

GENERAL NOTES: (IBC 2018 & IRC 2018)

- 1- DEFINITION: THIS PRODUCT IS A HURRICANE PROTECTION DEVICE; DESIGNED, CONSTRUCTED AND ERECTED TO EASILY ENCLOSE AN AREA, PROVIDING PROTECTION FROM HURRICANE FORCE WINDS AND WIND BORNE DEBRIS WITHIN THE ALLOWABLE DESIGNED PRESSURES AND LIMITATIONS STATED IN THIS APPROVAL.
- 2- POSTING: A PERMANENT LABEL SHALL BE PROVIDED AS PER IBC 2018 SECTION 1703.5. IT SHALL BE PLACED ON A READILY VISIBLE LOCATION AND A MINIMUM OF ONE LABEL PER OPENING.
- 3- GLASS SEPARATION: PRODUCT IS QUALIFIED AS "NON POROUS", THEREFORE GLAZING SEPARATION IS NOT REQUIRED WITH EXCEPTION FOR THE FOLLOWING LOCATIONS:
 - 3.1- WIND ZONE 4 AS DEFINED IN ASTM E 1996-14a
 - 3.2- ESSENTIAL FACILITIES AS DEFINED IN ASCE 7-16
 FOR THE ABOVE LOCATIONS THE PRODUCT MUST BE SEPARATED 20" FROM GLAZING AREAS.
- 4- LOADS: DESIGNED LOAD CALCULATED BASED ON THE ASCE 7-16 AND PROVIDED BY A PROFESSIONAL ARCHITECT OR ENGINEER FOR EACH SPECIFIC PROJECT. THE CALCULATED DESIGNED PRESSURE MUST NOT EXCEED THE ALLOWABLE PRESSURES FOR EACH SHUTTER COMPONENT TO BE USED.
- 5- MATERIAL: ALL EXTRUDED ALUMINUM SHAPES SHALL BE MADE OF 6063-T6 OR AS NOTED.
- 6- FASTENERS: ASSEMBLY SCREWS AND ANCHORS SHALL BE CORROSION RESISTANT IN ACCORDANCE WITH 2018 IRC AND 2018 IBC.
- 7- REINFORCEMENTS SUCH AS MULLIONS WERE DESIGNED BY RATIONAL ANALYSIS AND ARE PART OF THESE DRAWINGS. DUE TO MANY VARIATIONS OF REINFORCEMENTS, LOADS AND SHUTTER DIMENSIONS BECOME IMPRACTICAL ADDRESSING ALL CONDITIONS IN ONE SET OF DRAWINGS. THE CONDITIONS ADDRESSED IN THE PROPOSED DRAWINGS HAVE CONSERVATIVE LIMITATIONS IN ORDER TO FACILITATE THE DESIGN. SITE SPECIFIC CONDITIONS CAN BE ADDRESSED ON A JOB BASIS PROVIDED PROPER ENGINEERING BASED ON THE ALUMINUM DESIGN MANUAL.
- 8- USE: IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, ARCHITECT OR ENGINEER OF RECORD TO VERIFY THE FOLLOWING:
 - 8.1- THE STABILITY OF THE STRUCTURE WHERE THE PRODUCT IS TO BE ATTACHED INSURING PROPER ANCHORAGE.
 - 8.2- THE SITE SPECIFIC PROJECT CRITERIA, SUCH AS BUT NOT LIMITED TO, LOCAL CODE REQUIREMENTS, DESIGNED PRESSURES ETC.
 - 8.3- THAT THIS APPROVAL IS ADEQUATE TO THE SPECIFIC PROJECT.

