

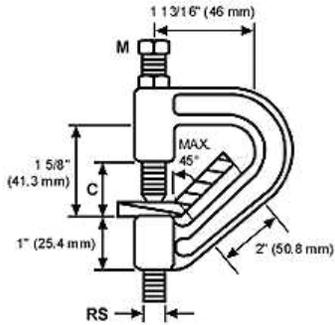
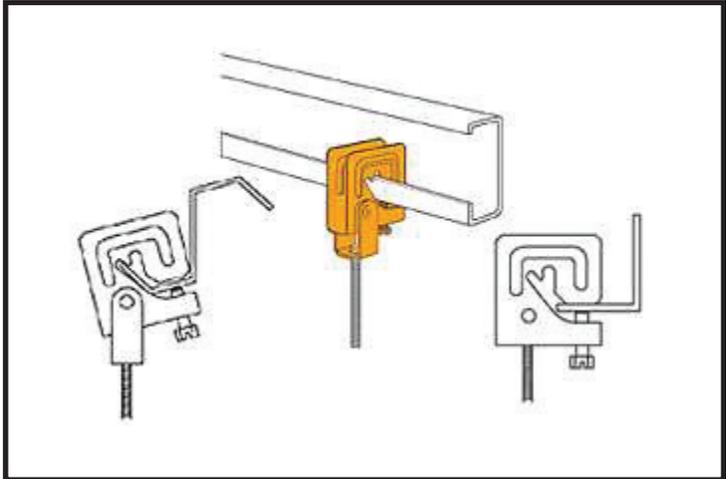


Purlin Hanger Load Capacities

Building systems that are designed and supplied by American Buildings Company are frequently subject to miscellaneous loadings that are suspended from the cold formed zee or cee shape purlins that span between the main frames to support the roof deck. These loads include sprinkler piping, lighting fixtures, small air handling and HVAC equipment, ductwork, and similar non-vibratory static load sources.

Globally, the loading on the roof system is typically accounted for in the design of the structure by the inclusion of specified additional gravity loads known as collateral loads. These loads are typically expressed in terms of pounds per square foot (psf) of roof area. The effects of these additional loads are taken into account by adding them to the building dead (self-weight) loads in those load combinations where inclusion of the collateral loads will clearly produce more severe loading conditions on the various components of the structure than is produced by considering the self-weight of the structure alone.

While this design approach can yield a satisfactory overall building design, it fails to take into account the local adverse effects on the structural components associated with the actual (physical) method of attachment of these loads.



Recommendations

The following recommendations result from purlin hanger load testing conducted by American Buildings in 2008. Unless otherwise noted, these recommendations are applicable for relatively low roof slopes (4:12 or less) only:

1. The maximum applied load for the Caddy® Multi-Flange Rod Hanger (ERICO Catalog Numbers PH4, PH6, PHSW4, and PHSW6), and any similar mechanisms that place the line of applied load near the purlin lip, should be limited to 500 pounds, regardless of roof slope.

2. The maximum applied load for the Caddy purlin clamp (Model 315) attached to the purlin flange without a reinforcing angle should be limited to 250 pounds.

3. The maximum applied load for the Caddy purlin clamp (Model 315) attached to the purlin flange with a reinforcing angle should be limited to 1000 pounds.

