

Thursday, 5th July, 2018

#### CONSTRUCTION DETAILS FOR 'GAF ASPHALT SHINGLE ROOFING SYSTEM' BRANZ.529 2017

## **CONTENTS:**

P02 - BUILDERS CROSS SECTION

P03 - EAVE DETAIL

P04 - APRON FLASHING

P05 - APRON FLASHING WITH VENT

P06 - ROOF/WALL RIDGE

P07 - ROOF/WALL RIDGE WITH VENT

P08 - RIDGE CLADDING

P09 - RIDGE BEAM CLADDING

P10 - SLOPE TO WALL DETAIL

P11 - PITCH CHANGE DETAIL

P12 - FLAT ROOF MEMBRANE TRANSITION

P13 - MANSARD PITCH CHANGE

P14 - GUTTER WALL JUNCTION

P15 - STEP FLASHING DETAIL

P16 - BARGE END DETAIL

P17 - APRON TERMINATION DETAIL

P18 - KICK OUT FLASHING DETAIL

P19 - GABLE TO RIDGE DETAIL

P20 - DUTCH DORMER GABLE JUNC.

P21 - DUTCH GABLE DETAIL

P22 - SPECIFIC PENETRATION

P23 - CHIMNEY CRICKET DETAIL

P24 - VALLEY TO DORMER DETAIL

P25 - RAIN WATER SPREADER

P26 - PIPE PENETRATION DETAIL

P27 - MASTER FLOW BOX VENT

P28 - VALLEY CLADDING DETAIL

P29 - PENETRATION OPENINGS

P30 - HIP & RIDGE CAPS

P31 - FASTENING DETAIL

P32 - RIDGE TO WALL DETAIL

P33 - ROOF TO WALL FLASHING

P34 - ROOF TO WALL CORNERS

P35 - INTERNAL VALLEY / CRICKET

P36 - PV SOLAR PANEL MOUNT

P37 - SURFACE INTAKE VENT

P38 - SURFACE EXHAUST VENT

P39 - INTERTENANCY ROOF JUNCTION

P40 - CONSTRUCTION NOTES

P41 - FIXING SPECIFICATIONS



THESE DETAILS HAVE BEEN COLLATED FOR THE BRANZ APPRAISAL USE ONLY. THEY ARE TO SERVE AS A GUIDELINE FOR CORRECT DETAILING OF 'GAF ASPHALT SHINGLE ROOFING SYSTEM'.

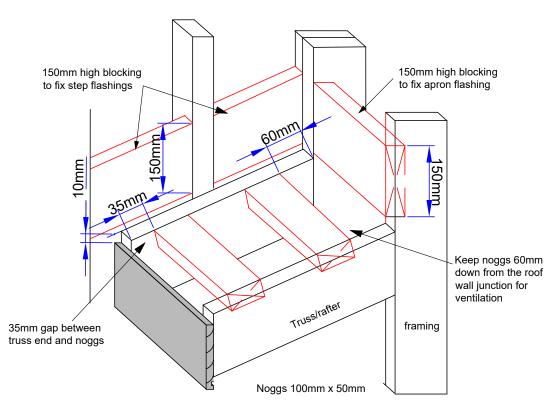
WHERE PRODUCT IS TO BE USED IT IS THE DESIGNERS REAPONSIBILITY TO ENSURE THAT THE CORRECT DETAILS ARE SHOWN ON THE PLANS AND SPECIFICATIONS.

ROOFING LOGISTICS NZ LTD. WILL NOT BE HELD RESPONSIBLE OR LIABLE FOR ANY DAMAGES TO PROPERTY OR PRODUCT INSTALLED IN A MANNER OTHER THAN AS DIRECTED BY A TRAINED AND APPROVED APPLICATOR.

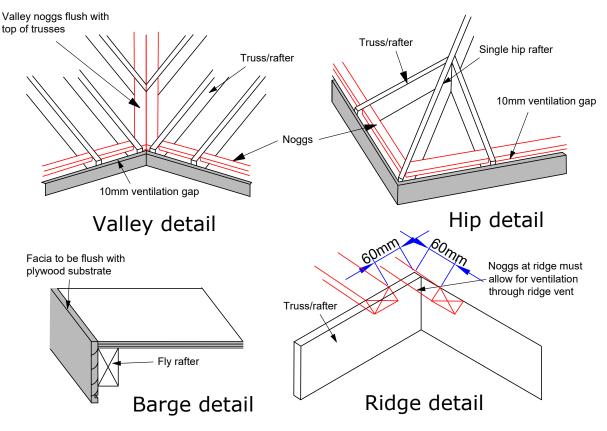
For technical assistance call 0800 423355 or visit www.gafroofing.co.nz



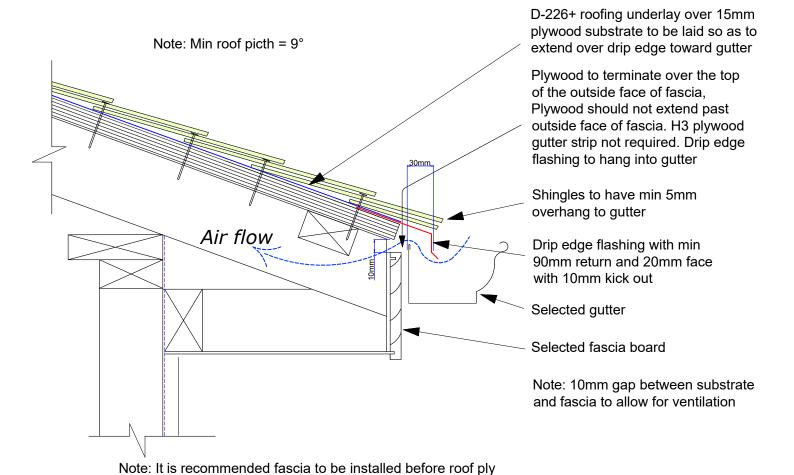
# GAF Asphalt shingle roofing technical documents **Builders Cross Section**



## Wall roof intersection



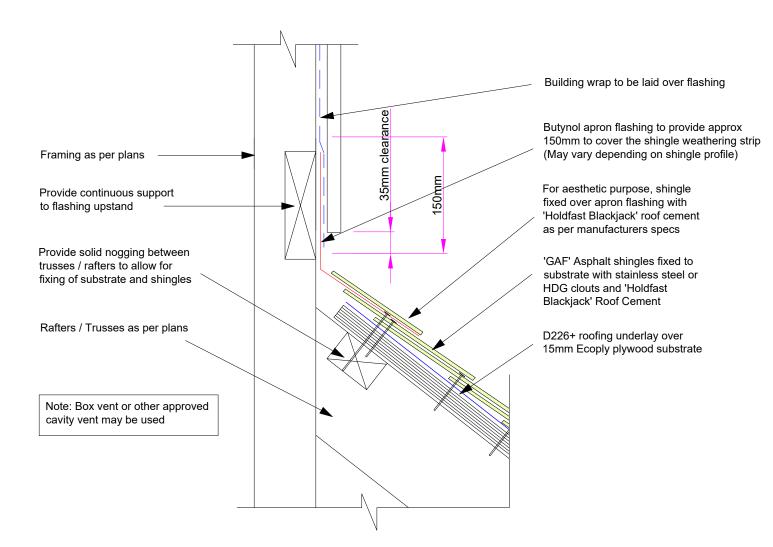




GAF	DRAWING:  EAVE DETAIL	DATE: 24 JUNE 2018	PAGE:	M
	DETAILS FOR: ASPHALT SHINGLE ROOFING	SCALE: N/A		BRANZ Appraised Apprasal No 529

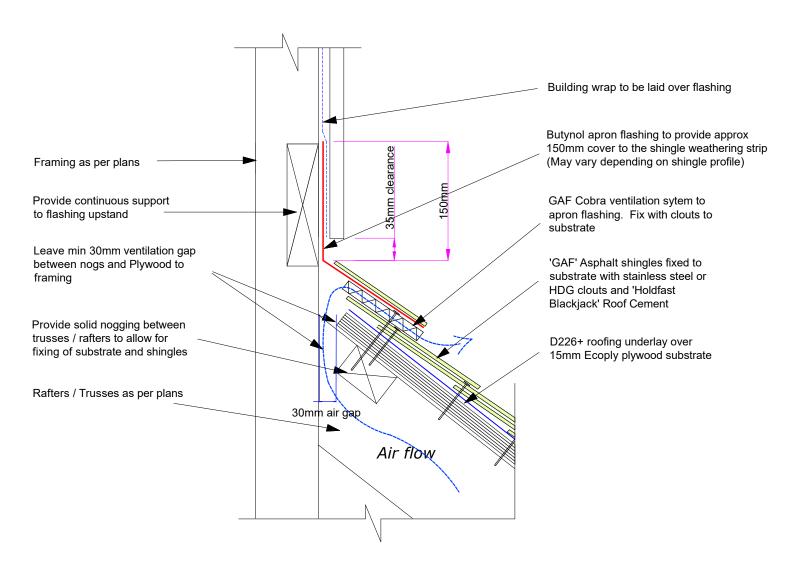






CAE	DRAWING: APRON FLASHING	DATE: 24 JUNE 2018	PAGE:	**
GAF	DETAILS FOR: ASPHALT SHINGLE ROOFING	SCALE: N/A		BRANZ Appraised Apprasal No 529