CODE AND STANDARD COMPLIANCE:
 INTERNATIONAL BUILDING CODE (IBC 2018)
 INTERNATIONAL RESIDENTIAL CODE (IRC 2018)
 ASTM E330, E1996 (LEVEL D MISSILE), ASTM E1886

TABLE 1 - ALLOWABLE DESIGNED PRESSURE

| SW MAX. | ALLOWABLE WIND PRESSURES | |
|---------|--------------------------|----------|
| | POSITIVE | NEGATIVE |
| 124" | + 40.0 | - 40.0 |
| 109" | + 50.0 | - 50.0 |
| 94" | + 60.0 | - 60.0 |
| 82" | + 80.0 | - 80.0 |
| 64" | +110.0 | -110.0 |

DIGITALLY SIGNED FOR 12 PAGES

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TRACK REACTION (LB/FT)

| LOAD | SHUTTER WIDTH (SW) OR SHUTTER MODULE (SM) | | | | | | | | | |
|------|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | 64 | | 82 | | 94 | | 109 | | 124 | |
| Psf | Vx | Vy | Vx | Vy | Vx | Vy | Vx | Vy | Vx | Vy |
| 30 | 62 | 74 | 359 | 96 | 540 | 111 | 443 | 130 | 361 | 149 |
| 40 | 149 | 99 | 496 | 129 | 712 | 149 | 516 | 174 | 397 | 199 |
| 45 | 187 | 111 | 557 | 145 | 789 | 167 | 545 | 195 | | |
| 50 | 220 | 123 | 614 | 161 | 862 | 186 | 571 | 217 | | |
| 55 | 251 | 135 | 667 | 177 | 930 | 204 | | | | |
| 60 | 280 | 148 | 716 | 193 | 993 | 223 | | | | |
| 65 | 306 | 160 | 763 | 209 | | | | | | |
| 70 | 330 | 172 | 807 | 225 | | | | | | |
| 80 | 373 | 197 | 887 | 257 | | | | | | |
| 90 | 410 | 222 | | | | | | | | |
| 100 | 442 | 246 | | | | | | | | |
| 105 | 457 | 259 | | | | | | | | |
| 110 | 471 | 271 | | | | | | | | |

CONTRACTOR TO VERIFY ADEQUACY OF STRUCTURE FOR MAXIMUM IMPOSED LOADS VY AND Vx

| DESIGN SCHEDULE | |
|-----------------------------------|-------------|
| COMPONENT | SHEET |
| SLAT ALLOWABLE PRESSURE - TABLE 1 | 1 |
| TRACK ANCHORAGE | 4, 5, 6 & 7 |
| EQUALLY SPACED MULLIONS | 8 & 9 |
| UNEQUALLY SPACED AND END MULLIONS | 10 & 11 |

NOTES:

- 1- ALLOWABLE DESIGNED PRESSURE FOR MULTIPLE SHUTTERS ARE FUNCTION OF THE LOWEST ALLOWABLE DESIGNED LOAD FOR THE SLATS, MULLIONS AND ANCHORAGE.
- 2- DESIGNED PRESSURES MUST NOT EXCEED 110 PSF.
- 3- SHUTTER SIZE (SW) MUST NOT EXCEED 124".
- 4- FOR MULTIPLE SHUTTERS USE TABLE 1 TO VERIFY MAXIMUM ALLOWABLE PRESSURE THAN USE TABLE 6 AND 7 TO SELECT INTERMEDIATE AND END MULLIONS AND SELECT PROPER MULLION ANCHORAGE

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PLANTATION - FLORIDA - 33324

ES 44 SUP

EXTRUDED ALUMINUM
ROLL-UP SHUTTER

CROCI NORTH AMERICA

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Tel.: (239) 278-3066 - Fax: (239) 278-5977

