

5FHDAWD

Wind Driven Rain Louver | FEMA P-361 and ICC 500

UL Listed

RELIABLE

APPLICATION

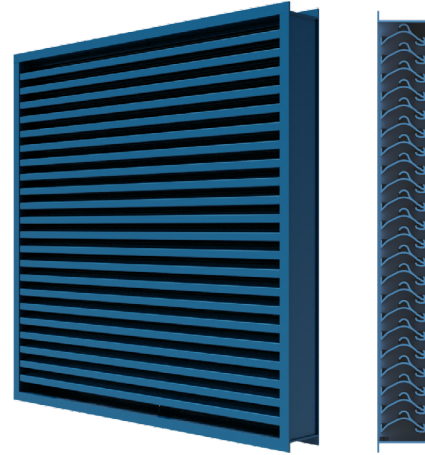
The 5FHDAWD has a 5 1/2" deep frame with a double drainable sight-proof blade design specifically built to meet the ICC500 impact requirements for tornado shelters. It is the first louver to provide both FEMA impact protection and Class A wind-driven rain protection. With a unique patented blade design, this louver is one product that does the work of two.

STANDARD CONSTRUCTION

Frame	5 1/2" (140) deep by x 3/16" (4.7) thick extruded aluminum with end caps.
Blades	4.8" (121) 6063T6 extruded aluminum 3/16" (4.7) nominal wall thickness. Double drainable blades are sightproof.
Bird Screen	5/8" x .040" (16 x 1.) expanded flattened aluminum bird screen in removable frame. Screen adds approximately 1/2" (13) to louver depth. Screen required to meet spawling component to FEMA 361 standards.
Finish	Mill.
Minimum Size	12"w x 12"h (305 x 305)
Approximate Shipping Weight	13 lbs. per sq. ft. (193.5 kg/m ²)
Maximum Shipping Section Size	48"w x 96"h (1220 x 2439) or 72"w x 60"h (1829 x 1524)
Maximum Overall Assembly Size	96"h (2439) x Unlimited Wide 72"w (1829) x Unlimited High

FEATURES

- Tested to ICC500 (2020), FEMA Guideline P-361 (2021), FEMA Guideline P-320 (2014)
- Design Pressure +/-300 PSF
- Louver complies with FEMA 361 Design and Construction for Community Shelters, Zone IV criteria, 250 MPH wind, 15 lb. 2 x 4 impact at 100 mph for Tornadoes
- Published performance rating based on testing in accordance with AMCA Publication 511
- Aluminum construction for low maintenance and high resistance to corrosion
- Louver mounted externally in combination with wall louver or by itself internally (See attached)
- 27% Free Area
- Optional finishes available at additional cost: prime coat and 70% PVDF (modified fluoropolymer), epoxy, Acrodize
- This product is Listed to applicable UL Standards and Requirements



VARIATIONS

Variations to the basic design of this louver are available at additional cost. They include:

- Optional finishes available at additional cost: Prime coat, 50% and 70% PVDF (modified fluoropolymer), Epoxy, Acrodize
- This product is listed to applicable UL standards and requirements
- Extended sill
- Blank off panels
- Universal sleeve
- Frame caps
- Selection of finishes: Prime coat, 50% PVDF (modified fluoropolymer), Epoxy, Pearledize, 70% PVDF, Clear and color anodize. (Some variation in anodize color consistency is possible)

Consult Reliable for other special requirements.

NOTES:

