



MASON INDUSTRIES, Inc.

Manufacturers of Vibration Control Products

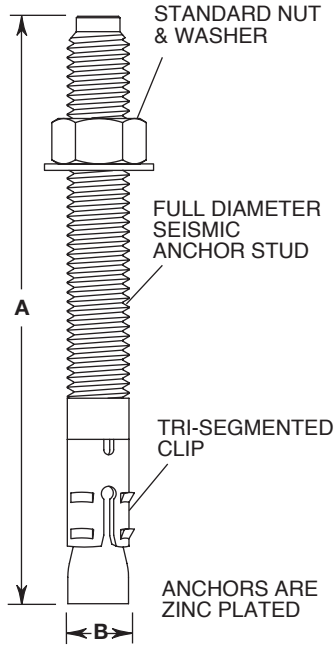
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JOB NAME _____
CUSTOMER _____
CUSTOMER P.O. _____
MASON M. _____
DWG No. _____

SAS & SASE

ZINC PLATED CARBON
STEEL SEISMIC
ANCHOR STUD WITH
NUT & WASHER
(Standard & Extended
Length)



TYPE SAS STANDARD LENGTH ANCHOR STUD RATINGS BASED ON ALLOWABLE STRESS DESIGN (ASD)* installed into 2500 psi (17.2 Mpa) Normal Weight or Sand-Lightweight Concrete

Type and Size	Embedment Depth (Nominal) (in) (mm)		Normal Weight Concrete		Lightweight Concrete					
			Tension† (lbs) (kg)	Shear (lbs) (kg)	Tension† (lbs) (kg)	Shear (lbs) (kg)				
SAS-3/8	17/8	48	445	200	650	295	360	165	390	175
SAS-1/2	23/4	70	980	445	1055	480	590	270	635	290
SAS-5/8	33/8	86	1325	600	2845	1290	795	360	1710	775
SAS-3/4	41/8	105	1520	690	3870	1755	915	415	2325	1055
SAS-1	51/4	133	2220	1005	5960	2705	1335	605	3575	1620

TYPE SASE EXTENDED LENGTH ANCHOR STUD RATINGS BASED ON ALLOWABLE STRESS DESIGN (ASD)* installed into 2500 psi (17.2 Mpa) Normal Weight or Sand-Lightweight Concrete

Type and Size	Embedment Depth (Nominal) (in) (mm)		Normal Weight Concrete		Lightweight Concrete					
			Tension† (lbs) (kg)	Shear (lbs) (kg)	Tension† (lbs) (kg)	Shear (lbs) (kg)				
SASE-3/8	27/8	73	950	430	820	390	690	315	820	370
SASE-1/2	37/8	98	1275	580	2960	1340	1080	490	2325	1055
SASE-5/8	51/8	130	2355	1070	4520	2050	1660	755	3580	1625
SASE-3/4	53/4	146	2740	1245	6980	3165	1645	745	4190	1900

TYPE SAS & SASE ANCHOR STUD RATINGS BASED ON ALLOWABLE STRESS DESIGN (ASD)* installed in the Soffit of 3000 psi (20.7 Mpa) Normal Weight or Sand-Lightweight Concrete-filled Profile Steel Deck Assemblies (minimum 20 gauge 3" 76mm profile). Anchors must be installed in either the lower or upper flutes of the profile deck no more than 1" 25mm from flute centerline.

Type and Size	Embedment Depth (Nominal) (in) (mm)		Tension†		Shear	
			(lbs)	(kg)	(lbs)	(kg)
SAS-3/8	17/8	48	430	195	725	330
SASE-3/8	33/8	86	760	345	1590	720
SAS-1/2	23/4	70	695	315	970	440
SASE-1/2	41/2	114	930	420	2085	945
SAS-5/8	33/8	86	890	405	1200	545
SASE-5/8	55/8	143	1700	770	3185	1445

For combined allowable stress design tension and shear forces on anchors, use the following equation:

$$\frac{T_{Applied}}{T_{Allowable (ASD)}} + \frac{V_{Applied}}{V_{Allowable (ASD)}} \leq 1.2$$

TYPE SAS & SASE ANCHOR STUD DIMENSIONS

Type and Size	A		B		Maximum Tightening Torque	
	(in)	(mm)	(in)	(mm)	(Ft-lbs)	(N-m)
SAS-3/8	3 1/2	89	3/8	10	30	41
SAS-1/2	4 1/4	108	1/2	13	60	81
SAS-5/8	5	127	5/8	16	90	122
SAS-3/4	6 1/4	159	3/4	19	150	203
SAS-1	7	178	1	25	230	312
SASE-3/8	5	127	3/8	10	30	41
SASE-1/2	5 1/2	140	1/2	13	60	81
SASE-5/8	7	178	5/8	16	90	122
SASE-3/4	8 1/2	216	3/4	19	150	203

Anchors have the following Code Reports:

- ICC-ES-ESR-3037 and City of Los Angeles RR25891 for cracked & uncracked concrete
- Florida Statewide Product Approval FL15731
- IAPMO ES ER 240 & City of Los Angeles RR25936 for CMU Walls
- Underwriter Laboratories file EX3605
- Factory Mutual #3043442

* These values are applicable when the anchors are installed with periodic special inspection as set forth in Section 1701.5.2 of the UBC, Section 1704.13 of the 2006/2003 IBC or Section 1704.15 of the 2009 IBC.

† The Tension values may be increased for greater compressive strength, up to 8000 psi (55.2 MPa), by multiplying the value by $(F'_c/2500)^{0.5}$, where F'_c is the specified strength of concrete in psi.

For example: SAS-1/2 in 4000 psi normal weight concrete

$$T = \left(\frac{4000}{2500}\right)^{0.5} \times 980 \text{ lbs} = 1240 \text{ lbs}$$

NOTES:

1. All values are for single anchors with no edge distance or spacing reduction and assume supplementary reinforcement condition B. Shear values exclude consideration of the concrete breakout failure mode.
2. Anchorage must be designed in accordance with ACI 318-05 Appendix D.
3. Allowable loads are for the attachment of non-structural components.
4. Allowable loads are based on 100% seismic loading in seismic design categories C-F.

Mason Industries designs are in accordance with ACI 318-08 Appendix D.

QTY	SIZE	TAG

QTY	SIZE	TAG