof ventilation products'

ROOF VENTILATION

Approved Document C2: 2004 Building Regulations and BS5250:2002 'Control of Practice for Condensation in Buildings' describes the causes, problems, and practical methods for avoiding condensation.

Here are the key points of these requirements:

CONDENSATION

The requirement of Approved Document C2 is that condensation is reduced in order that it will not cause damage to the structural or thermal properties of materials in a roof. Dampness is caused by: weather, interstitial condensation, surface condensation and construction water (in wet constructions).

VENTILATION

Ventilation is necessary to avoid the problem of condensation. Adequate cross ventilation is required, with openings placed on the longer sides of a typical rectangular roof. This eaves to eaves ventilation relies on wind power.

In most cases the ventilation system is improved by utilising the natural thermal upflow of air in a roof void. This eaves to ridge ventilation also avoids the problem of stagnant air pockets due to inadequate through-flows.

Warning: high level ventilation should never be used on its own as the suction effect created could increase water vapour transfer into the roof void. Surevent is a trade association that provides impartial advice on this subject. Ventilation should provide a continuous weatherproof path from roof void to the outside. Openings must not be blocked by dust or debris, and ingress of rain, snow, birds and large insects must be prevented. Mesh size of 4mm is recommended by BS5250, it is small enough to prevent entry by nesting insects, birds etc. yet is large enough to prevent blockage, provide adequate air movement and avoid excessive airflow restraint.

Ventilation is recommended in all circumstances. NRFC bulletin 20 states: 'any water vapour transmission benefit of a vapour permeable roofing underlay cannot on its own eliminate roof space condensation. Any water vapour transmission benefit should be treated as fortuitous.' Where a vapour permeable underlay is used, it should therefore be in addition to, rather than in place of, ventilation of the roof void.

Ventilation openings can be sited at intervals, they should be of equivalent area to a continuous opening:

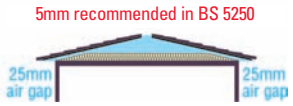
5mm air gap = 5 000mm²/m ventilation
10mm air gap = 10 000mm²/m ventilation
25mm air gap = 25 000mm²/m ventilation

Application of Building Regulations

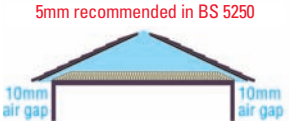
PITCHED ROOF – CEILING & INSULATION HORIZONTAL

OPEN ROOF VOID

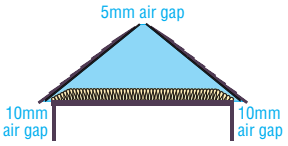
Building Regulations state: where the void is open, eaves to eaves air flow is effective, along the longer sides of the building. Brett Martin Harcon recommend the use of high level ventilation in addition to eaves ventilation in all cases - as it utilises the natural thermal uplift in a roof void. Eaves to eaves ventilation relies on the wind conditions which can result in poor through flow and stagnant air pockets.



PITCH 15⁰ or less
USE: eaves vents OR: low level slate/tile vents
25mm air gap



PITCH 15⁰ or greater
USE: eaves vents OR: low level slate/tile vents *10mm air gap*
In addition BS 5250 recommend:
USE: ridge vents OR:high level slate/tile vents *5mm air gap*



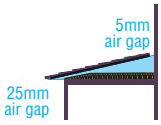
PITCH 35⁰ or greater OR: WIDTH 10m or more
USE: eaves vents OR:low level slate/tile vent *25mm air gap*
AND: ridge vent *5mm air gap*
OR: high level slate & tile vents
5mm air gap each side

STEEP OR WIDE BUILDINGS

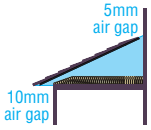
In addition to eaves vents, increased ventilation must be provided by high level openings. These are necessary to avoid stagnant air pockets due to inadequate through flow. In particular for roof slopes steeper than 35⁰, or for buildings more than 10 metres wide, high level ventilation is required.

SINGLE PITCH ROOFS

Use ventilation at the eaves and at the abutment.



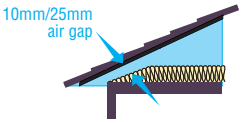
PITCH 15⁰ or less
USE: eaves vents
OR: low level slate/tile vents *25mm air gap*
AND: high level slate/tile vents *5mm air gap*



PITCH 15⁰ or greater
USE: eaves vents
OR: low level slate/tile vents *10mm air gap*
AND: high level slate/tile vents *5mm air gap*

AIR FLOW

Where eaves ventilation is provided care should be taken to prevent insulation blocking off air flow to roof.



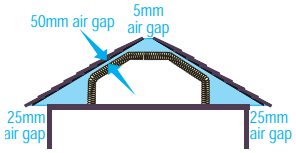
USE: rafter trays
10mm/25mm

PITCHED ROOF - CEILING & INSULATION INCLINED

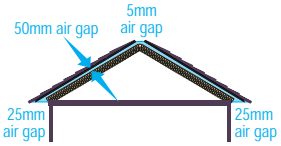
Where the insulation follows the line of the roof, it is necessary to ventilate both at low and high levels.

An air gap of at least 50mm must be maintained between the underlay and insulation all the way along the inside of the roof in order to prevent air resistance in this area.

Where joists run at right angles to the air flow, use counter battens.



INSULATION FOLLOWS LINE OF ATTIC ROOM

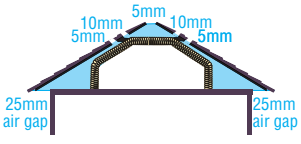


INSULATION FOLLOWS LINE OF ROOF

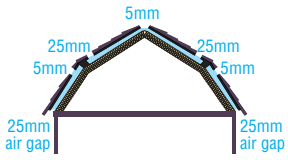
AIR FLOW BETWEEN ROOFING UNDERLAY AND INSULATION
USE: eaves vents
OR: low level slate/tile vents *25mm*
AND: ridge vent *5mm* OR : high level slate / tile vents *5mm* each side

PITCHED ROOF - OBSTRUCTION IN ROOF

All isolated parts of the roof should have ventilation provision. Where an obstruction in the ventilation path occurs, such as at roof lights or at changes in pitch, the roof void should have additional ventilation openings.



OBSTRUCTION OUTSIDE INCLINED CEILING
Immediately below the obstruction 5mm
Immediately above the obstruction 10mm



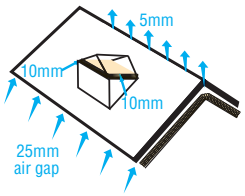
OBSTRUCTION WITHIN INCLINED CEILING
Immediately below the obstruction 5mm
Immediately above the obstruction 25mm

PITCHED ROOF - DORMERS

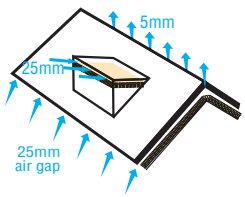
Pitched type dormer roofs should be ventilated from eaves to eaves.

Flat type dormer roofs should be ventilated from eaves to ridge of the main roof.

MAIN ROOF
USE: ridge line *5mm*
OR : high level slate / tile vents *5mm each side*
AND: eaves vents / low level slate/tile vents *25mm*



PITCHED TYPE DORMER
USE: eaves vents
OR: low level slate/tile vents 10mm



FLAT TYPE DORMER
USE: eaves vents *25mm*

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