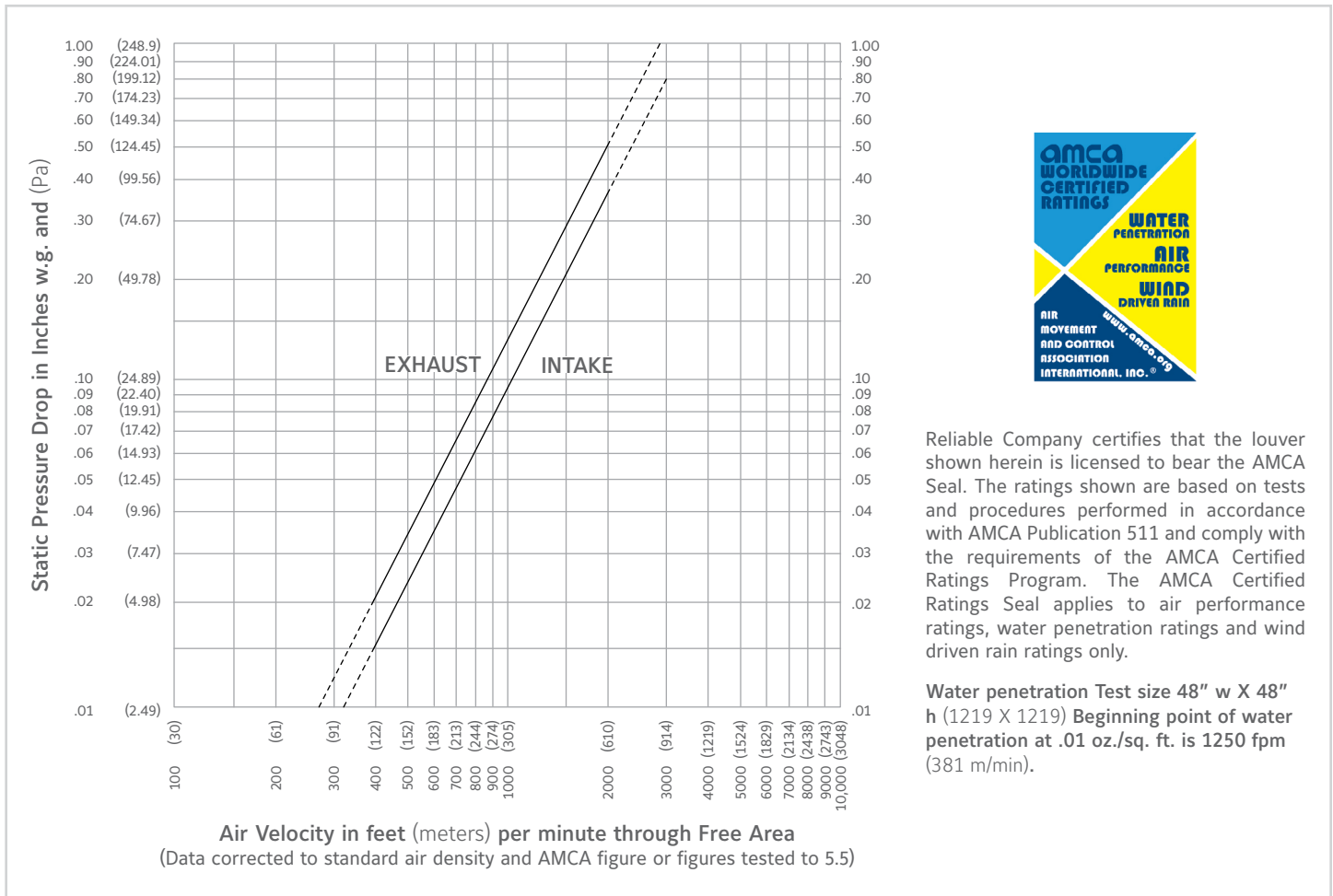
- Dimensions in inches, parenthesis () indicated millimeters
- Units can be furnished actual size or with sizes deducts

FREE AREA GUIDE

Free Area Guide shows free area in ft² and m² for various sizes of 5FHDAWD.