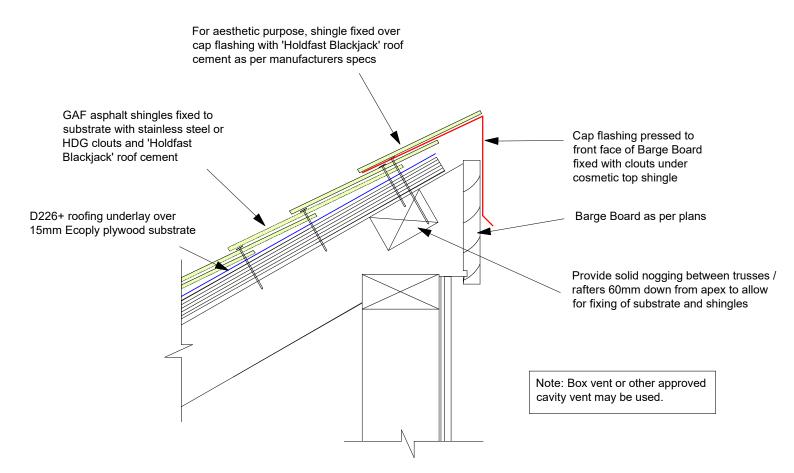




CAE	DRAWING: APRON FLASHING WITH VENT	DATE: <b>24 JUNE 2018</b>	PAGE: 5	
GAF	DETAILS FOR: ASPHALT SHINGLE ROOFING	SCALE: N/A		BRANZ Appraised Apprasal No 529



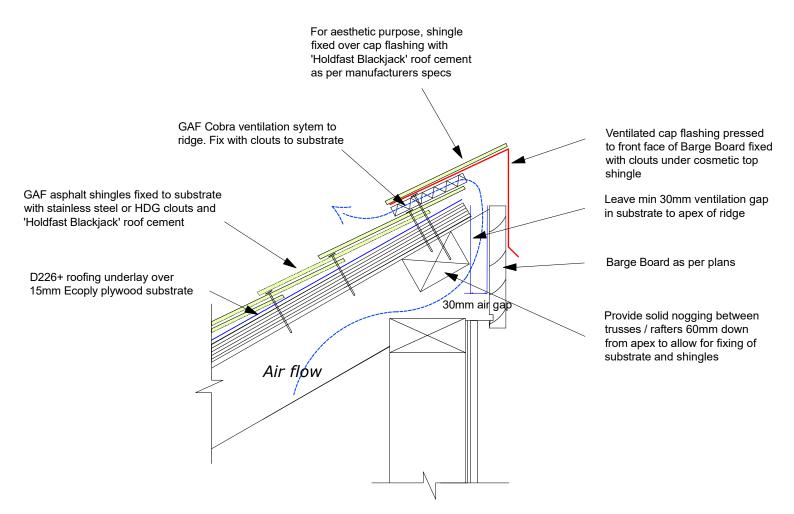




GAE	DRAWING: ROOF / WALL RIDGE	DATE: 24 JUNE 2018	PAGE: 6	*
GAF	DETAILS FOR: ASPHALT SHINGLE ROOFING	SCALE: N/A		BRANZ Appraised Apprasal No 529

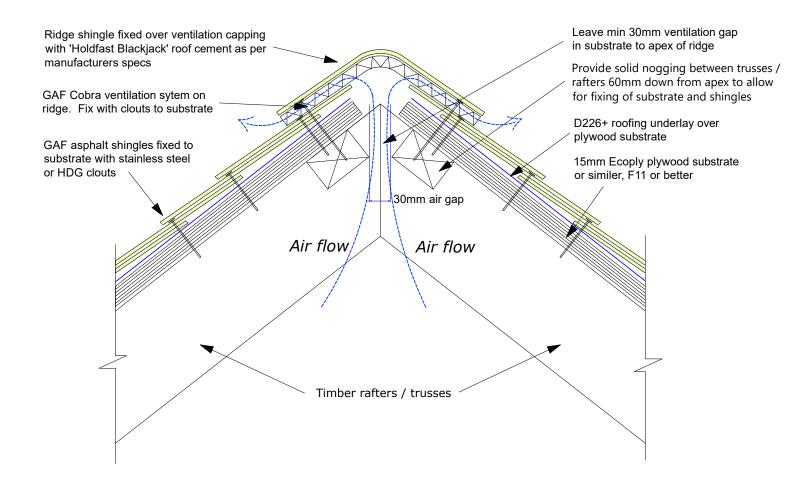






CAE	DRAWING: ROOF/WALL RIDGE WITH VENT	DATE: 24 JUNE 2018	PAGE:	M
GAF	DETAILS FOR: ASPHALT SHINGLE ROOFING	SCALE: N/A		BRANZ Appraised Apprasal No 529

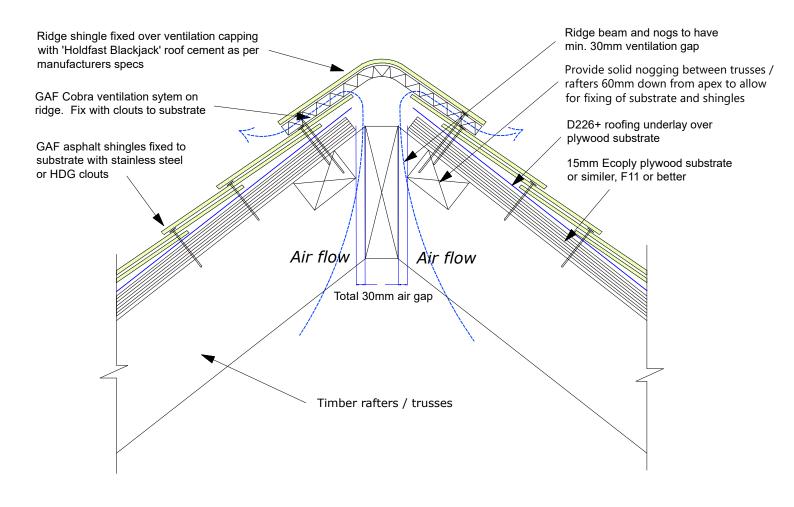




GAE	DRAWING: RIDGE CLADDING	DATE: 24 JUNE 2018	PAGE:	*
GAF	DETAILS FOR: ASPHALT SHINGLE ROOFING	SCALE: N/A		BRANZ Appraised Apprasal No 529



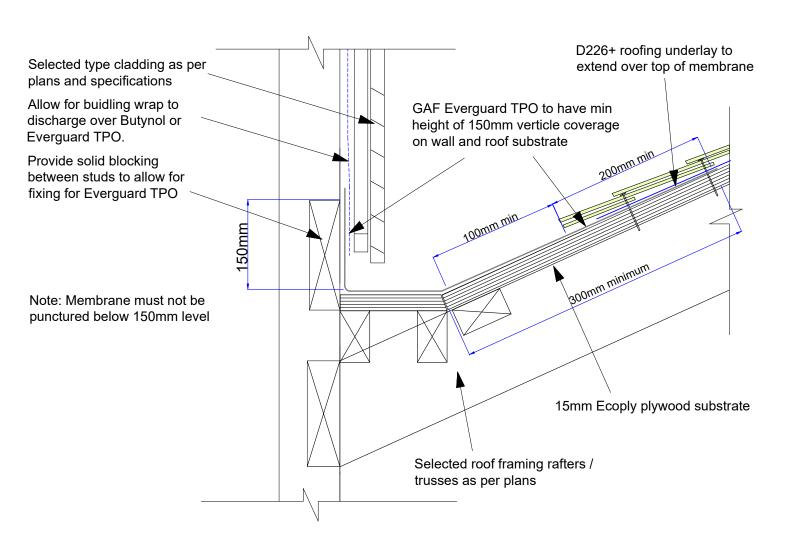




CAE	DRAWING: RIDGE BEAN CLADDING	DATE: 30 JAN 2021	PAGE: 8.1	*
GAF	DETAILS FOR: ASPHALT SHINGLE ROOFING	SCALE: N/A		BRANZ Appraised Apprasal No 529