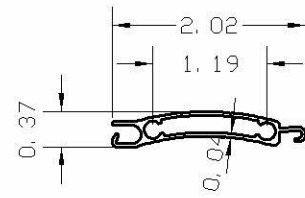
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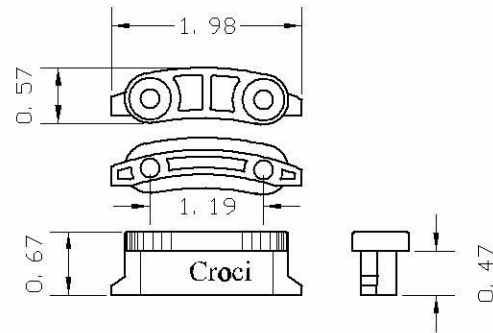
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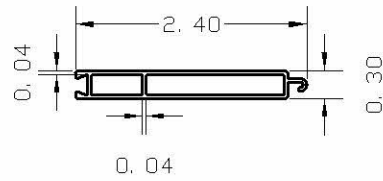
PRODUCT COMPONENTS



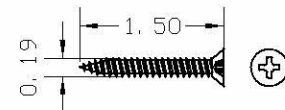
A- ES44SUP SLAT
6063-T5 EXTRUDED ALUMINUM



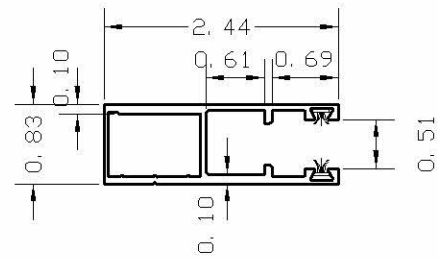
A1- TLES 44 SUP
SLAT NYLON RETAINER
SECURED TO SLAT BY
(2) #10X1 1/2" PFH SMS



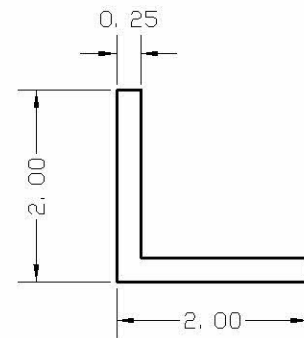
B- TE7X56U END SLAT
6063-T6 EXTRUDED ALUMINUM