		Width – Inches and Meters										
		12 0.30	18 0.45	24 0.60	30 0.75	36 0.90	42 1.05	48 1.20	54 1.35	60 1.50	66 1.65	72 1.80
Height – Inches and Meters	12 0.30	0.08 0.01	0.17 0.02	0.26 0.02	0.35 0.03	0.44 0.04	0.53 0.05	0.62 0.06	0.71 0.07	0.80 0.07	0.89 0.08	0.99 0.09
	18 0.45	0.17 0.02	0.35 0.03	0.53 0.05	0.71 0.07	0.89 0.08	1.07 0.10	1.25 0.12	1.43 0.13	1.61 0.15	1.79 0.17	1.97 0.18
	24 0.60	0.25 0.02	0.52 0.05	0.79 0.07	1.06 0.10	1.33 0.12	1.60 0.15	1.87 0.17	2.14 0.20	2.41 0.22	2.68 0.25	2.96 0.27
	30 0.75	0.33 0.03	0.69 0.06	1.05 0.10	1.41 0.13	1.77 0.17	2.14 0.20	2.50 0.23	2.86 0.27	3.22 0.30	3.58 0.33	3.94 0.37
	36 0.90	0.41 0.04	0.86 0.08	1.32 0.12	1.77 0.16	2.22 0.21	2.67 0.25	3.12 0.29	3.57 0.33	4.02 0.37	4.47 0.42	4.93 0.46
	42 1.05	0.50 0.05	1.04 0.10	1.58 0.15	2.12 0.20	2.66 0.25	3.20 0.30	3.75 0.35	4.29 0.40	4.83 0.45	5.37 0.50	5.91 0.55
	48 1.20	0.58 0.05	1.21 0.11	1.84 0.17	2.47 0.23	3.11 0.29	3.74 0.35	4.37 0.41	5.00 0.47	5.63 0.52	6.26 0.58	6.90 0.64
	54 1.35	0.66 0.06	1.38 0.13	2.11 0.20	2.83 0.26	3.55 0.33	4.27 0.40	4.99 0.46	5.72 0.53	6.44 0.60	7.16 0.67	7.88 0.73
	60 1.50	0.74 0.07	1.56 0.14	2.37 0.22	3.18 0.30	3.99 0.37	4.81 0.45	5.62 0.52	6.43 0.60	7.24 0.67	8.05 0.75	8.87 0.82
	66 1.65	0.83 0.08	1.73 0.16	2.63 0.24	3.53 0.33	4.44 0.41	5.34 0.50	6.24 0.58	7.14 0.66	8.05 0.75	8.95 0.83	9.85 0.92
	72 1.80	0.91 0.08	1.90 0.18	2.90 0.27	3.89 0.36	4.88 0.45	5.87 0.55	6.87 0.64	7.86 0.73	8.85 0.82	9.84 0.92	10.84 1.01
	78 1.95	0.99 0.09	2.08 0.19	3.16 0.29	4.24 0.39	5.32 0.50	6.41 0.60	7.49 0.70	8.57 0.80	9.66 0.90	10.74 1.00	11.82 1.10
	84 2.10	1.08 0.10	2.25 0.21	3.42 0.32	4.60 0.43	5.77 0.54	6.94 0.65	8.11 0.75	9.29 0.86	10.46 0.97	11.63 1.08	12.81 1.19
	90 2.25	1.16 0.11	2.42 0.23	3.69 0.34	4.95 0.46	6.21 0.58	7.48 0.70	8.74 0.81	10.00 0.93	11.27 1.05	12.53 1.17	13.79 1.28
	96 2.40	1.24 0.12	2.59 0.24	3.95 0.37	5.30 0.49	6.66 0.62	8.01 0.74	9.36 0.87	10.72 1.00	12.07 1.12	13.42 1.25	14.78 1.37

PRESSURE DROP



Reliable Company certifies that the louver shown herein is licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 511 and comply with the requirements of the AMCA Certified Ratings Program. The AMCA Certified Ratings Seal applies to air performance ratings, water penetration ratings and wind driven rain ratings only.

Water penetration Test size 48" w X 48" h (1219 X 1219) Beginning point of water penetration at .01 oz./sq. ft. is 1250 fpm (381 m/min).

WIND-DRIVEN RAIN PERFORMANCE

Test size is 1M x 1M (39.375" x 39.375") core area, 1.06m x 1.06m (42" x 42") nominal.

Wind Velocity mph (kph)	Rain fall Rate In./hr. (mm/hr.)	Core Velocity fpm (m/s ¹)	Airflow cfm (m ³ /min)	Free Area Velocity ₂ fpm (m/s)	Effectiveness Ratio	Class _{3, 4}	Discharge Loss Class ₅ Intake
29 (46.4)	3 (76)	489 (2.4)	5,263 (149)	1,949 (10.0)	99.8%	A	1

NOTES:

- Core area is the open area of the louver face (face area less louver frames). Core Velocity is the airflow velocity through the Core Area of the louver. 5 m/s is the maximum core velocity utilized in this test.
- Free Area of test size is calculated per AMCA standard 500-L.
- Wind Driven Rain Penetration Classes:

Class	Effectiveness
A	1 to .99
B	0.989 to 0.95
C	0.949 to 0.80
D	Below 0.8
- The 5FHDAWD provides class A performance at all velocities up to and including 5 m/s core velocity.

