Western States “Western Lock™”
Standing SeamPanel
Installation, Flashings & Shop Drawing Detail Guide

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Western States “Western Lock™” Panel
Installation, Flashings & Shop Drawing Detail Guide

Notes to Designer and Installers

The details contained in this guide are proven industry details and are intended to be used as a design aid and installation guide. It does not depict all situations that may be encountered on all projects. Modifications are the responsibility of the designer/owner/installer. Consideration should be given for Fit for Purpose, Building use, Climate conditions such as temperature, snow, wind, and moisture, Governing Building Codes, and Maintenance. It is highly recommended that all trims and flashings be of the same material as the panels (metal, gauge, finish) to ensure long term performance and durability. Where possible, flashing edges should be hemmed to strengthen the edge and protect the cut edge from exposure.

Framing and Substrates

“Western Lock ™” panels are used over all type of substrates like Steel Decking, open purlins, spaced sheathing, and wood decking such as plywood. Most details in this guide are shown with panels attached to Solid Decking.

Note on Underlayment

Not all conditions require an underlayment. However metal roofing is susceptible to Condensation and it is recommended that an appropriate Roofing underlayment be use on all wood substrates to protect the structure during installation. For added protection from rain and snow, it is recommended to use rubberized Ice and water shield on eaves, valleys, and areas of roof penetrations.

Technical Assistance Contact your WSDI sales or technical representative for any additional information or assistance.

Slope Requirements

It is recommended that “Western Lock ™” panels have a minimum slope requirement of 3:12 on all structures.

Valley and Snow Design

Valley design and dimension must be the proper width to accommodate high snow, rain, ice, and slope conditions. If possible, splices, penetrations, valleys, roof elevation changes, should be minimized in areas of high snow and ice accumulations.

Oil Canning

Oil canning is a condition common with flat metal surfaces. This waviness is caused by steel mill tolerances, forming, variations in the structures surfaces, and hardness of the steel. Measures are taken at the roll forming process, like profile design, steel gauge, corrective leveling, to minimize the effects of oil canning. Oil Canning is a Characteristic of steel and can not be eliminated totally and therefore is not reason for rejection of the panels.

Job Site Storage

While waiting to be installed on the job site, Storage of panels, trim crates, and flat sheet should be sloped in order to allow for proper moisture run off. One end should be elevated so as not to allow ponding of water on the metal surface. When using tarps for protection, proper ventilation should be provided to prevent condensation. Moisture or condensation that is trapped inside a bundle can lead to white rust on sheeting.

References

For other installation techniques and details, The Sheet Metal and Air Conditioning Contractors National Association Inc. (SMACNA) and NRCA manuals are great resource for working with sheet metal.
Western States Metal Roofing “Western Lock™” Standing Seam Panel
Installation, Flashings & Shop Drawing Detail Guide

Fastener Selection

Notes to Installers:

- Fastener Selection will vary depending on type and thickness of substrate.
- Design Calculations for clip spacing should be completed by the design engineer.
- The use of Butyl tape mastic, Butyl sealants and Curing Sealants is always recommended to insure weather tight installation.
- Panels and flashings should never be installed in contact with dissimilar metals.
- Use only those flashings and accessories designed for use with this panel.
- Panel clip attachment screws must be long enough to fully penetrate through roof deck substrate or penetrate solid lumber at least one inch.

- Exposed Trim Fasteners should have sealing washers and be coated to provide protection against corrosion.
- Screws must be properly driven to ensure holding strength and proper seal. (see diagram)
- Recommended drill speed is 2000rpm. Improper setting of drill speed can lead to snapping of screw heads.
- Pre drilling of screw holes may be necessary with heavy gauge metals.
### Fastener Selection