D- SLAT RETENTION SCREW
#10x1-1/2" 18-8 SS PFH
SHEET METAL SCREW

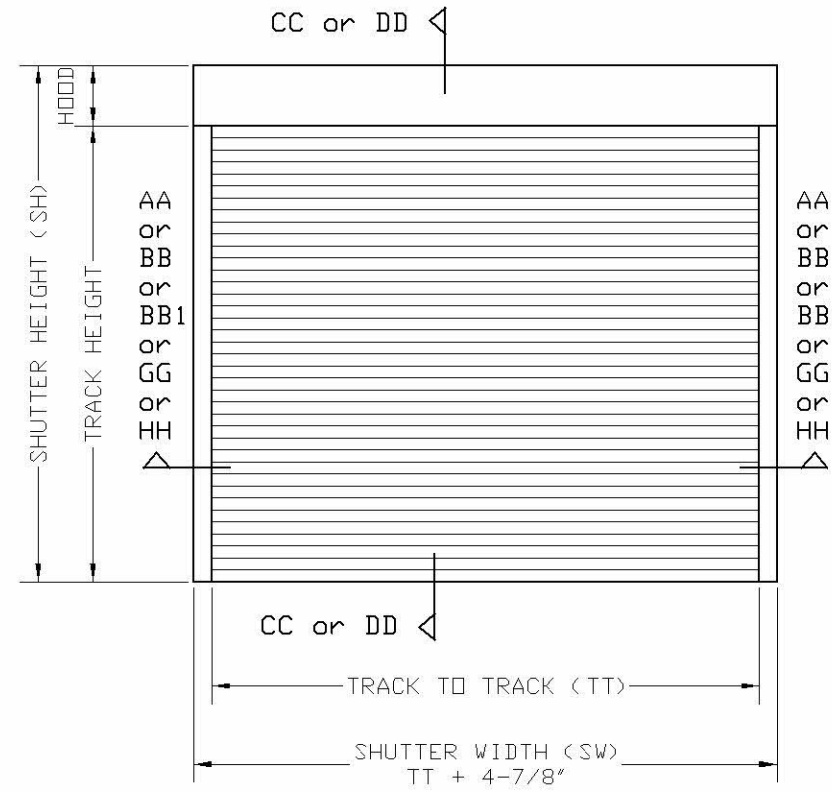


C- GE62X21SUP GUIDE RAIL W/ FELT
6063-T5 EXTRUDED ALUMINUM

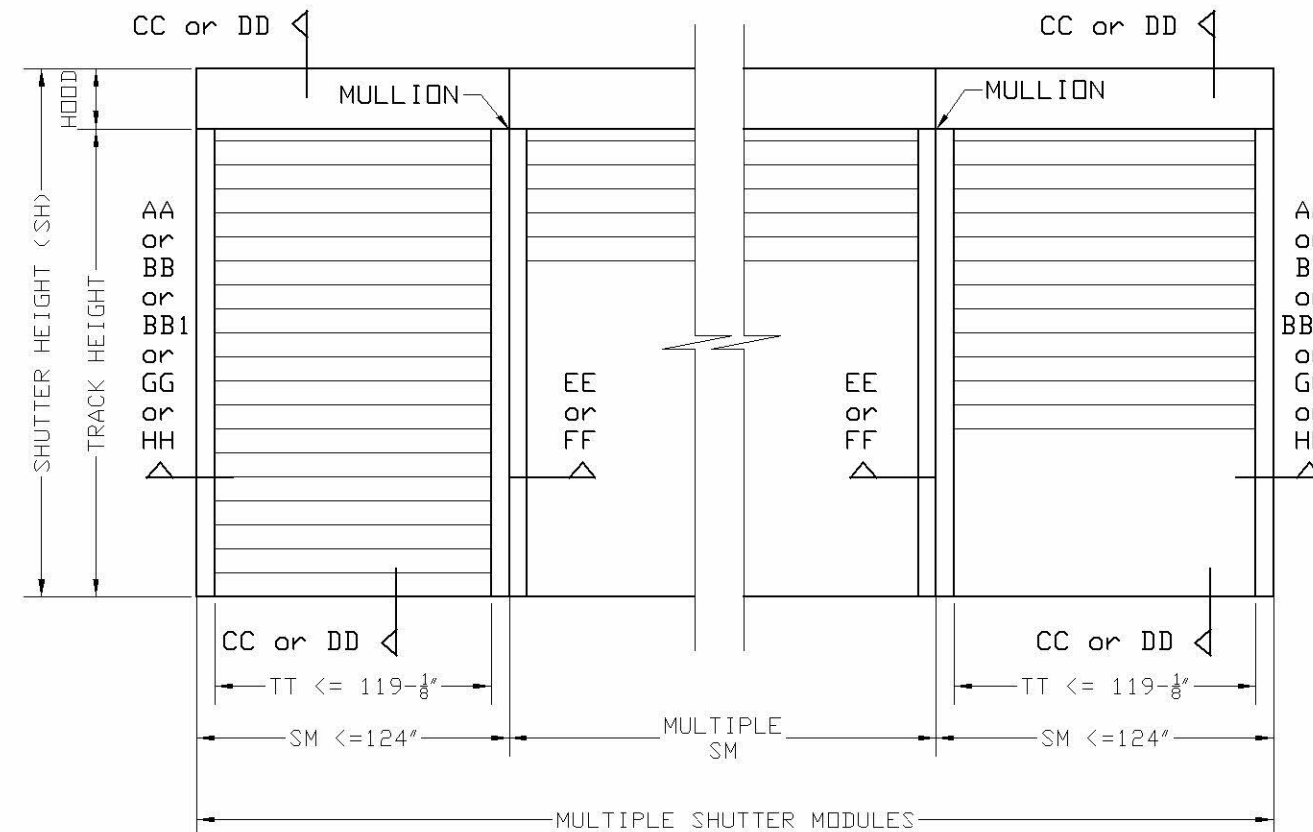