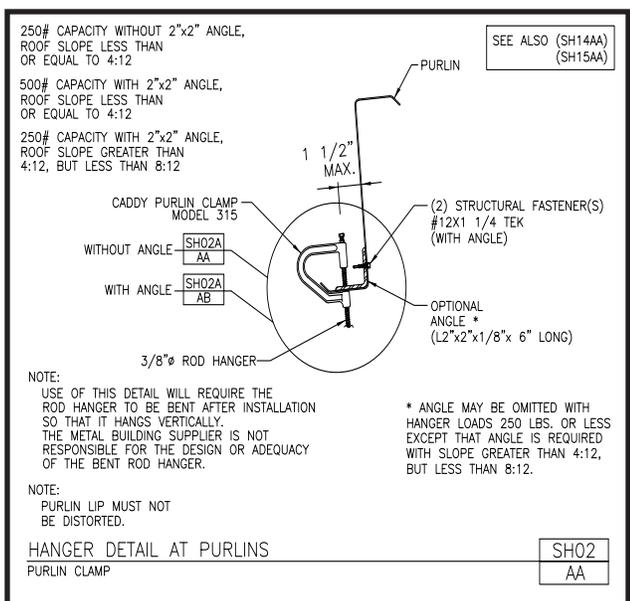
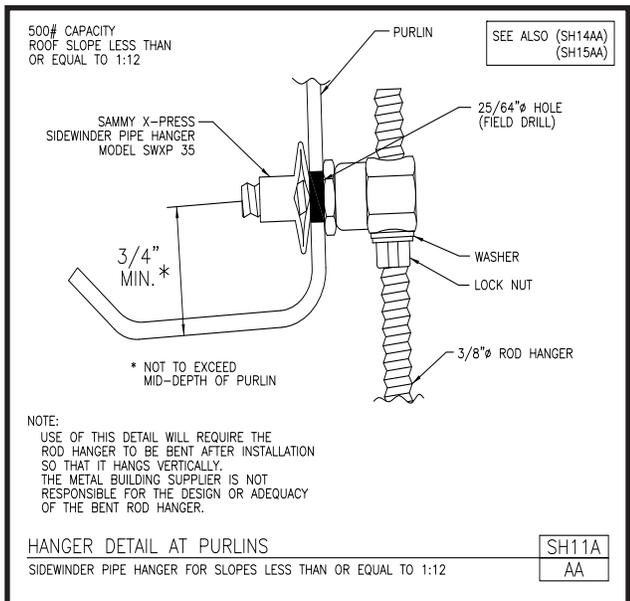
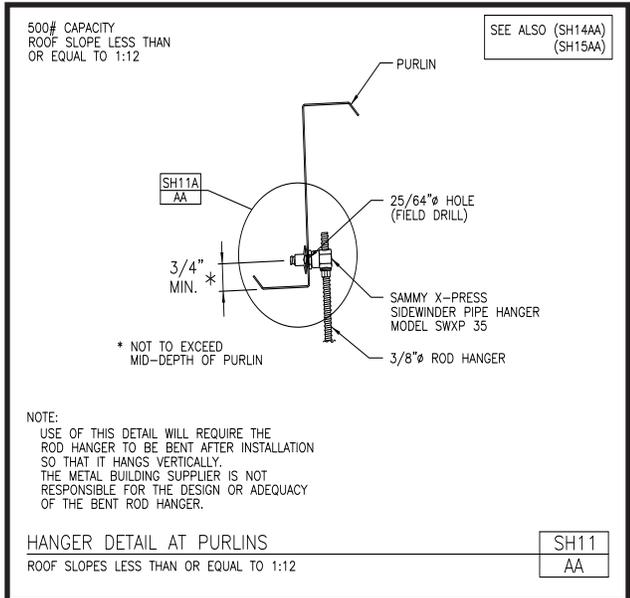
4. The maximum applied load for the Sammy X-Press Swivel mechanical fastener (Model Number SXP 35) attached to the purlin flange should be limited to 375 pounds.

5. The maximum applied load for the Sammy X-Press Sidewinder (Model Number SWXP 35) attached to the purlin web should be limited to 1000 pounds. The use of this mechanical fastener should be strictly limited to applications on low-slope roofs (1:12 or less) due to the inflexibility of threaded rod attachment.

6. For moderate roof slopes (greater than 4:12 but less than 8:12), the only recommended mechanical fasteners should be the Sammy X-Press Swivel (Model Number SXP 35) and the Caddy purlin clamp (Model Number 315), with a reinforcing angle, attached to the purlin bottom flange the maximum applied load should be limited to 250 pounds.

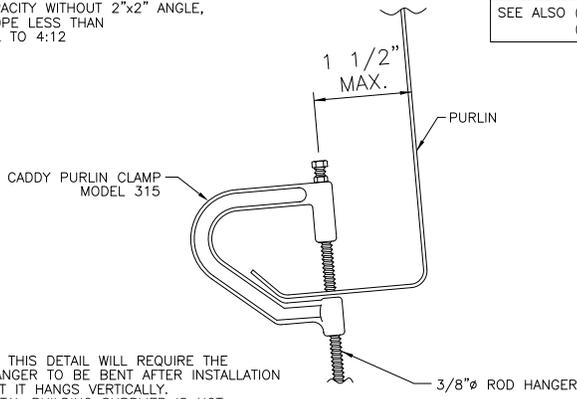
7. For high roof slopes (greater than or equal to 8:12), the only recommended mechanical fastener is the Sammy X-Press Swivel (Model Number SXP 35) attached to the purlin web on the down slope side. The maximum applied load for this arrangement should be limited to 250 pounds.

Product Update Pro



250# CAPACITY WITHOUT 2"x2" ANGLE,
ROOF SLOPE LESS THAN
OR EQUAL TO 4:12

SEE ALSO (SH14AA)
(SH15AA)



NOTE:
USE OF THIS DETAIL WILL REQUIRE THE
ROD HANGER TO BE BENT AFTER INSTALLATION
SO THAT IT HANGS VERTICALLY.
THE METAL BUILDING SUPPLIER IS NOT
RESPONSIBLE FOR THE DESIGN OR ADEQUACY
OF THE BENT ROD HANGER.