<table>
<thead>
<tr>
<th>Description</th>
<th>Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>14 x 7/8” Lap Self tap</td>
<td>Used to attach Trims. Stainless to be used with A606-4 Steel</td>
</tr>
<tr>
<td>14 x 7/8 Lap Stainless</td>
<td></td>
</tr>
<tr>
<td>#10-12 x 1” Pancake head</td>
<td>Used to attach Panel clips.</td>
</tr>
<tr>
<td>Wood</td>
<td>Used to secure trims to substrates. Also available in Stainless Steel.</td>
</tr>
<tr>
<td>#10-12 x 1” SD PH Self Driller</td>
<td></td>
</tr>
<tr>
<td>Steel</td>
<td></td>
</tr>
<tr>
<td>1/8” Stainless Rivets</td>
<td>Used for Trim to Trim attachment or trim to wall panels.</td>
</tr>
<tr>
<td>Stainless Screws</td>
<td></td>
</tr>
<tr>
<td>#10 x 1” 1/4” Wood Drillers</td>
<td>Used for panel attachment for panels made with A606-4 Steel</td>
</tr>
<tr>
<td>#10 x 1.5 x ¼”</td>
<td></td>
</tr>
<tr>
<td>#10 x 2” x ¼”</td>
<td></td>
</tr>
</tbody>
</table>

- The table above shows the panel Fasteners provided by WSD. Special order screws are available.
<table>
<thead>
<tr>
<th>PANEL TYPE</th>
<th>DRAWING</th>
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<tr>
<td>DOWNSPOUT STRAP WS-442</td>
<td><img src="image1" alt="DOWNSPOUT STRAP WS-442" /></td>
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<tr>
<td>FLOATING RIDGE/HIP CAP WS-456</td>
<td><img src="image2" alt="FLOATING RIDGE/HIP CAP WS-456" /></td>
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<tr>
<td>FLOATING HIGH EAVE/PEAK WS-457</td>
<td><img src="image3" alt="FLOATING HIGH EAVE/PEAK WS-457" /></td>
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<td>FLOATING HEA/END WALL WS-458</td>
<td><img src="image4" alt="FLOATING HEA/END WALL WS-458" /></td>
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<td>18GA PANEL SUPPORT WS-459</td>
<td><img src="image5" alt="18GA PANEL SUPPORT WS-459" /></td>
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www.MetalDeck.com
Western Lock Clip (Contact design professional for clip spacing and location)

Western Lock Roof Panel

3/8" bead of non-curing butyl sealant on male rib of panel and tied into tape sealant prior to engaging female rib of next panel

Field notch and hem panel

Clearance for thermal movement

Eave Trim (WS-402)

Trim Cleat (WS-401)

Appropriate underlayment wood decking

Pancake head screw at 12" o.c.

Western Lock Flashing

* Can only be bent for max. 6:12 pitch

Eave Trim (WS-402)

* Denotes angle

Trim Cleat (WS-401)

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3/8" BEAD OF NON-CURING BUTYL SEALANT ON MALE RIB OF PANEL AND TIED INTO TAPE SEALANT PRIOR TO ENGAGING FEMALE RIB OF NEXT PANEL

WESTERN LOCK CLIP (CONTACT DESIGN PROFESSIONAL FOR CLIP SPACING AND LOCATION)

WESTERN LOCK ROOF PANEL

FASTENER AT 12" O.C.

#9X WOOD SCREW TBD HEX HEAD

EAVE TRIM (WS-404)

TRIM CLEAT (WS-401)

APPROPRIATE UNDERLAYMENT WOOD DECKING

3/16" X 7/8" BUTYL TAPE

PANCAKE HEAD SCREWS AT 12" O.C.
3/8" BEAD OF NON-CURING BUTYL SEALANT ON MALE RIB OF PANEL AND TIED INTO TAPE SEALANT PRIOR TO ENGAGING FEMALE RIB OF NEXT PANEL

JOGLLE CLEAT (WS-403)

FIELD NOTCH AND HEM PANEL

CLEARANCE FOR THERMAL MOVEMENT

EAVE TRIM (WS-404)

TRIM CLEAT (WS-401)

WESTERN LOCK CLIP
(CONTACT DESIGN PROFESSIONAL FOR CLIP SPACING AND LOCATION)

WESTERN LOCK ROOF PANEL

APPROPRIATE UNDERLAYMENT
WOOD DECKING
3/16" X 7/8" BUTYL TAPE

PANCAKE HEAD SCREWS AT 12" O.C.