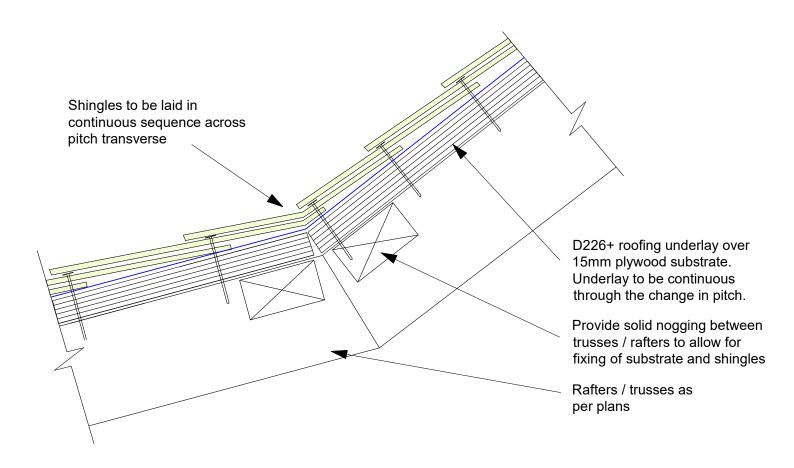




GAE	DRAWING: SLOPE TO WALL DETAIL	DATE: 24 JUNE 2018	PAGE:	M
GAF	DETAILS FOR: ASPHALT SHINGLE ROOFING	SCALE: N/A		BRANZ Appraised Apprasal No 529



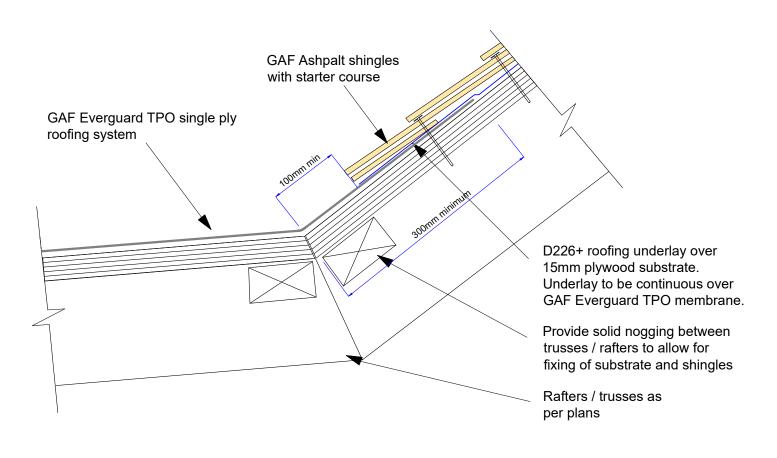




CAE	DRAWING: PITCH CHANGE DETAIL	DATE: 24 JUNE 2018	PAGE: 10	*
GAF	DETAILS FOR: ASPHALT SHINGLE ROOFING	SCALE: N/A		BRANZ Appraised Apprasal No 529



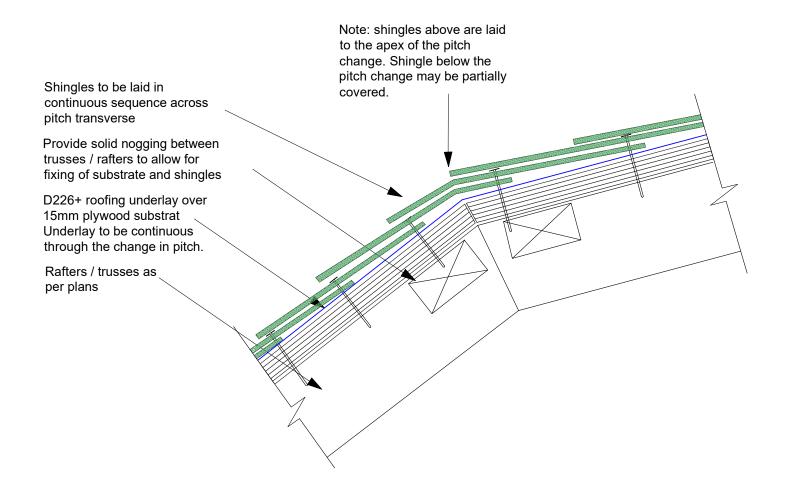




CAE	DRAWING: FLAT ROOF MEMBRANE TRANSITION	DATE: 30 JAN 2021	PAGE: 10.1	M
GAF	DETAILS FOR: ASPHALT SHINGLE ROOFING	SCALE: N/A		BRANZ Appraised Apprasal No 529

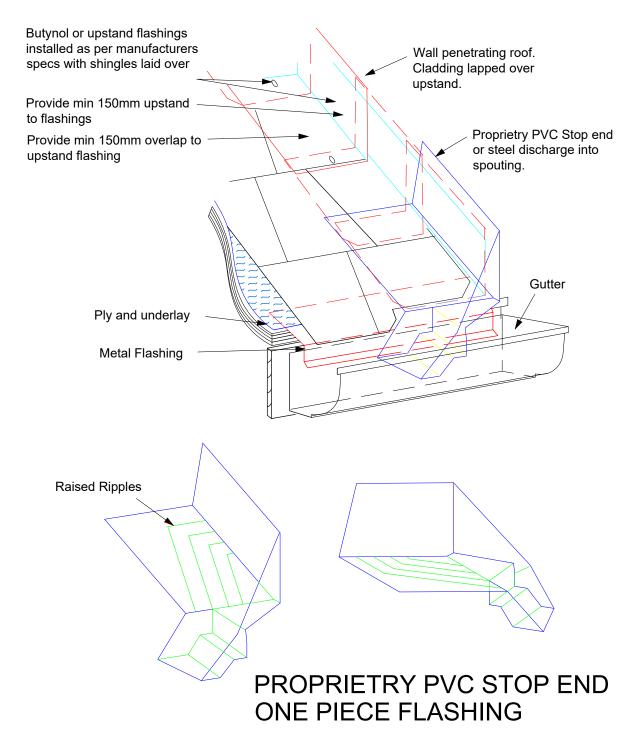






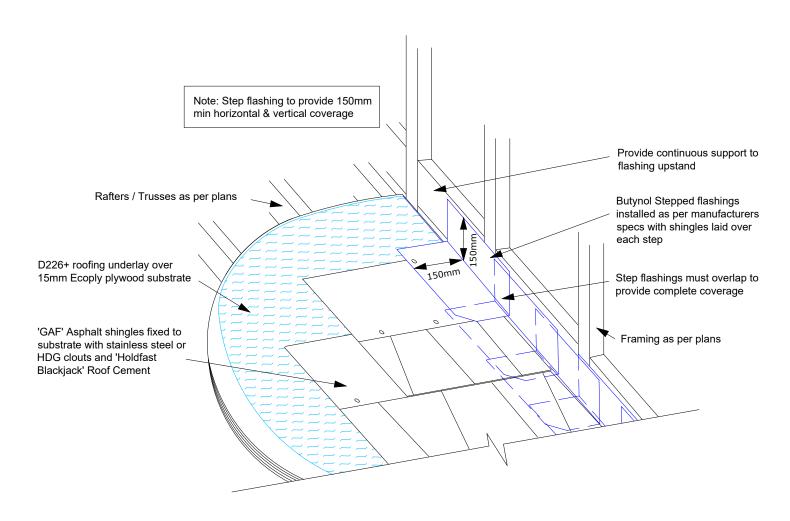
CAE	DRAWING: PITCH CHANGE - MANSARD	DATE: 16 FEB 2021	PAGE: 10.2	**
GAF	DETAILS FOR: ASPHALT SHINGLE ROOFING	SCALE: N/A		BRANZ Appraised Apprasal No 529





GAF	DRAWING: GUTTER WALL JUNCTION	DATE: 24 JUNE 2018	PAGE: 11	*
	DETAILS FOR: ASPHALT SHINGLE ROOFING	SCALE: N/A		BRANZ Appraised Apprasal No 529

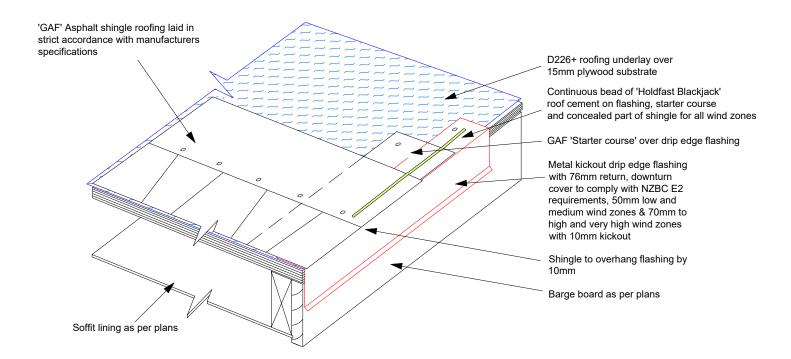




CAE	DRAWING: STEP FLASHING DETAIL	DATE: 24 JUNE 2018	PAGE: 12	*
GAF	DETAILS FOR: ASPHALT SHINGLE ROOFING	SCALE: N/A		BRANZ Appraised Apprasal No 529