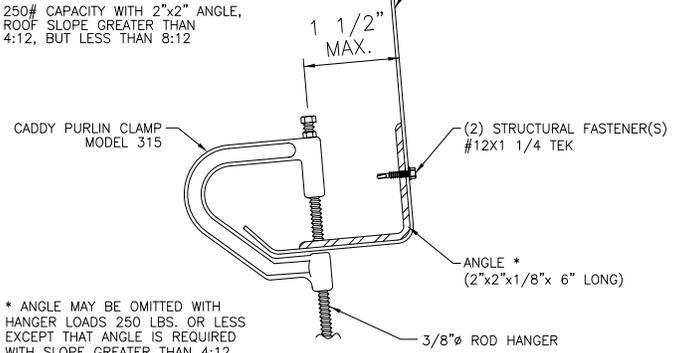
NOTE:
PURLIN LIP MUST NOT
BE DISTORTED.

HANGER DETAIL AT PURLINS
PURLIN CLAMP WITHOUT REINFORCING ANGLE

SH02A
AA

500# CAPACITY WITH 2"x2" ANGLE,
ROOF SLOPE LESS THAN
OR EQUAL TO 4:12

SEE ALSO (SH14AA)
(SH15AA)



* ANGLE MAY BE OMITTED WITH
HANGER LOADS 250 LBS. OR LESS
EXCEPT THAT ANGLE IS REQUIRED
WITH SLOPE GREATER THAN 4:12,
BUT LESS THAN 8:12.

NOTE:
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BE DISTORTED.

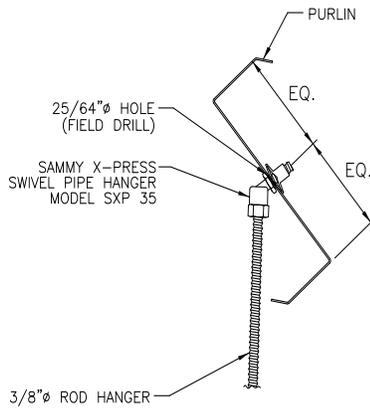
NOTE:
USE OF THIS DETAIL WILL REQUIRE THE
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THE METAL BUILDING SUPPLIER IS NOT
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OF THE BENT ROD HANGER.

HANGER DETAIL AT PURLINS
PURLIN CLAMP WITH REINFORCING ANGLE

SH02B
AA

250# CAPACITY
ROOF SLOPE GREATER THAN
OR EQUAL TO 8:12

SEE ALSO (SH14AA)
(SH15AA)

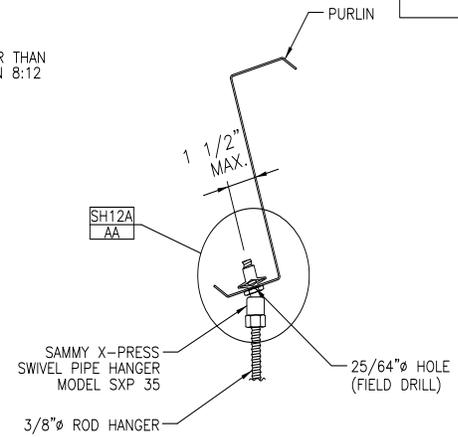


HANGER DETAIL AT PURLINS
ROOF SLOPES GREATER THAN OR EQUAL TO 8:12

SH13
AA

375# CAPACITY
ROOF SLOPE LESS THAN
OR EQUAL TO 4:12

SEE ALSO (SH14AA)
(SH15AA)



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BE DISTORTED.

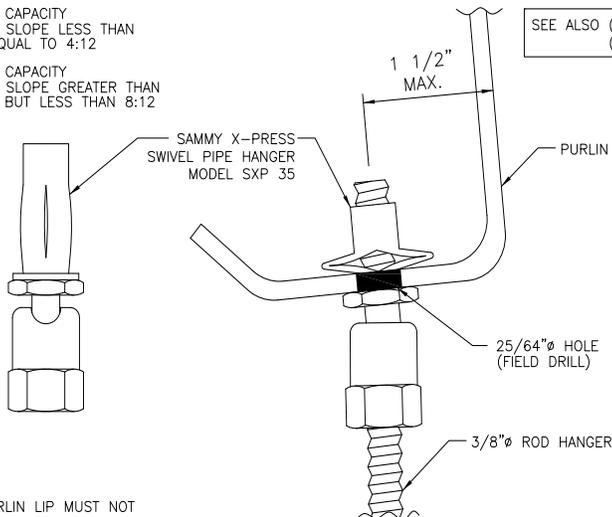
HANGER DETAIL AT PURLINS
ROOF SLOPES LESS THAN 8:12