1 3/8"
1/2"
15°
1 3/4"

JOGLLE CLEAT (WS-403)

6"

1/2" HEM
3/4"

EAVE TRIM (WS-404)
* DENOTES ANGLE

1/2" HEM

3/8"
1 1/2"

COLOR SIDE

COLOR SIDE

TRIM CLEAT (WS-401)

---

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GAUGE: ________  COLOR: ________
LENGTH: ________  FINISH: ________
MATERIAL: __________

EAVE FLASHING
W/ JOGLLE CLEAT
DETAIL

PANEL TYPE:
WESTERN LOCK

DETAIL #:
WSD-D3

REV: A  DATE: 05-20-13
POP RIVET ONE SIDE AS REQUIRED

1/8" GAP

APPLY NON-CURING BUTYL SEALANT ON BOTH SIDES OF GUTTER

GUTTER SPLICE (WS-413)

* DENOTES ANGLE

1 1/8"

7/8"

13"

6 1/8"

6 1/8"

7 15/16"

STANDARD PRE-HUNG BOX GUTTER WS-415

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FINISH:   COLOR:   GAUGE:   MATERIAL:   LENGTH:   FINISH:

WESTERN LOCK

EAVE GUTTER SPLICE DETAIL

A 05-20-13

REV: DATE: DETAIL #: WSD-D5
APPLY (2) BEADS OF CURING SEALANT TO BOTH SIDES OF PANEL RIB PRIOR TO INSTALLING SEAM COVER.

FILL IN OPEN ENDS OF SEAM RIBS WITH CURING SEALANT.

POP RIVETS BOTH SIDES, TOP, BOTTOM AND AT LAPS.

WESTERN LOCK KNEE/RIB COVER (WS-406)

WESTERN LOCK ROOF PANEL

WESTERN LOCK CLIP

FIELD CUT PANEL RIBS AND BEND OVER ROOF EDGE, SEAL ENDS OF PANEL PRIOR TO INSTALLING SEAM COVER.

APPROPRIATE UNDERLAYERMENT

WOOD DECKING

PANCAKE HEAD SCREWS AT 12" O.C.

FIELD NOTCH AND HEM 1"

WESTERN LOCK CLIP (CONTACT DESIGN PROFESSIONAL FOR CLIP SPACING AND LOCATION)

DESIGN CAUTION:
TURNING PANELS DOWN FOR FASCIA MAY ESTABLISH UNWANTED POINT OF PANEL FIXITY.

STANDING SEAM KNEE/RIB COVER (WS-406)
* DENOTES ANGLE

DRIP FLASHING (WS-407)

2 1/8"

1/4"

1 1/2"

1 3/4"

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RIDGE/HIP CAP (WS-405H)
CONTINUOUS 3/16" X 7/8" BUTYL TAPE
POP RIVET AT 12" O.C.
NON-CURING BUTYL SEALANT AT ENDS, FILL IN ALL GAPS
ZEE CLOSURE (WS-410)
WESTERN LOCK CLIP (CONTACT DESIGN PROFESSIONAL FOR CLIP SPACING AND LOCATION)
WESTERN LOCK ROOF PANEL
PANCAKE HEAD SCREWS @
HIP = 4" O.C.
RIDGE = 4 EQ. SPACED PER PANEL
APPROPRIATE UNDERLAYMENT
WOOD DECKING

RIDGE/HIP CAP (WS-405H)
+ DENOTES ANGLE
1 1/2"
1 1/2"
COLOR SIDE
COLOR SIDE
1 3/4"

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Fixed Vented Ridge Detail

Panel Type: Western Lock

Finish:__
Material:__
Gauge:__
Color:__
Length:__
Finish:__

Western Lock Clip (Contact Design Professional for Clip Spacing and Location)
Western Lock Roof Panel
Zee Closure (WS-410)
1 1/2" COLOR SIDE

Zee Closure (WS-410)
2" COLOR SIDE

Perforated 6" Vent Strip (WS-411)

Continuous 3/16" x 7/8" Butyl Tape
Pop Rivet at 12" O.C.