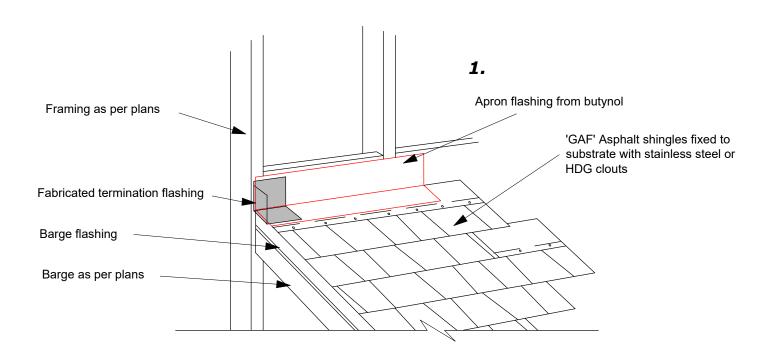


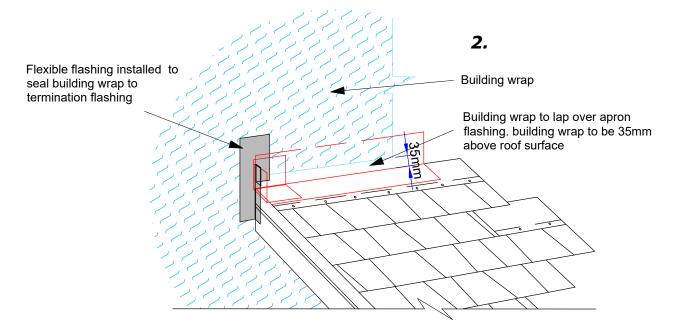




CAE	DRAWING: BARGE END DETAIL	DATE: 24 JUNE 2018	PAGE: 13	*
GAF	DETAILS FOR: ASPHALT SHINGLE ROOFING	SCALE: N/A		BRANZ Appraised Apprasal No 529

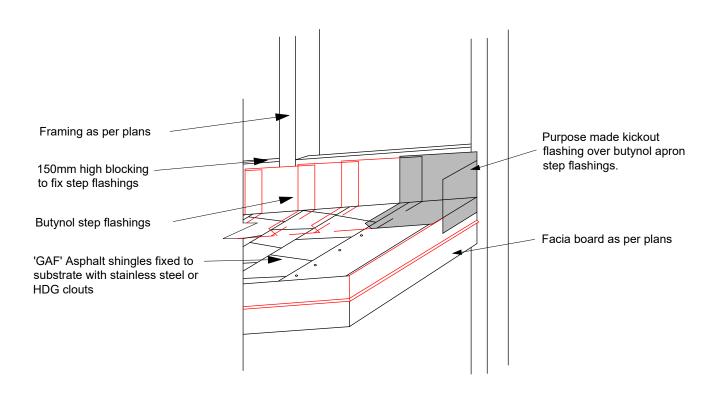


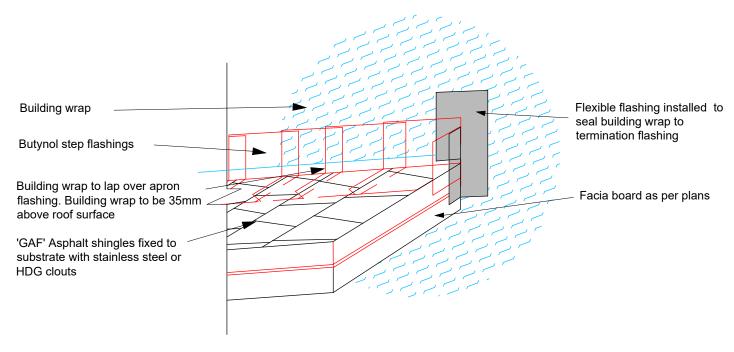




CAE	DRAWING: APRON TERMINATION DETAIL	DATE: 28 JUNE 2018	PAGE: 14	×
GAF	DETAILS FOR: ASPHALT SHINGLE ROOFING	SCALE: N/A		BRANZ Appraised Apprasal No 529



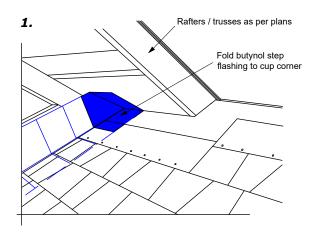


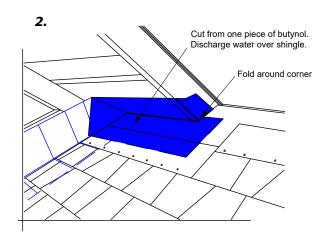


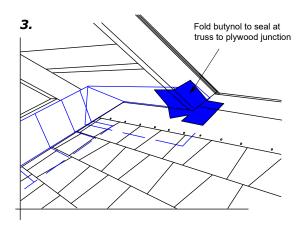
GAE	DRAWING: KICK OUT FLASHING DETAIL	DATE: 28 JUNE 2018	PAGE: 15	×
GAF	DETAILS FOR: ASPHALT SHINGLE ROOFING	SCALE: N/A		BRANZ Appraised Apprasal No 529

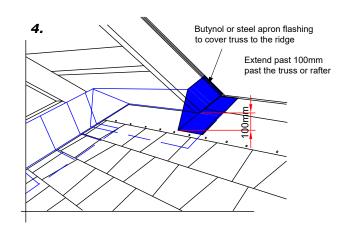


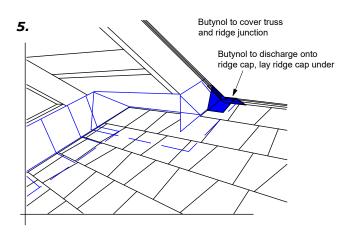


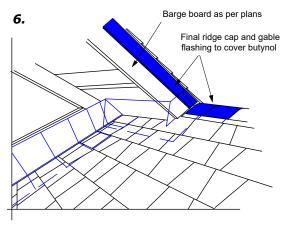












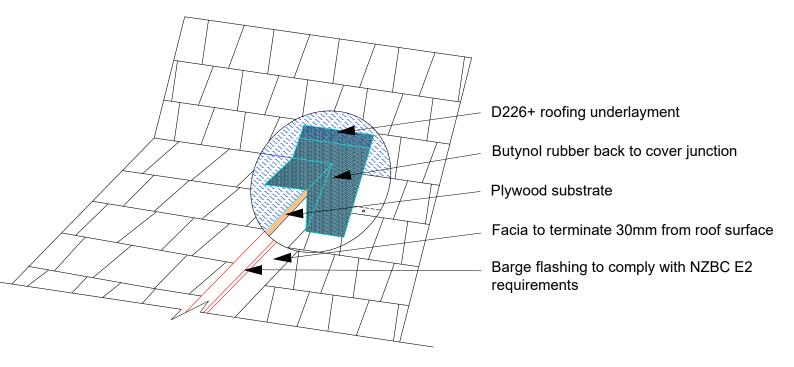
GAF
-----

DRAWING: GABLE TO RIDGE DETAIL	DATE: 24 JUNE 2018	PAGE: 16
DETAILS FOR:  ASPHALT SHINGLE ROOFING	SCALE: N/A	

**BRANZ Appraised** Apprasal No 529

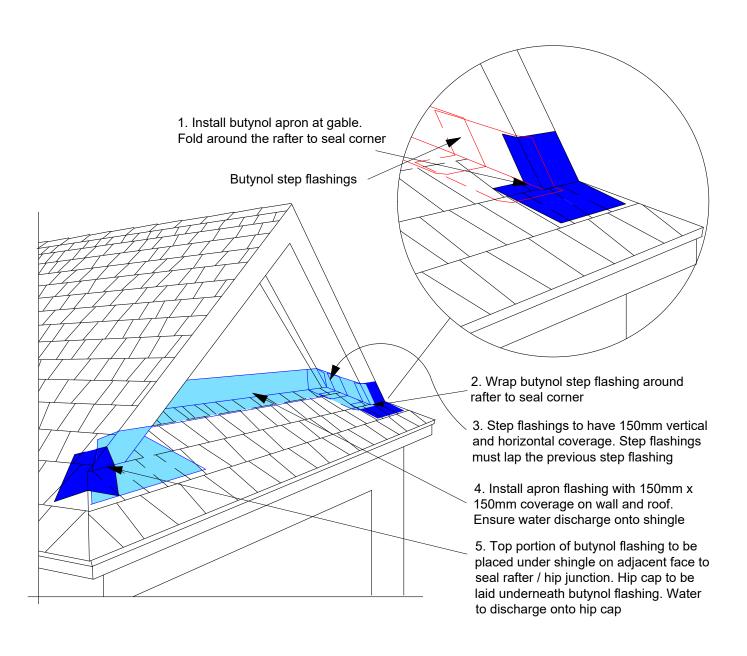






CAE	DRAWING: DUTCH DROMER GABLE JUNC.	DATE: 16 MARCH 2021	PAGE: 16.1	M
GAF	DETAILS FOR: ASPHALT SHINGLE ROOFING	SCALE: N/A		BRANZ Appraised Apprasal No 529