E- INSET SUPPORT ANGLE
EXTRUDED ALUMINUM
6061-T6 or 6005-T5

TYPICAL SINGLE UNIT ELEVATION



TYPICAL MULTIPLE UNITS ELEVATION



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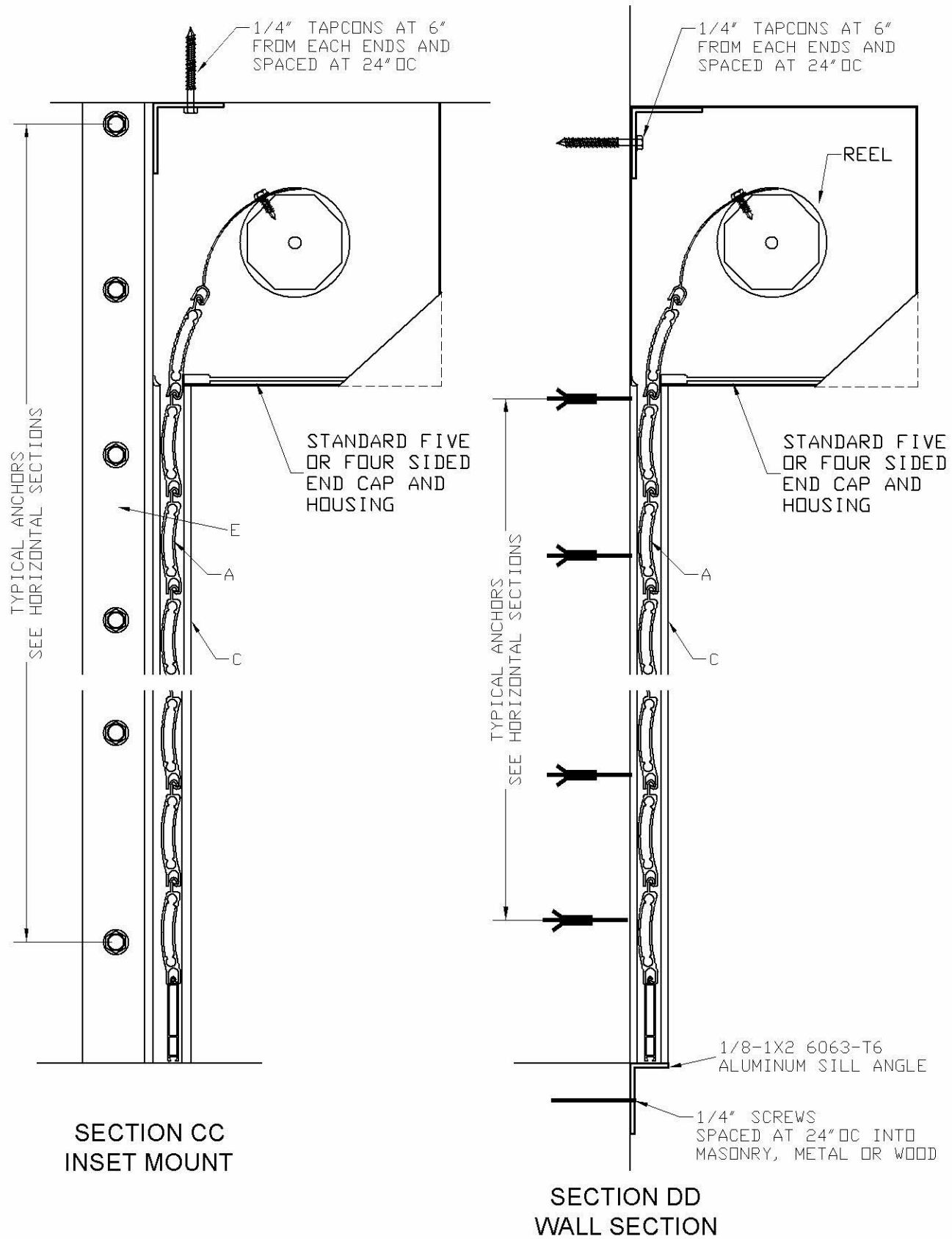