SH12
AA

375# CAPACITY
ROOF SLOPE LESS THAN
OR EQUAL TO 4:12

SEE ALSO (SH14AA)
(SH15AA)

250# CAPACITY
ROOF SLOPE GREATER THAN
4:12, BUT LESS THAN 8:12



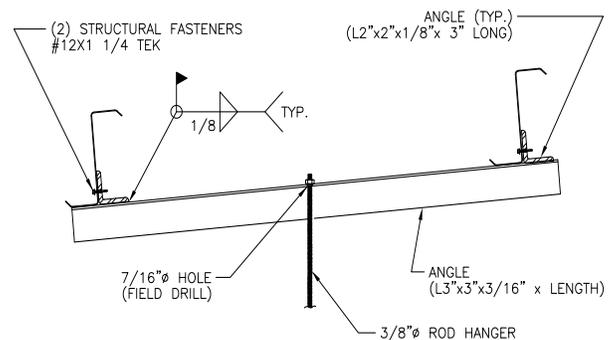
NOTE:
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BE DISTORTED.

HANGER DETAIL AT PURLINS
SWIVEL PIPE HANGER FOR SLOPES LESS THAN 8:12

SH12A
AA

400# CAPACITY PROVIDED ROD HANGER IS WITHIN
CENTER ONE-THIRD OF 3"x3" ANGLE SPAN
(200# CAPACITY OTHERWISE)

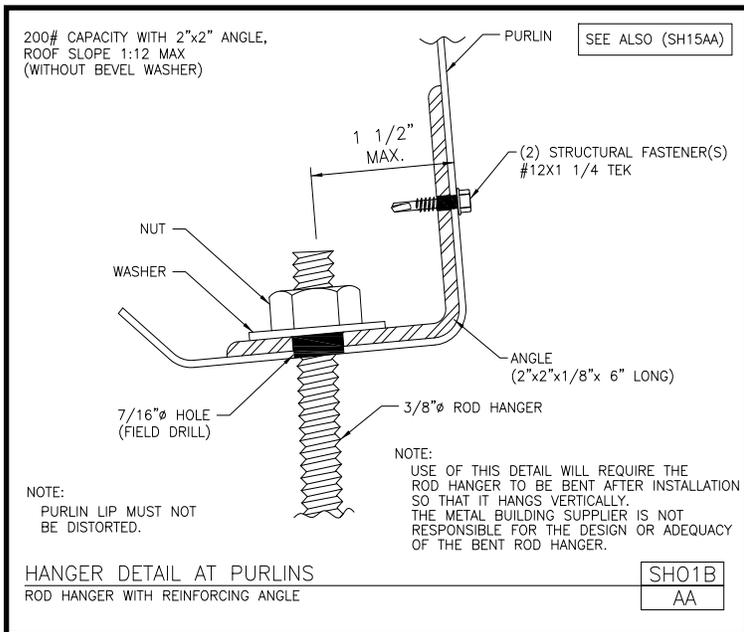
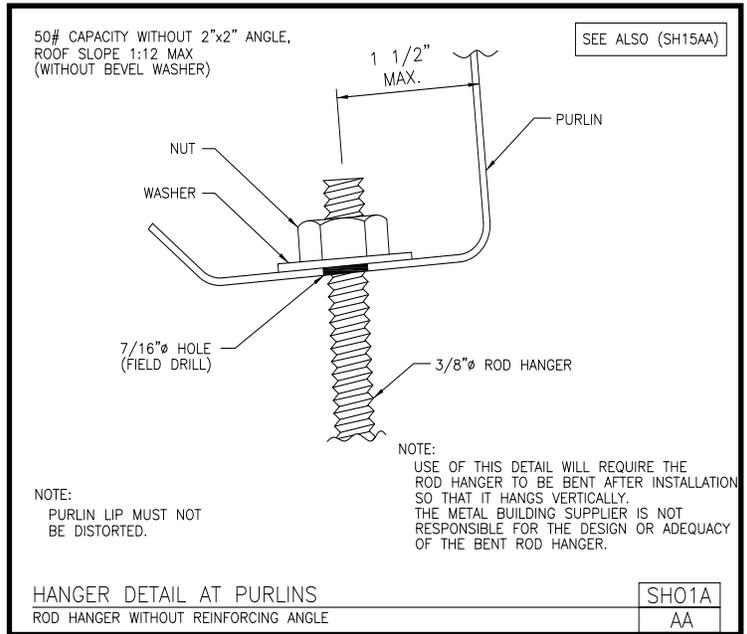
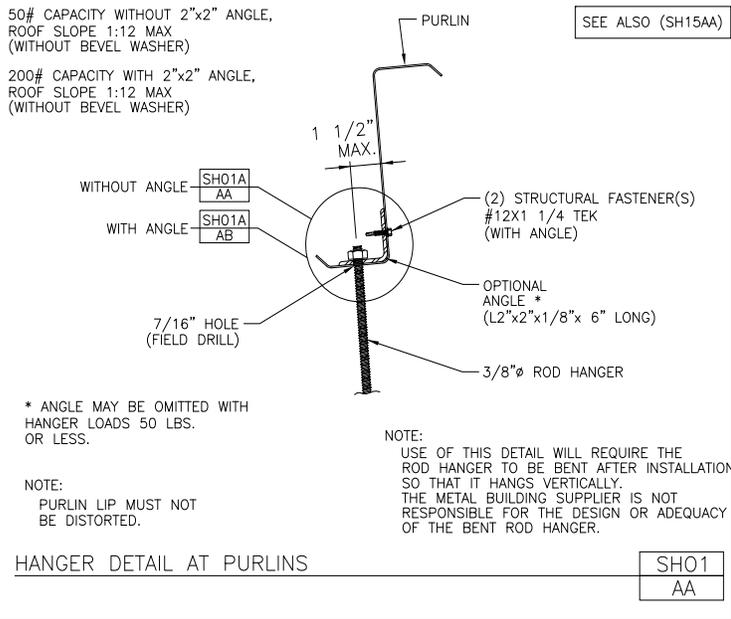
SEE ALSO (SH15AA)