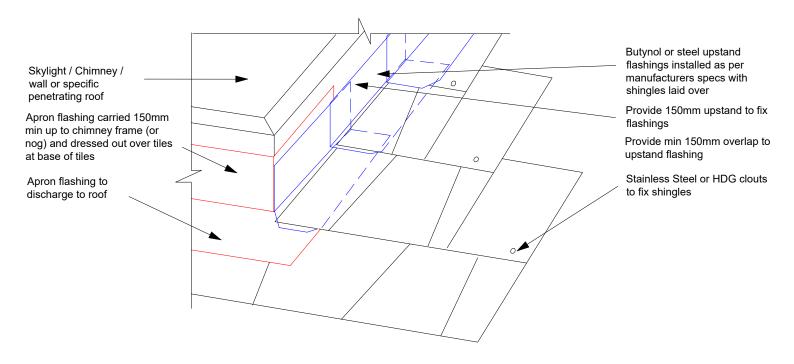




GAE	DRAWING: DUTCH GABLE DETAIL	DATE: 28 JUNE 2018	PAGE: 17	M
GAF	DETAILS FOR: ASPHALT SHINGLE ROOFING	SCALE: N/A		BRANZ Appraised Apprasal No 529



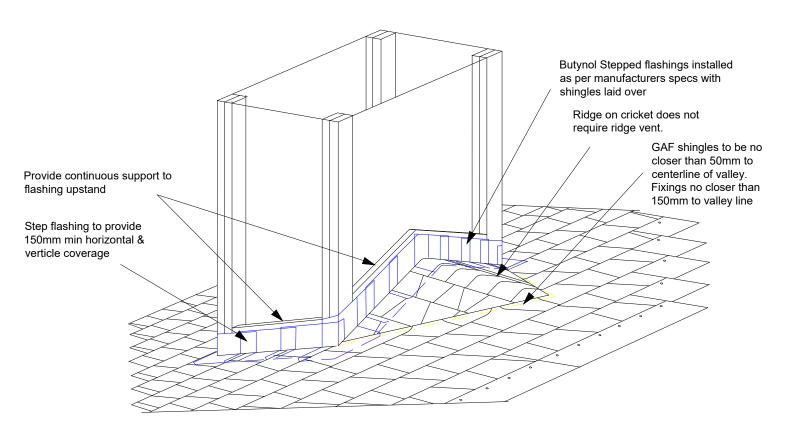




CAE	DRAWING: SPECIFIC PENETRATION	DATE: 24 JUNE 2018	PAGE: 18	M
GAF	DETAILS FOR: ASPHALT SHINGLE ROOFING	SCALE: N/A		BRANZ Appraised Apprasal No 529



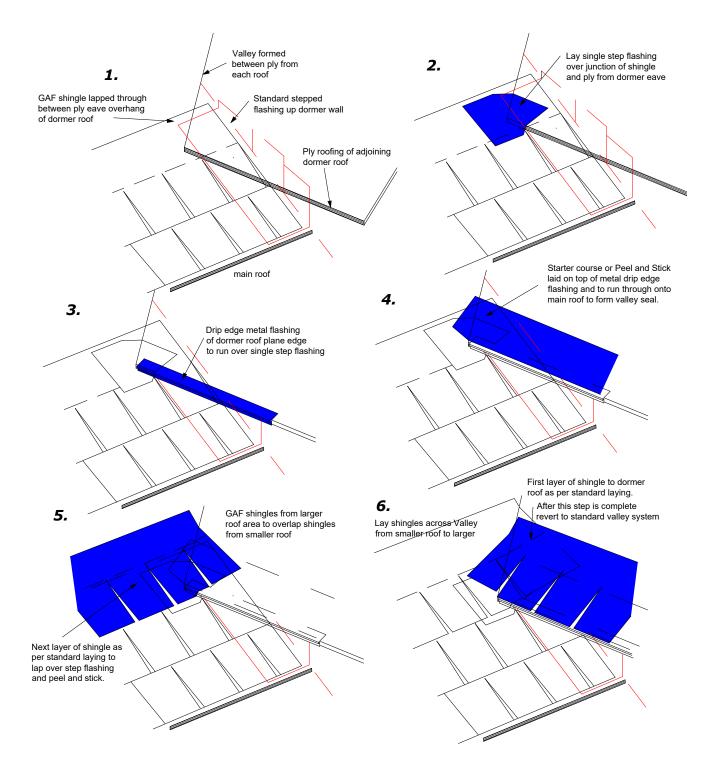




CAE	DRAWING: CHIMNEY CRICKET DETAIL	DATE: 26 JUNE 2018	PAGE: 19	*
GAF	DETAILS FOR: ASPHALT SHINGLE ROOFING	SCALE: N/A		BRANZ Appraised Apprasal No 529



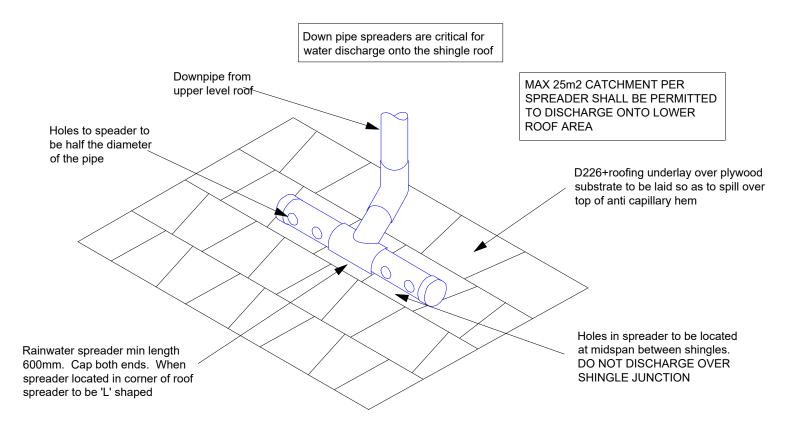




CAE	DRAWING: VALLEY TO DORMER DETAIL	DATE: 24 JUNE 2018	PAGE: 20	*4
GAF	DETAILS FOR: ASPHALT SHINGLE ROOFING	SCALE: N/A		BRANZ Appraised Apprasal No 529

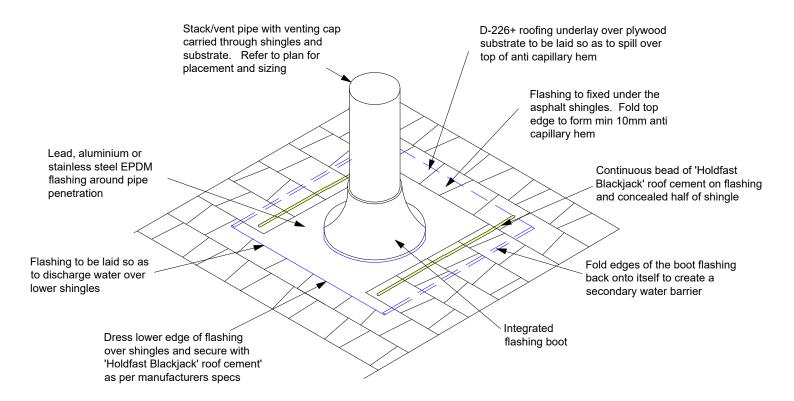






CAE	DRAWING: RAIN WATER SPREADER	DATE: 24 JUNE 2018	PAGE: 21	M
GAF	DETAILS FOR: ASPHALT SHINGLE ROOFING	SCALE: N/A		BRANZ Appraised Apprasal No 529