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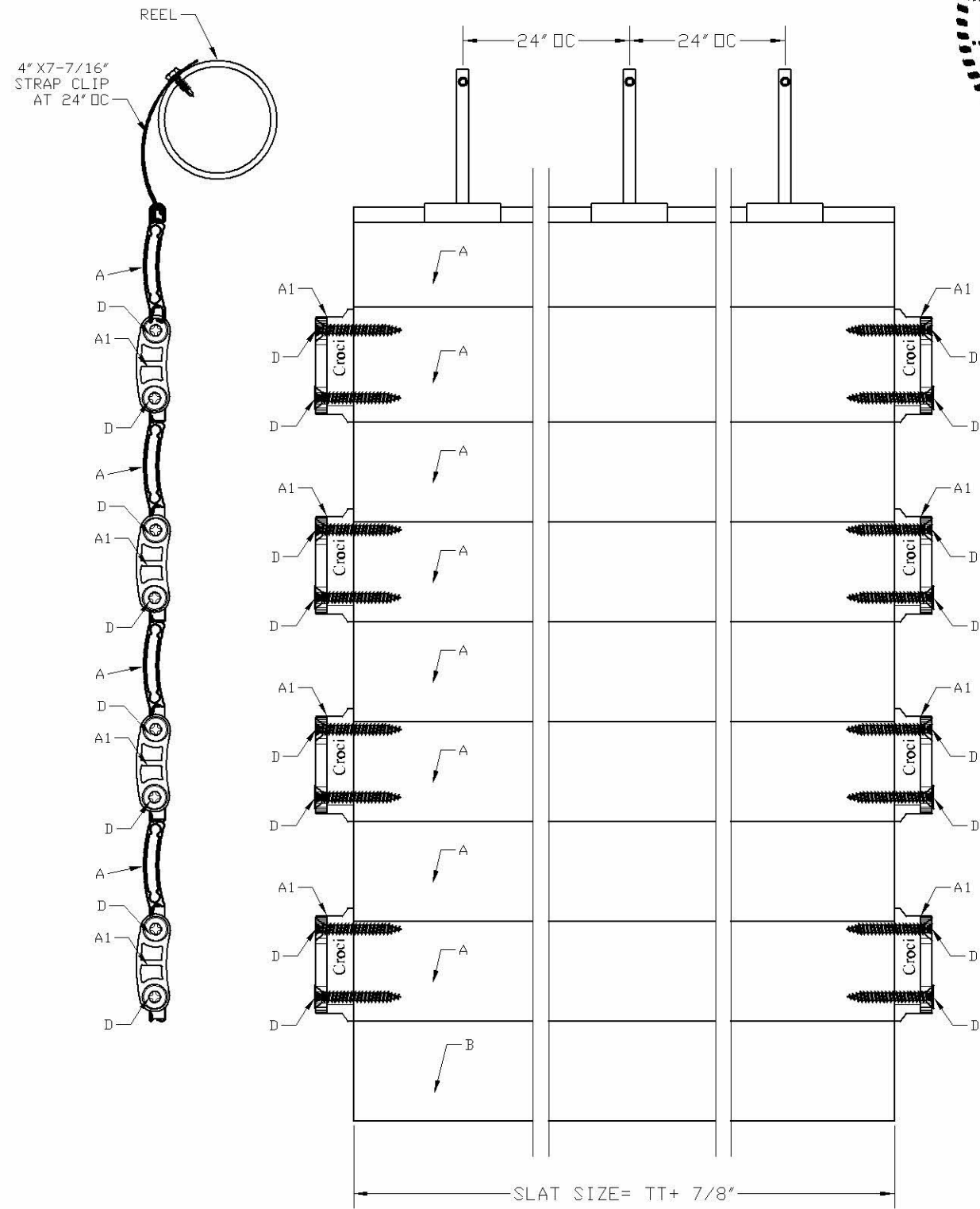
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TYPICAL VERTICAL SECTIONS