Verify Opening

Pancake Head Screws @ Hip = 4" O.C.
Ridge = 4 EQ. Spaced Per Panel

Appropriate Underlayment
Wood Decking

10" Varies

2"

1/2" Open Hem

6"

2"

1/2" Open Hem

* Denotes Angle

Non-Curing Butyl Sealant at Ends, Fill in All Gaps
HIGH EAVE/PEAK FLASHING (WS-419)
CONTINUOUS 3/16" X 7/8" BUTYL TAPE
POP RIVET AT 12" O.C.
WESTERN LOCK ROOF PANEL
WESTERN LOCK CLIP
(CONTACT DESIGN PROFESSIONAL FOR CLIP SPACING AND LOCATION)
APPROPRIATE UNDERLAYMENT
WOOD DECKING

ZEE CLOSURE (WS-410)
(4) FASTENERS
EQ. SPACED
PER PANEL
PANCAKE HEAD
SCREWS AT 12" O.C.
TRIM CLEAT
(WS-401)

HIGH EAVE/PEAK FLASHING (WS-419)
* DENOTES ANGLE

5/16" HEM
1 1/2"
COLOR SIDE

5/16" HEM
1 1/2"
COLOR SIDE

WESTERN LOCK

FIXED HIGH EAVE DETAIL
NOTE: FIELD CUT FIRST AND LAST PANELS TO EQUAL WIDTHS.

FIELD CUT AND BEND PANEL UP 1 1/2”

RECEIVER TRIM (WS-430)

CABLE TRIM (WS-434)

TRIM CLEAT (WS-401)

WESTERN LOCK ROOF PANEL

POP RFVT AT 12” O.C.

3/16” X 7/8” BUTYL TAPE

ANGLE TRIM (WS-431)

APPRIOPRIATE UNDERLAYMENT

WOOD DECKING

PANCAKE HEAD SCREWS AT 12” O.C.

1 1/2”

5/8”

TRIM CLEAT (WS-401)

GABLE TRIM (WS-434)

1/2” HEM

1 1/2”

1/2” open HEM

1/4”

1 1/8”

1 3/4”

1/2” open HEM

4”

4”

COLOR SIDE

COLOR SIDE

COLOR SIDE

COLOR SIDE

COLOR SIDE

COLOR SIDE

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NOTE:
FIELD CUT FIRST AND
LAST PANELS TO EQUAL
WIDTHS.

GABLE STARTER TRIM
(WS-452)

FILL POCKET WITH
NON-CURING BUTYL
SEALANT PRIOR TO
INSERTING ROOF PANEL

GABLE DRIP TRIM
(WS-451)

TRIM CLEAT
(WSD-401)

3/16" X 7/8" BUTYL TAPE
WESTERN LOCK CLIP
(CONTACT DESIGN PROFESSIONAL
FOR CLIP SPACING AND LOCATION)
WESTERN LOCK
ROOF PANEL

APPROPRIATE UNDERLAYMENT
WOOD DECKING
FASTENER AT 12" O.C.

COLOR SIDE
1/2" OPEN
HEM

GABLE DRIP
TRIM (WS-451)

GABLE STARTER TRIM
(WS-452)

TRIM CLEAT (WS-401)

COLOR SIDE
1/2" OPEN
HEM

4" 1/2"

WESTERN LOCK
DETAIL
WSD-D15B

FINISH: __________  MATERIAL: __________
LENGTH: __________  COLOR: __________

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A 05-20-13
REV: DATE:
DETAIL #: WSD-D15B
NOTE:
FIELD CUT FIRST AND
LAST PANELS TO EQUAL
WIDTHS.

CONTINUOUS 3/16" X 7/8"
BUTYL TAPE AT TOP AND
BOTTOM "Z" CLOSURE

1/8" POP RIVET AT 12" O.C.
ZEE CLOSURE (WS-410)

WESTERN LOCK CLIP
(CONTACT DESIGN PROFESSIONAL
FOR CLIP SPACING AND LOCATION)

FIELD BEND PANEL
UP 1 1/2"

ALTERNATE GABLE TRIM
(WS-453)

TRIM CLEAT
(WS-401)

NOTE:
MUST USE TRIM CLEAT
WITH THIS APPLICATION

APPROPRIATE UNDERLAYMENT
WOOD DECKING
RIVET "Z" CLOSURE @12" O.C.
TO PANEL PRIOR TO INSTALLING
FASTENER AT 12" O.C.