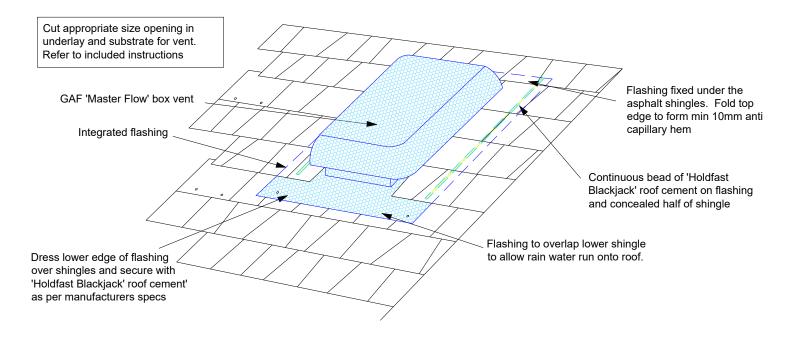




CAE	DRAWING: PIPE PENETRATION DETAIL	DATE: 24 JUNE 2018	PAGE: 22	**
GAF	DETAILS FOR: ASPHALT SHINGLE ROOFING	SCALE: N/A		BRANZ Appraised Apprasal No 529



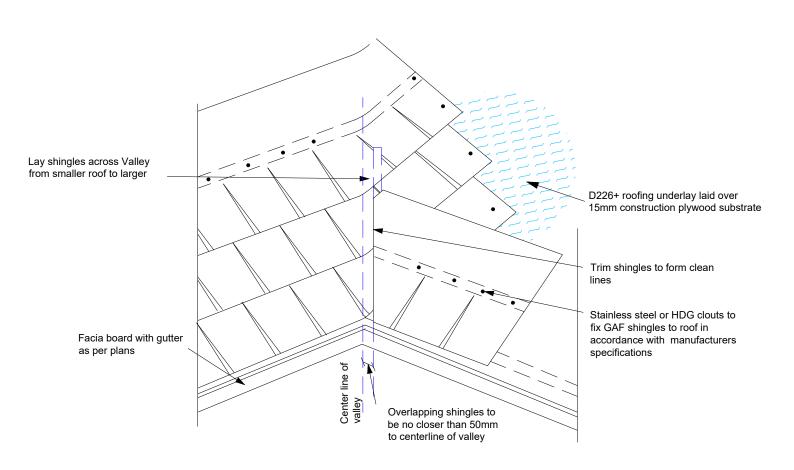




CAE	DRAWING: MASTER FLOW BOX VENT	DATE: 28 JUNE 2018	PAGE: 23	**
GAF	DETAILS FOR: ASPHALT SHINGLE ROOFING	SCALE: N/A		BRANZ Appraised Apprasal No 529

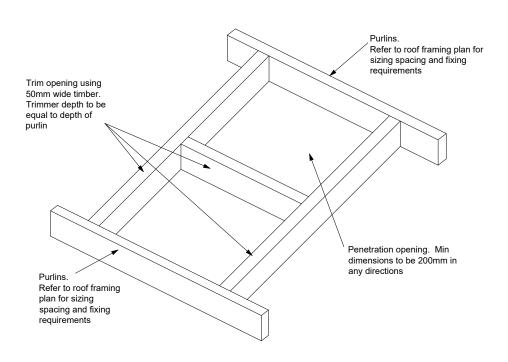


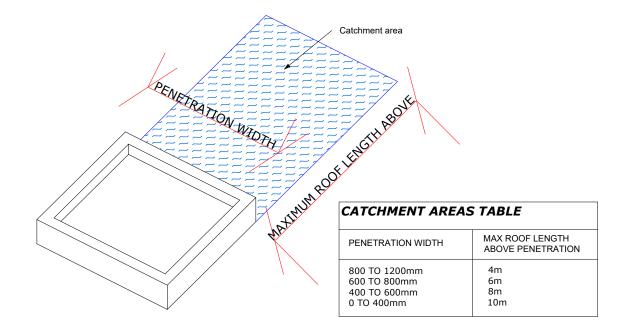




CAE	DRAWING: VALLEY CLADDING DETAIL	DATE: 24 JUNE 2018	PAGE: 24	M
GAF	DETAILS FOR: ASPHALT SHINGLE ROOFING	SCALE: N/A		BRANZ Appraised Apprasal No 529

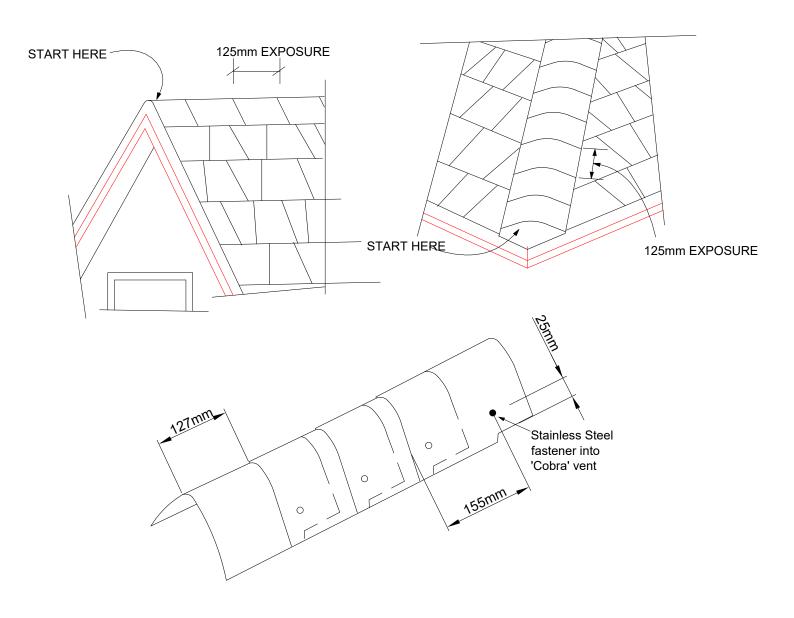






GAE	DRAWING: PENETRATION OPENINGS	DATE: 24 JUNE 2018	PAGE: 25	×
GAF	DETAILS FOR: ASPHALT SHINGLE ROOFING	SCALE: N/A		BRANZ Appraised Apprasal No 529





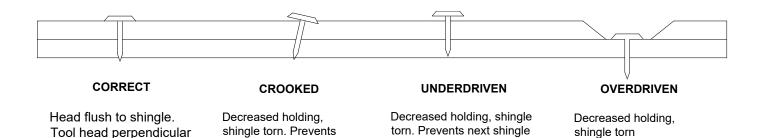
GAE	DRAWING: HIP & RIDGE CAPS	DATE: 24 JUNE 2018	PAGE: 26	M
GAF	DETAILS FOR: ASPHALT SHINGLE ROOFING	SCALE: N/A		BRANZ Appraised Apprasal No 529

SEE REPAIR NOTE 2





CONSTRUCTION DETAILS FOR 'GAF ASPHALT SHINGLE ROOFING SYSTEM'



from sealing

SEE REPAIR NOTE 1

#### REPAIR NOTE 1:

to shingle during driving

FLATTEN NAIL HEAD TO PREVENT INTERFERENCE WITH NEXT SHINGLE

next shingle from sealing

**SEE REPAIR NOTE 1** 

## REPAIR NOTE 2:

DRIVE ANOTHER NAIL NEARBY. SEAL OVERDRIVEN NAIL WITH 'HOLDFAST BLACK JACK' CEMENT

## **FASTENERS**

While nailing is the preferred method for fixing raised roof profile shingles, GAF accept fastening methods according to the following instructions and in accordance with GAF specifications:

## Always nail through the fastener line.

NAILS: refer to NZS 3604:2011 section 4.4 for corrosion protection requirements

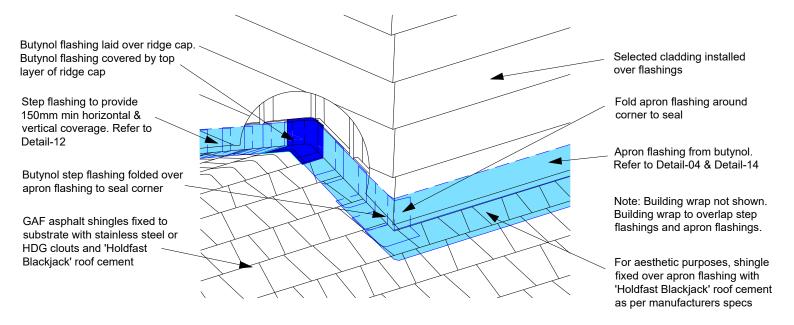
10mm Head 12 gauge roofing nails. GAF recommends 30mm nails for new roofs and 40mm for roof overs. In cases where applying shingles to a roof that has an exposed overhang, (new roofs only) 20mm ring shank nails are allowed to be used from the eaves edge to a point up the roof that is past the outside wall line. 25mm ring shank nails are allowed for re-roof.