NOTE:
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ROD HANGER TO BE BENT AFTER INSTALLATION
SO THAT IT HANGS VERTICALLY.
THE METAL BUILDING SUPPLIER IS NOT
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OF THE BENT ROD HANGER.

HANGER DETAIL BETWEEN PURLINS

SH03
AA

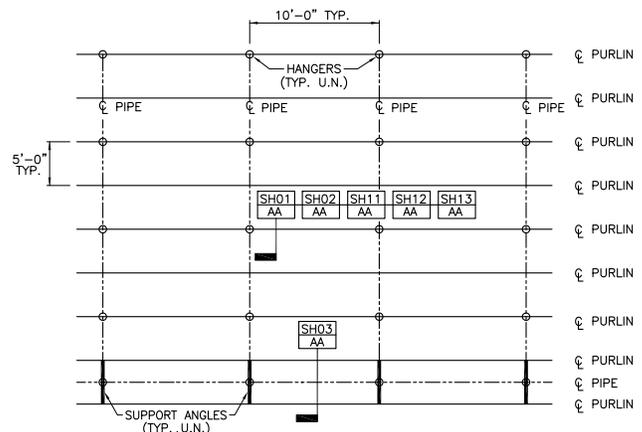


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STANDARD PIPE			EQUIVALENT COLLATERAL LOAD FOR PIPE SUPPORTS (PSF)			POINT LOAD AT HANGER (PSF)
			20' BAYS	25' BAYS	30' BAYS	
SIZE	DRY WT. #/FT.	WET WT. #/FT.	PIPE	PIPE	PIPE	PIPE
6"	18.97	31.5	8	6	5	315
5"	14.62	23.3	6	4	3	233
4"	10.79	16.3	4	3	2	163
3 1/2"	9.11	13.4	4	2	2	134
3"	7.58	10.8	3	2	2	108
2 1/2"	5.79	7.9	2	1	1	79
2"	3.65	5.1	1	1	1	51
1 1/2"	2.72	3.6	1	1	1	36
1 1/4"	2.27	2.9	1	1	1	29
1"	1.68	2.1	1	1	1	21

- NOTES:
1. PIPE HANGERS ASSUMED AT 10' SPACINGS LOCATED PER TYPICAL PIPE LAYOUT.
 2. FOR PIPE SUPPORTED AT 5' INTERVALS, VALUES ABOVE MAY BE HALVED.
 3. PURLIN SPACE ASSUMED TO BE 5' ON CENTERS.
 4. SPECIAL CONSIDERATION SHOULD BE MADE WHEN ALL BAYS ARE NOT UNIFORMLY LOADED.



LOADS FOR SPRINKLER PIPE SUPPORTS (WITH TYPICAL SPRINKLER PIPE LAYOUT) SH05 AA