WESTERN LOCK
ROOF PANEL

ALTERNATE
GABLE TRIM
(WSD-D15C)

FINISH:
MATERIAL:
GAUGE:
COLOR:
LENGTH:
FINISH:
MATERIAL:

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05-20-13
NOTE:
FIELD CUT FIRST AND LAST PANELS TO EQUAL WIDTHS.

ANCHOR FASTENER
BY OTHERS

FIELD CUT AND BEND
PANEL UP 1 1/2"

PANCAKE HEAD
SCREWS AT 12" O.C.

CONSTRUCTION SEALANT
REGLET FLASHING (WS-429)
CAULK SEALANT
RAKE SIDEWALL TRIM (WS-432)
POP RIVET AT 12" O.C.
RECENER TRIM (WS-430)
WESTERN LOCK
ROOF PANEL

APPROPRIATE UNDERLAYMENT
WOOD DECKING

FINISH: 
MATERIAL: 
GAUGE: ________ COLOR: ________
LENGTH: ________ FINISH: ________
MATERIAL: ________

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**NOTE:**
FIELD CUT FIRST AND LAST PANELS TO EQUAL WIDTHS.

ANCHOR FASTENER BY OTHERS

FILL POCKET WITH NON-CURING BUTYL SEALANT PRIOR TO INSERTING ROOF PANEL

FASTENER AT 12" O.C.

CONSTRUCTION SEALANT
REGLET FLASHING (WS-429)
CAULK SEALANT
ALTERNATE RAKEWALL TRIM (WS-454)
WESTERN LOCK CLIP
(CONTACT DESIGN PROFESSIONAL FOR CLIP SPACING AND LOCATION)
WESTERN LOCK ROOF PANEL

3/4" MIN. ENGAGEMENT

APPROPRIATE UNDERLAYERMENT WOOD DECKING

GUAGE: _____ COLOR: _____
LENGTH: _____ FINISH: _____
MATERIAL: ____________

WESTERN LOCK

ALTERNATE RAKEWALL TRIM (WS-454)

COLOR SIDE

1/2" OPEN HEM

5"

1/2" HEM

1 1/4"

1/2" HEM

5/8"
NOTE:
FIELD CUT FIRST AND
LAST PANELS TO EQUAL
WIDTHS.

CONSTRUCTION SEALANT
REGLET FLASHING (WS-429)
CAULK SEALANT
ALTERNATE RAKEWALL
TRIM (WS-455)
FILL OPEN HEM WITH
NON-SKINNING BUTYL
SEALANT
WESTERN LOCK CLIP
(CONTACT DESIGN PROFESSIONAL
FOR CLIP SPACING AND LOCATION)
WESTERN LOCK
ROOF PANEL

ANCHOR FASTENER
BY OTHERS

ZEE CLOSURE (WS-410)

FIELD BEND PANEL
UP 1 1/2"

RIVET "Z" CLOSURE @12" O.C.
TO PANEL PRIOR TO INSTALLING

APPROPRIATE UNDERLAYMENT
WOOD DECKING

CONTINUOUS 3/16" X 7/8"
BUTYL TAPE AT BOTTOM
OF "Z" CLOSURE

WESTERN LOCK
ROOF PANEL

REGLET FLASHING (WS-429)

1/4"

3/4" OPEN
HEM

3/4"

4"

COLOR SIDE

05-20-13

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FINISH: 
MATERIAL: 
GAUGE: 
LENGTH: 
COLOR: 
FINISH: 
MATERIAL: 

ZEE CLOSURE
ALTERNATE
RAKEWALL DETAIL

PANEL TYPE:
WESTERN LOCK

DETAIL #: WSD-D16B

REV: A
DATE: 05-20-13
ANCHOR FASTENER BY OTHERS

(4) PANCAKE HEAD SCREWS EQ. SPACED PER PANEL

CONT. 3/16" X 7/8" BUTYL TAPE

CONSTRUCTION SEALANT
REGLET FLASHING (WS-429)
CAULK SEALANT
HEAD/END WALL TRIM (WS-428)
NON-CURING BUTYL SEALANT
AT ENDS, FILL IN ALL CAPS
ZEE CLOSURE (WS-410)
POP RIVET AT 12" O.C.
WESTERN LOCK CLIP
(CONTACT DESIGN PROFESSIONAL FOR CLIP SPACING AND LOCATION)
WESTERN LOCK ROOF PANEL