- Discharge Loss Coefficient is calculated by dividing a louvers actual airflow rate vs. a theoretical airflow for the opening. It provides an indication of the louvers' airflow characteristics.

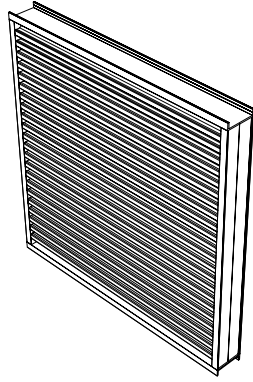
Discharge Loss Classes:

Class **Discharge Loss Coefficient**

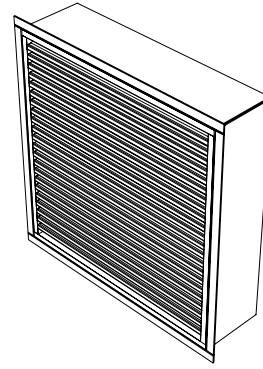
- | | |
|---|-----------------|
| 1 | 0.4 and above |
| 2 | 0.3 to 0.399 |
| 3 | 0.2 to 0.299 |
| 4 | 0.199 and below |

(The higher the coefficient, the less resistance to airflow.)

5FHDAWD INSTALLATION

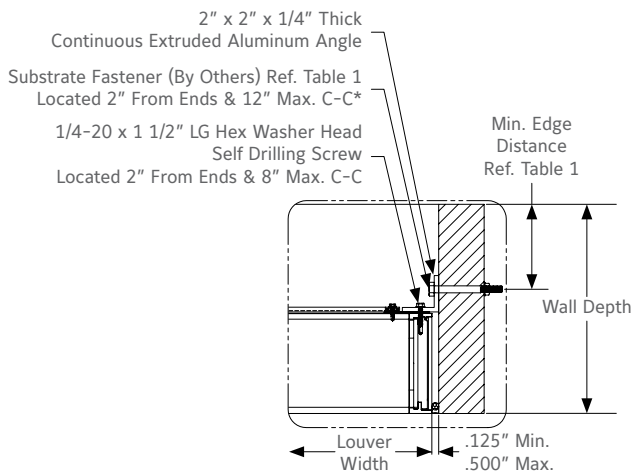


5FHDAWD With Standard Channel Frame
N.T.S.

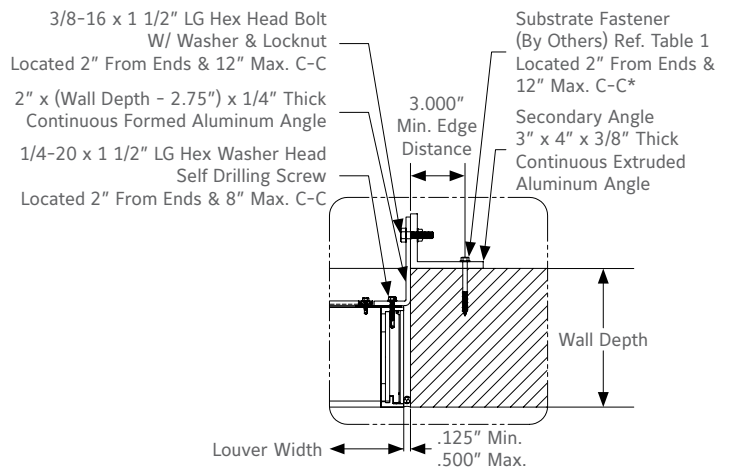


5FHDAWD With Universal Sleeve
N.T.S.