**NOTE:** an improperly adjusted nail gun can result in under driven nails that can cause a fish mouthed appearance and can prevent sealing

CAE	DRAWING: FASTENING DETAIL	DATE: 24 JUNE 2018	PAGE: 27	M
GAF	DETAILS FOR: ASPHALT SHINGLE ROOFING	SCALE: N/A		BRANZ Appraised Apprasal No 529



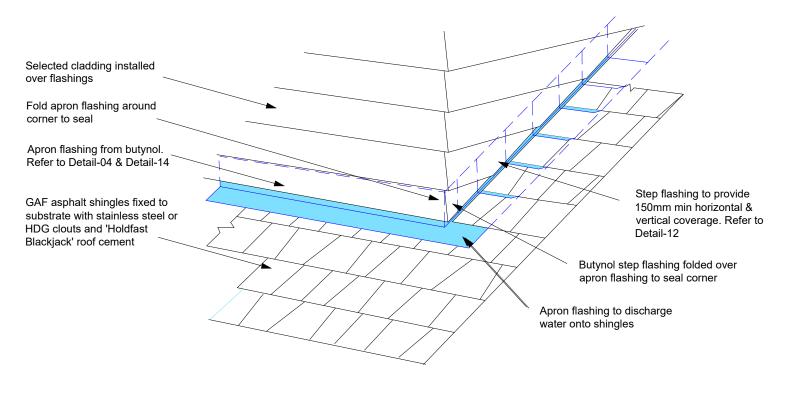




GAE	DRAWING: RIDGE TO WALL	DATE: 30 AUG 2018	DETAIL: 28	M
GAF	DETAILS FOR: ASPHALT SHINGLE ROOFING	SCALE: N/A		BRANZ Appraised Apprasal No 529



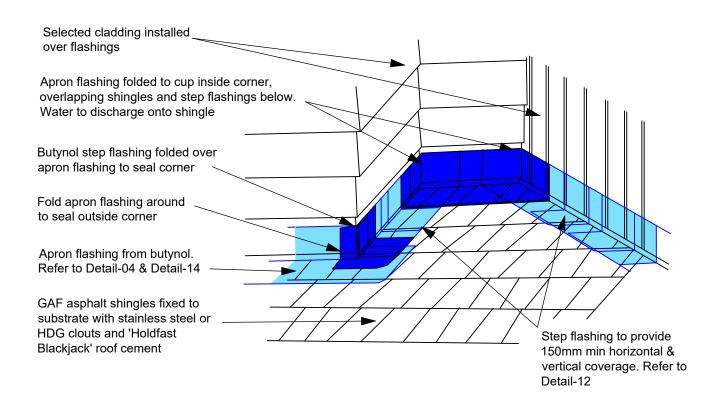




CAE	DRAWING: ROOF TO WALL FLASHINGS	DATE: 30 AUG 2018	DETAIL: 29	*
GAF	DETAILS FOR: ASPHALT SHINGLE ROOFING	SCALE: N/A		BRANZ Appraised Apprasal No 529



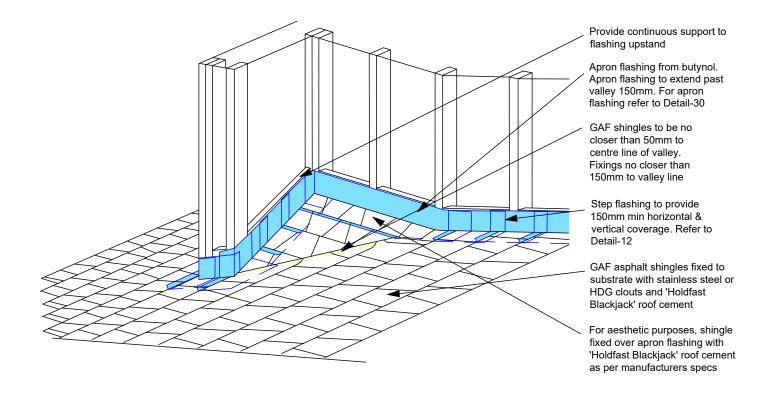




CAE	DRAWING: ROOF TO WALL CORNERS	DATE: 30 AUG 2018	DETAIL: 30	*
GAF	DETAILS FOR: ASPHALT SHINGLE ROOFING	SCALE: N/A		BRANZ Appraised Apprasal No 529



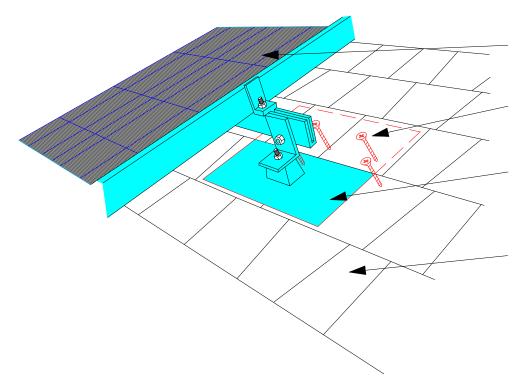




CAE	DRAWING: INTERNAL VALLEY / CRICKET	DATE: 30 AUG 2018	DETAIL: 31	×
GAF	DETAILS FOR: ASPHALT SHINGLE ROOFING	SCALE: N/A		BRANZ Appraised Apprasal No 529







PV Solar panel or other light weight roof mounted item

Counter sunk stainless steel screws, cauked and sealed. Lift shingle to insert screws, do not penetrate top layer of shingles

Typical mount bracket - Slide under top layer of shingles allowing rainwater to run off to shingles below.

GAF asphalt shingles fixed to substrate with stainless steel or HDG clouts and 'Holdfast Blackjack' roof cement

GAF
-----

DRAWING: PV SOLAR PANEL MOUNT	DATE: 30 AUG 2018	DETAIL: 32
DETAILS FOR:  ASPHALT SHINGLE ROOFING	SCALE: N/A	

**BRANZ Appraised** Apprasal No 529





Note: Cobra Intake-Pro must be installed to manufacturer's specifications and installation instructions.

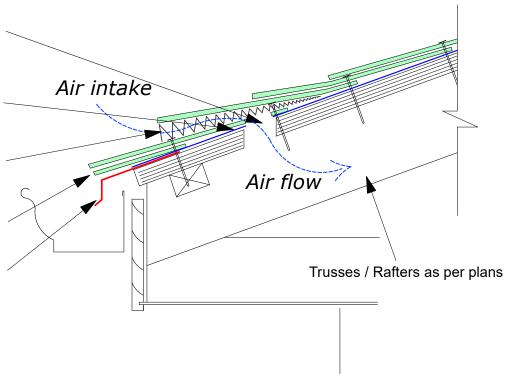
Slots cut in plywood substrate to allow for ventallation. Cobra Intake PRO to be installed over slots, fixed with 45mm clouts

GAF Weatherwatch peel and stick must be used around the air slots

Cobra® IntakePro™ vent system to be used when ventilation at eaves or soffit is inadequate. Min compatable roof picth = 18.5°

> Shingles to overhang dripedge flashing min 5mm

Drip edge flashing with min 90mm return and 20mm face with 10mm kick out



GAF	DRAWING: SURFACE INTAKE VENT	DATE: 30 JAN 2021	PAGE: 33.1	M
	DETAILS FOR: ASPHALT SHINGLE ROOFING	SCALE: N/A		BRANZ Appraised Apprasal No 529





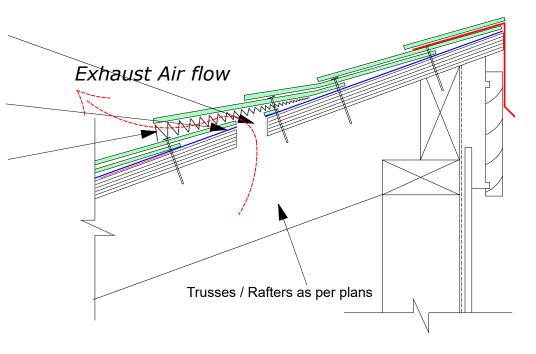
Note: Cobra Intake-Pro must be installed to manufacturer's specifications and installation instructions.