APPROPRIATE UNDERLAYERMENT
WOOD DECKING

HEAD/END WALL TRIM
(WA-428)
* DENOTES ANGLE

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FINISH: __________ COLOR: __________
MATERIAL: __________ LENGTH: __________
18GA PANEL END SUPPORT (WS-459)

PRE-POP 1/8" RIVET TO PANEL PRIOR TO INSTALLATION (4) POP RIVETS EQ. SPACED PER PANEL

CONSTRUCTION SEALANT
REGLET FLASHING (WS-429)
CAULK SEALANT
FLOATING HEAD/END WALL TRIM (WS-458)
NON-CURING BUTYL SEALANT AT ENDS, FILL IN ALL GAPS
ZEE CLOSURE (WS-410)
HWH FASTENER W/WASHER AT 12" O.C.
WESTERN LOCK CLIP
(CONTACT DESIGN PROFESSIONAL FOR CLIP SPACING AND LOCATION)
WESTERN LOCK ROOF PANEL

CONT. 3/16" X 7/8" BUTYL TAPE
APPROPRIATE UNDERLAYMENT
WOOD DECKING

18GA PANEL END SUPPORT (WS-459)

1/2" HEM
1 1/2"
1 1/2"
1 1/2"
1 1/2"
1 1/2"
1/2" HEM
1 3/4"
1/2" OPEN HEM
1/2" HEM
1/2" HEM

FLOATING HEAD/END WALL TRIM (WS-458)
* DENOTES ANGLE

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FINISH: ____________________
MATERIAL: ____________________
GAUGE: ________ COLOR: ____________
LENGTH: ________ FINISH: ________
MATERIAL: ________

FLOATING HEAD/END WALL DETAIL

WESTERN LOCK

DETAIL #: WSD-D18
REV: A DATE: 05-20-13
3/8" BEAD OF NON-CURING BUTYL SEALANT ON MALE RIB OF PANEL AND TIED INTO TAPE SEALANT PRIOR TO ENGAGING FEMALE RIB OF NEXT PANEL

JOGLLE CLEAT (WS-403)

FILL HEM OF PANEL WITH NON-CURING BUTYL SEALANT PRIOR TO INSTALLING JOGGLE CLEAT

TRANSITION TRIM LOW TO HIGH (WS-437)

ZEE CLOSURE (WS-410)

CONT. 3/16" X 7/8" BUTYL TAPE

POP RIVET AT 12" O.C.

WESTERN LOCK CLIP (CONTACT DESIGN PROFESSIONAL FOR CLIP SPACING AND LOCATION)

WESTERN LOCK ROOF PANEL

APPROPRIATE UNDERLAYMENT

WOOD DECKING

FLASHING SUPPORT MAY BE REQUIRED

(4) FASTENERS
EQ. SPACED PER PANEL

NON-CURING BUTYL SEALANT AT ENDS, FILL IN ALL GAPS
CONSTRUCTION SEALANT

REGLET FLASHING (WS-429)

CRICKET FLASHING CUSTOM TRIM (WS-450)

ANCHOR FASTENER BY OTHERS

FILL HEM OF PANEL WITH NON-CURING BUTYL SEALANT PRIOR TO INSTALLING JOGGLE CLEAT

FIELD NOTCH AND HEM PANEL

CAULK SEALANT

FIELD FORMED CRICKET

3/8" BEAD OF NON-CURING BUTYL SEALANT ON MALE RIB OF PANEL AND TIED INTO TAPE SEALANT PRIOR TO ENGAGING FEMALE RIB OF NEXT PANEL

WESTERN LOCK ROOF PANEL

WESTERN LOCK CLIP (CONTACT DESIGN PROFESSIONAL FOR CLIP SPACING AND LOCATION)

3/16" X 7/8" BUTYL TAPE PHILLIPS HEAD FASTENER AT 12" O.C.