JAMB ANGLE INSTALLATION

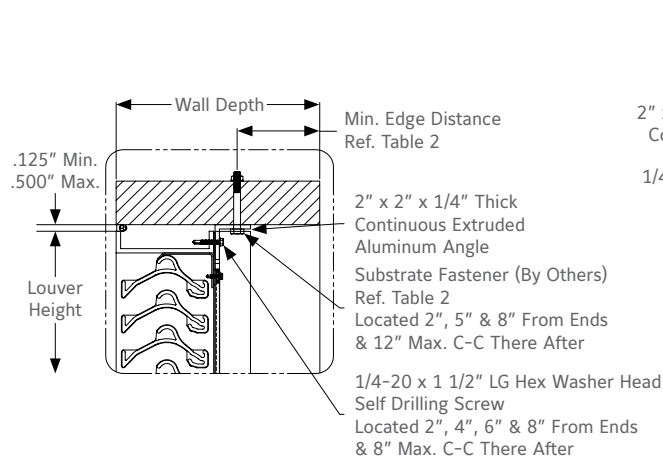


Jamb Installation Detail
N.T.S.

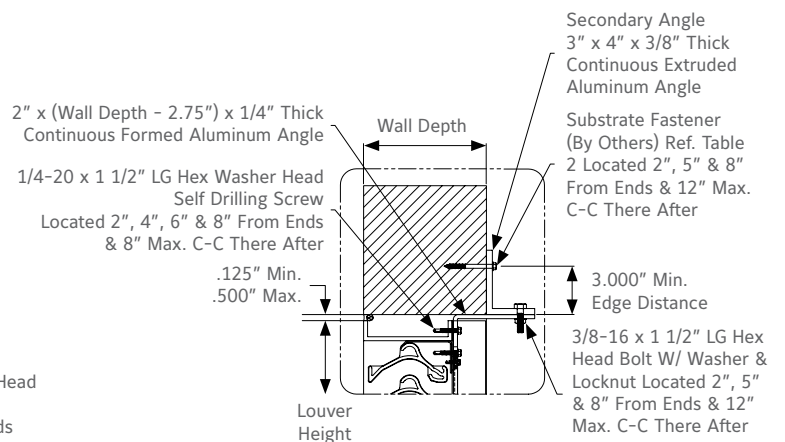


Alternate Jamb Installation Detail
N.T.S. Used When Secondary Angle Required Per Table 1