Slots cut in plywood substrate to allow for ventallation. Cobra Intake PRO to be installed over slots, fixed with 45mm clouts

GAF Weatherwatch peel and stick must be used around the air slots

Cobra® IntakePro™ vent system to be used as an option when ridge venting is inadequate / impossible. Min compatable roof picth = 18.5°

> Note: The amount of exhaust ventilation must never exceed the amount of intake ventilation at the soffit or eaves



GAF	DRAWING: SURFACE EXHAUST VENT	DATE: 30 JAN 2021	PAGE: 33.2	BRANZ Appraised Apprasal No 529
	DETAILS FOR: ASPHALT SHINGLE ROOFING	SCALE: N/A		

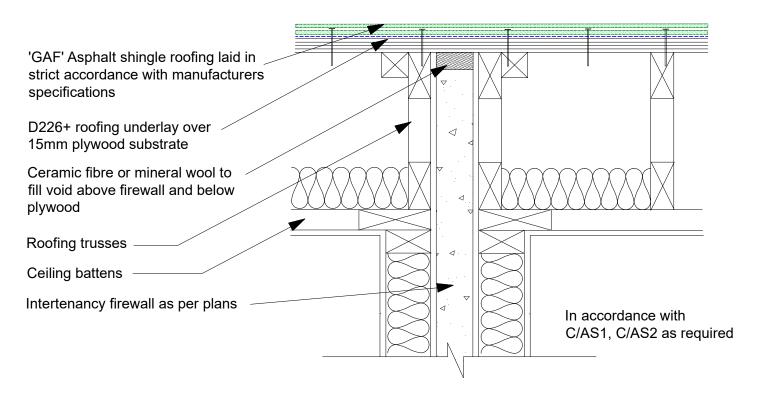
info@gaf.nz





Note: This cross-boundary intertenancy detail has been reviewed and approved by the Branz Fire Engineer team as being compliant with NZBC C including all relevant subsections and clauses. The GAF shingle tile and plywood substrate roofing system is suitable for use above cross-boundary intertenancy firewall firecells, and to eaves requiring FRR.

Fire Classification: GAF asphalt shingles have been tested for fire classification Class A in accordance with UL790 (ASTM E108). Shingles tested in accordance with UL790 (ASTM E108) qualify for use under Section 1505.1 of the 2018, 2015, 2012, 2009 and 2006 IBC and Secion R902.1 of the 2018, 2015, 2012, 2009 and 2006 IRC



GAF	DRAWING: INTERTENANCY ROOF JUNCTION	DATE: 30 JAN 2021	PAGE: 34	*4
	DETAILS FOR: ASPHALT SHINGLE ROOFING	SCALE: N/A		BRANZ Appraised Apprasal No 529



## **CONSTRUCTION NOTES:**

## READ THOROUGHLY BEFORE COMMENCING WORKS

ALL MATERIALS TO BE DRY AT THE TIME OF APPLICATION. UNDER NO CIRCUMSTANCES SHOULD ANY MATERIALS BE TORCH DRIED.

ALL SARKING AND SUBSTRATE MATERIALS TO BE DRY PRIOR TO LAYING OF WATERPROOF MEMBRANE. ENSURE ALL CONDENSATION AND RAINWATER HAS THOROUGHLY EVAPORATED PRIOR TO COMMENCEMENT OF WORKS.

ALL FLASHING AND FIXING MATERIALS TO BE CORROSION RESISTANT AND APPROVED FOR THE CORROSION ZONE AS SPECIFIED BY THE NEW ZEALAND BUILDING CODE AND NZS 3604:2011.

SEA SPRAY ZONES - TYPE 304 STAINLESS STEEL ALL OTHER ZONES - TYPE 304 STAINLESS STEEL OR HOT DIP GALVANISED WITH ADDITIONAL PROTECTION AS PER NZS 3604:2011 4.4.4 AND 4.4.5 REQUIREMENTS.

FOR HIGH, VERY HIGH AND EXTRA WIND ZONES, THE NUMBER OF FIXINGS PER SHINGLE SHALL BE 6 NAILS PER TILE AND ALL SHINGLE RAKES AND EAVES TO BE GLUED WITH APPROVED ROOFING CEMENT.

PLYWOOD SUBSTRATE TO BE LAID WITH STAGGERED JOINTS TO SHEET EDGES. ALL SHEET EDGES SHALL BE SUPPORTED WITH NOGGS OR ROOF FRAMING FOR FIXING UNLESS A STRUCTURALLY TESTED AND APPROVED TONGUE IN GROOVE EDGE SHALL PROVIDE EQUIVALENT OR BETTER SUPPORT. GALVANISED 'H' CLIPS CAN BE USED FOR SQUARE EDGE PLYWOOD.

ALL SHEETS TO BE LAID WITH A 3mm INTER SHEET EXPANSION JOINT PLYWOOD SUBSTRATE SHALL BE LAID WITH THE FACE GRAIN AT RIGHT ANGLES TO THE SUPPORTS, UNDER NO CIRCUMSTANCES SHALL THE SARKING / SUBSTRATE BE LAID DIAGONALLY. ALL SARKING / SUBSTRATES SHALL HAVE A MAX OF 18% MOISTURE CONTENT AT THE TIME OF APPLICATION OF MATERIALS.

D226+ OR BRANZ 529 SPECIFIED UNDERLAY USED WITH ASPHALT SHINGLE ROOFING. SEE BRANZ.529 2012

ALL UNDERLAYS TO BE LAID WITH MIN 100mm END LAPS.





## FIXING SPECIFICATIONS

## **1 ROOF PENATRATIONS:**

ROOF DECKS / SUBSTRATES SHOULD BE DRY, WELL SEASONED 150X25 BOARDS OR EXTERIOR GRADE PLYWOOD.

#### 2 UNDERLAY:

APPLY D226+ ROOFING UNDERLAY OVER PLYWOOD SUBSTRATE IN ACCORDANCE WITH NZBC E2 REQUIREMENTS 8.1.5. ALL ROOF UNDERLAYS SHALL HAVE LAPS NO LESS THAN 100mm, ROOF UNDERLAYS SHALL BE LAID HORIZONTALLY, WITH THE UPPER SHEETS LAPPED OVER LOWER SHEETS TO ENSURE WATER IS SHED TO THE OUTER FACE OF THE UNDERLAY.

## **3 ROOF PITCH**

MIN ACCEPTABLE ROOF PITCH = 9°. FOR ROOF PITCHES 9 - 12 DEGREES COMPLETELY COVER ROOF WITH 2 LAYERS OF UNDERLAY OR 1 LAYER OF 'PEEL AND STICK' IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS. FOR ROOF PITCHES 12 DEGREES AND GREATER COMPLETELY COVER ROOF AREA WITH 1 LAYER OF ROOFING UNDERLAY.

#### **4 SHINGLE STARTER COURSE**

USE GAF STARTER STRIP OR A STRIP SHINGLE INVERTED WITH THE HEADLAP APPLIED AT THE EAVE EDGE. WITH AT LEAST 10mm TRIMMED FROM THE END OF THE FIRST SHINGLE, START AT THE RAKE EDGE OVERHANGING THE EAVE 12mm TO 20mm. FASTEN 50mm FROM THE LOWER EDGE AND 25mm FROM EACH SIDE. SHINGLES MAY BE APPLIED WITH A COURSE ALIGNMENT OF 45° ON THE ROOF.

## 1. FIRST COURSE

START AT RAKE AND CONTINUE COURSE WITH FULL SHINGLES LAID FLUSH WITH THE STARTER COURSE.

## 2. SECOND COURSE

START AT THE RAKE WITH THE SHINGLE HAVING 145mm TRIMMED OFF AND CONTINUE ACROSS ROOF WITH FULL LENGTH SHINGLES.

## 3. THIRD COURSE

START AT THE RAKE WITH THE SHINGLE HAVING 285mm TRIMMED OFF AND CONTINUE ACROSS WITH FULL LENGTH SHINGLES.

## 4. FOURTH COURSE

START AT THE RAKE AND CONTINUE ACROSS WITH FULL LENGTH SHINGLES ACROSS ROOF.

#### 5. FIFTH AND SUCCEEDING COURSES

REPEAT THE APPLICATION AS SHOWN FOR SECOND, THIRD AND FOURTH COURSES. DO NOT RACK SHINGLES STRAIGHT UP THE ROOF.

## **5 FASTENERS**

ALWAYS NAIL THROUGH THE FASTENER LINE. SHINGLING NAILS: STAINLESS STEEL GUN NAILS WITH 9mm HEAD, SEMI RING SHANKED, 32mm OR 25mm IN LENGTH WITH A 3mm DIAMETER SHANK. GAF RECOMMENDS 30mm FOR NEW ROOFS AND 40mm FOR ROOF OVERS. IN CASES WHERE APPLYING SHINGLES TO A ROOF THAT HAS AN EXPOSED OVERHANG, (FOR NEW ROOFS ONLY), 20mm RING SHNAK NAILS ARE ALLOWED TO BE USED FROM THE EAVE EDGE TO A POINT UP THE ROOF THAT IS PAST THE OUTSIDE WALL LINE. 25mm RING SHANK NAILS ALLOWED FOR REROOF. NOTE: AN IMPROPERLY ADJUSTED NAIL GUN CAN RESULT IN UNDERDRIVEN NAILS THAT CAN CAUSE A FISHMOUTHED APPEARANCE AND PREVENT SEALING FASTENERS SHOULD BE LONG ENOUGH TO OBTAIN A 19mm PENETRATION OR PENETRATE THROUGH SUBSTRATE, WHICHEVER IS LESS.

For technical assistance call 0800 423355 or visit www.gafroofing.co.nz