JOGGLE CLEAT (WS-403)

APPROPRIATE UNDERLAMENT WOOD DECKING

CRICKET FLASHING CUSTOM TRIM (WS-450)

* DENOTES ANGLE

COLOR SIDE

1/2" HEM

18" VARIES

6"

1/2" HEM

3/16"

1 1/4"

1/2" HEM

3/4"

1 3/8"

1/2"

1 3/4"

150°

JOOGLE CLEAT (WS-403)

WESTERN LOCK PANEL TYPE:

HALF VALLEY DETAIL

DETAIL #: WSD-D21

GAUGE: _______ COLOR: _______
LENGTH: _______ FINISH: _______
MATERIAL: _______
FIELD FORMED CRICKET
3/8" BEAD OF NON-CURING BUTYL SEALANT ON MALE RIB OF PANEL AND TIED INTO TAPE SEALANT PRIOR TO ENGAGING FEMALE RIB OF NEXT PANEL

WESTERN LOCK ROOF PANEL
WESTERN LOCK CLIP
(CONTACT DESIGN PROFESSIONAL FOR CLIP SPACING AND LOCATION)

3/16" X 7/8" BUTYL TAPE
PHILLIPS HEAD FASTENER AT 12" O.C.

JOGGLE CLEAT
(WS-403)

APPROPRIATE UNDERLAYMENT
WOOD DECKING

CRICKET FLASHING CUSTOM TRIM (WS-450)
* DENOTES ANGLE

FILL HEM OF PANEL WITH NON-CURING BUTYL SEALANT PRIOR TO INSTALLING JOGGLE CLEAT

CURB FLASHING BY OTHERS
CAULK SEALANT
ANCHOR FASTENER BY OTHERS
CRICKET FLASHING CUSTOM TRIM (WS-450)

FIELD NOTCH AND HEM PANEL

GAUGE: _______ COLOR: _______
LENGTH: _______ FINISH: _______
MATERIAL: __________

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Page dimensions: 612.0x792.0

05-20-13
NOTE:
FIELD CUT FIRST AND
LAST PANELS TO EQUAL
WIDTHS.

ANCHOR FASTENER
BY OTHERS

FIELD CUT AND BEND
PANEL UP 1 1/2"

CURB FLASHING
BY OTHERS

CAULK SEALANT

RAKEWALL TRIM (WS-432)

POP RIVET AT 12" O.C.

RECEIVER TRIM (WS-430)

WESTERN LOCK
ROOF PANEL

APPROPRIATE UNDERLAYMENT
WOOD DECKING

PANCAKE HEAD
SCREWS AT 12" O.C.

1 1/8"

3/4"

4"

1/2" OPEN
HEM

COLOR SIDE

COLOR SIDE

1/2" OPEN
HEM

RAKEWALL TRIM (WS-432)

RECEIVER TRIM (WS-430)

SIDEWALL
@ CURB/CHIMNEY

DETAIL

GAUGE: _________ COLOR: _________
LENGTH: _________ FINISH: _________
MATERIAL: ________________
3/8" bead of non-curing butyl sealant on male rib of panel and tied into tape
sealant prior to engaging female rib of next panel.

Joggle cleat (WS-403)
Field notch and hem panel

Western lock roof panel downhill or lower panel

Fill hem of panel with non-curing butyl
sealant prior to installing joggle cleat

(2) 3/8" beads of butyl sealant

Clip 12" max from panel end or per clip attachment schedule

Hem uphill Western lock roof panel

Appropriate underlayment
Wood decking

6" min. lap

Fastener thru sealant bead

See notch detail on sheet WSD-D27
PANEL CLIP DETAIL

WESTERN LOCK CLIP

WESTERN LOCK
ROOF PANEL

WESTERN LOCK
CLIP

APPROPRIATE UNDERLAYMENT

3/16"

WOOD DECKING

PANCAKE HEAD
SCREWS (2 PER CLIP)

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GAUGE: 
COLOR: 
LENGTH: 
FINISH: 
MATERIAL: 

WESTERN LOCK

PANEL TYPE:

DETAIL #:
WSD-D26A

REV: A
DATE: 05-20-13
FIELD NOTCH MALE AND FEMALE RIB (AS SHOWN) 9"

WESTERN LOCK
ROOF PANEL
DOWNHILL OR LOWER PANEL

FIELD LAP DETAIL

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Western Lock Detail

Apply 3/8" bead of non-curing butyl sealant on both sides of male rib as shown.