HEAD/SILL ANGLE INSTALLATION

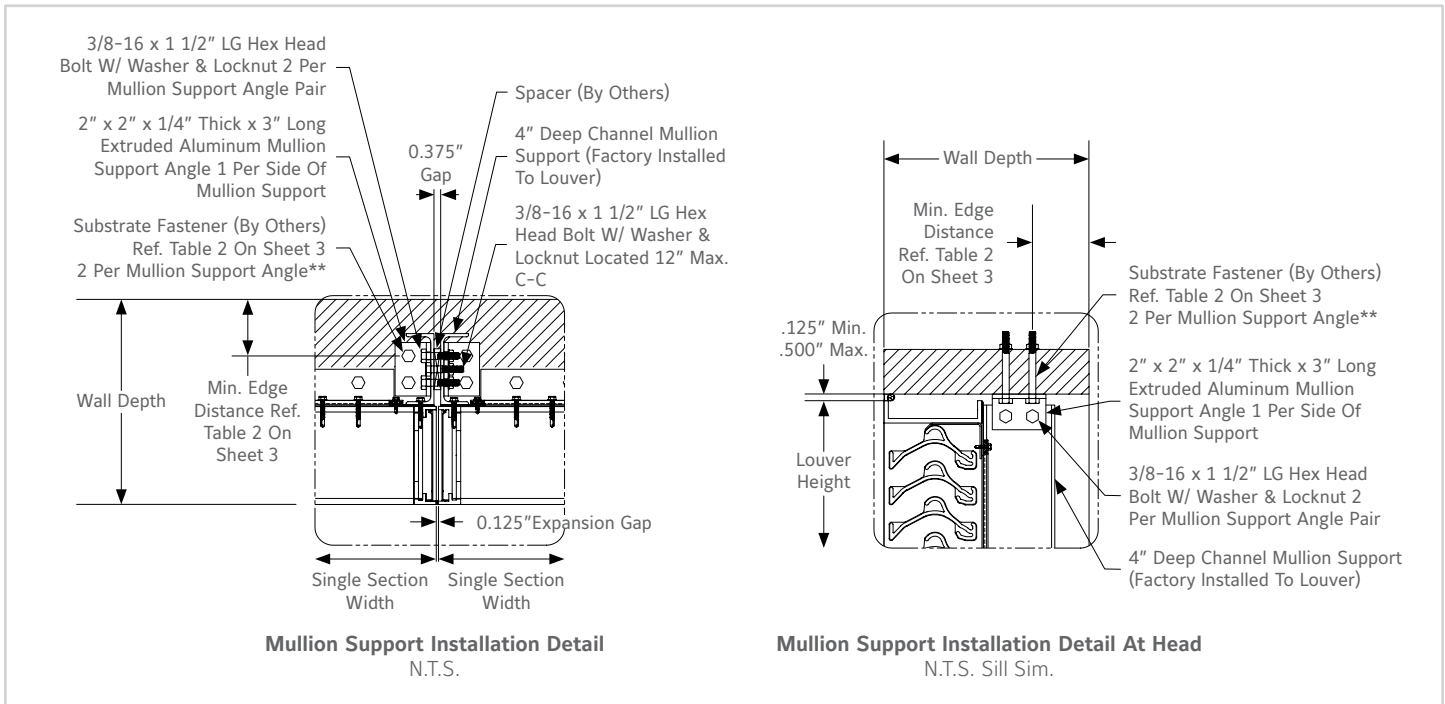


Head Installation Detail
N.T.S. Sill Sim.

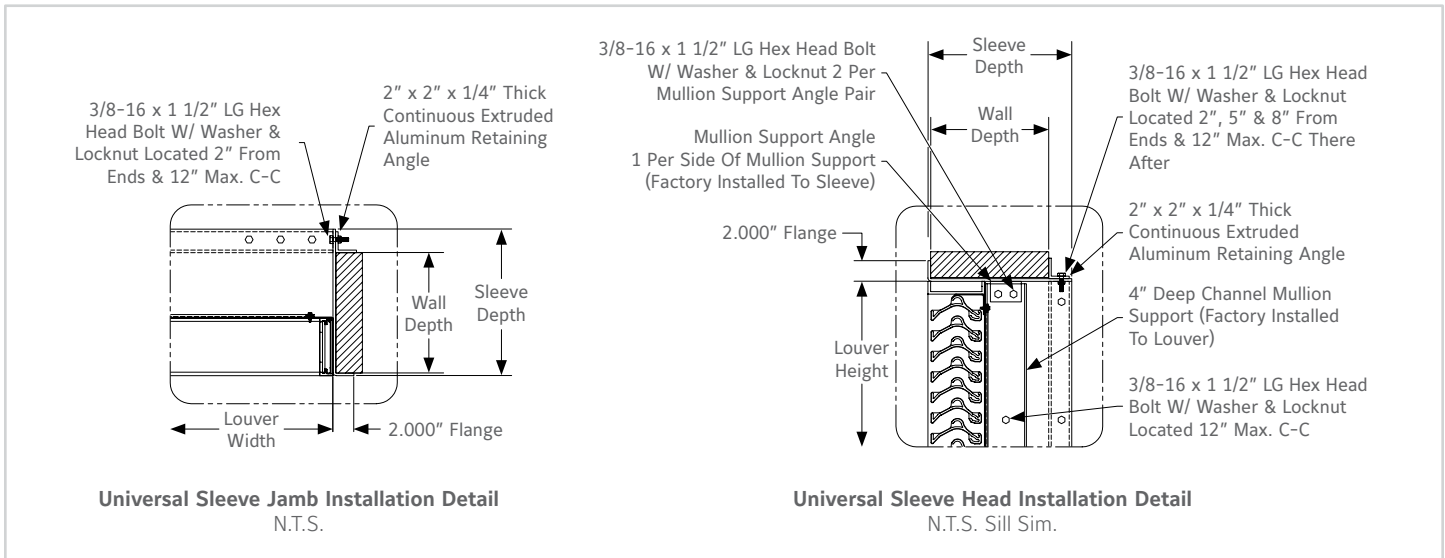


Alternate Head Installation Detail
N.T.S. Used When Secondary Angle Required Per Table 2. Sill Sim.

HEAD/SILL ANGLE INSTALLATION @ MULLIONS (CONT'D)



UNIVERSAL SLEEVE INSTALLATION



LINKS TO IMPORTANT DOCUMENTS

Document Title

Finishes and Color Guide

Limited Warranty Document

RELIABLE

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