3/8" gap for thermal movement.

1" hem required.

Use hemming tool to field bend tab under panel.

Western Lock Roof Panel

Field Notched

Western Lock Roof Panel

Male rib of western lock roof panel

Joggle cleat

Gap" expansion

Gauge: _______  Color: _______

Length: _______  Finish: _______

Material: _______

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Panel Hem Detail

Panel Type:
Western Lock

Detail #: WSD-D28

Rev: A  Date: 05-20-13
PIPE (BY OTHERS)

STAINLESS STEEL HOSE CLAMP (BY OTHERS)

WESTERN LOCK ROOF PANEL

SUBSTRATE OPENING MUST BE 1" LARGER THAN BASE OF ROOF JACK

ROOF JACK (DEKTITE OR EQUAL) (NOT BY N.B.A.) REFER TO MANUFACTURER'S INSTRUCTIONS FOR INSTALLATION

FIELD CUT HOLE 1" MIN. LARGER THAN PIPE. LOCATE ALL PIPE IN THE BROAD FLAT OF PANEL
Western States “Western Lock™” Panel
Installation, Flashings & Shop Drawing Detail Guide

Special Design Considerations

The details contained in this guide are proven industry details and are intended to be used as a design aid and installation guide. It does not depict all situations that may be encountered on all projects. Modifications are the responsibility of the designer/owner/installer. Consideration should be given for Fit for Purpose, Building use, Climate conditions such as temperature, snow, wind, and moisture, Governing Building Codes, and Maintenance.

It is highly recommended that all trims and flashings be of the same material as the panels (metal, gauge, finish) to ensure long term performance and durability. Where possible, flashing edges should be hemmed to strengthen the edge and protect the cut edge from exposure.

Acceptance

Use of this manual is strictly voluntary. Details that are provided are to be used as a guide only. Details may not be applicable for all situations. This guide provides one standard detail and WSDI accepts that other installation details may be needed and other details may exist. WSDI makes no guarantee as to the Weather Tightness of the system or details found with in this guide. The information in this manual is believed to be correct and accurate at the time of printing. WSDI reserves the right to change details, discontinue products, change designs at any time without incurring obligation. It is best to consult your Design Engineer for recommendations.

Underlayment

There are many types of underlayment’s on the market today. All designed with a special purpose depending on the type of Metal and profile. Many different types of metal will require a different type of underlayment, such as A606-4 (Corten) which requires a High Temperature underlayment. It is best to consult your Design Engineer for recommendations.

Valley and Snow Design

Valley design and dimension must be the proper width to accommodate high snow, rain, ice, and slope conditions. If possible, splices, penetrations, valleys, roof elevation changes, should be minimized in areas of high snow and ice accumulations. Details found in this manual may not pertain in areas of high snow and ice accumulations.

Panel coverage and fastening

Normal panel width of “Western Lock” panel is 16”. However depending on the finish selected and the required coil feed, other sizes may be available. Please consult with your WSDI representative for details and fastening recommendations.

Safety and Maintenance

Walking on and installing any roof is dangerous! Extreme care should always be used when walking on roofs. Safety should always be a top priority and approved fall protection and equipment as approved by OSHA should always be used. No roof is immune to severe weather or is completely maintenance free. To keep your roof performing as it was designed; an inspection and comprehensive maintenance program should be implemented.

References

For other installation techniques and details, The Sheet Metal and Air Conditioning Contractors National Association Inc. (SMACNA) and NRCA manuals are great resource for working with sheet metal.

Technical Assistance

Contact your WSDI sales or technical representative for any additional information or assistance. To insure you have the latest information available, please inquire or visit our web sites at www.metaldeck.com or Rustedroofing.com