SLAT END RETENTION LAY-OUT



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TYPICAL HORIZONTAL SECTIONS
AND ANCHOR SCHEDULE



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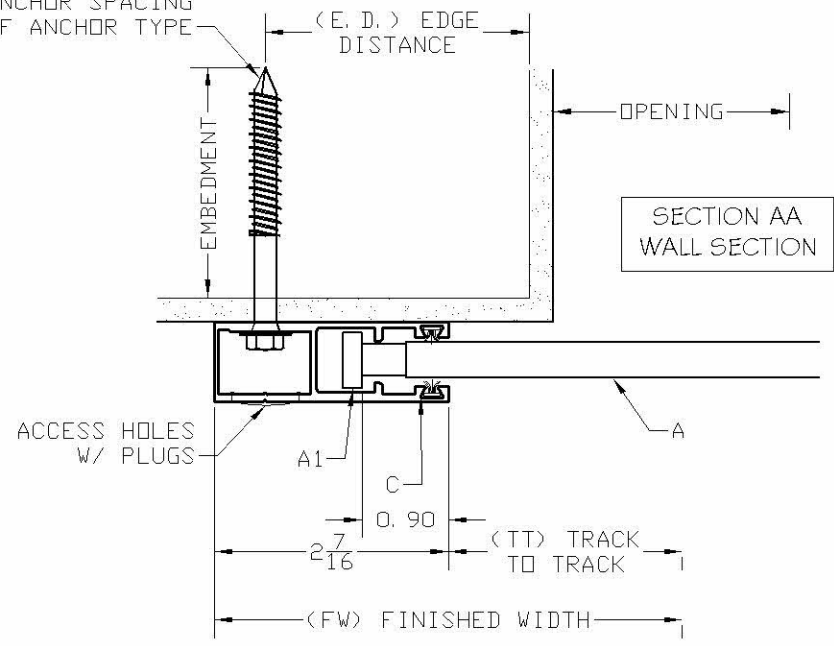
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TABLE 2- WALL MOUNT ANCHORAGE SPACING

| SHUTTER WIDTH (SW) OR SHUTTER MODULE (SM) | LOAD PSF | ANCHOR TYPE | | | | | | | | | | | | | | | | |
|---|----------|-------------|----|----|----|----|----|---|----|----|---|----|---|----|---|----|----|----|
| | | A | A1 | A2 | A3 | A4 | A5 | B | B1 | B2 | C | C1 | D | D1 | E | E1 | E2 | E3 |
| 64 | 30 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 40 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 45 | 6 | 6 | 6 | 6 | 6 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 50 | 6 | 6 | 6 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 55 | 6 | 6 | 6 | 5 | 4 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 60 | 6 | 6 | 6 | 4 | 4 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 65 | 6 | 6 | 6 | 4 | 4 | 4 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 70 | 6 | 6 | 6 | 4 | 3 | 4 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 80 | 6 | 6 | 6 | 3 | 3 | 3 | 6 | 6 | 6 | 6 | 6 | 5 | 6 | 6 | 6 | 6 | 6 |
| | 90 | 6 | 5 | 6 | 3 | - | 3 | 6 | 6 | 6 | 6 | 5 | 5 | 6 | 5 | 6 | 6 | 6 |
| | 100 | 6 | 5 | 6 | - | - | 3 | 6 | 6 | 6 | 6 | 5 | 4 | 6 | 4 | 6 | 6 | 6 |
| 105 | 6 | 4 | 6 | - | - | 3 | 6 | 6 | 6 | 6 | 5 | 4 | 4 | 6 | 4 | 6 | 6 | |
| 110 | 6 | 4 | 6 | - | - | - | 6 | 6 | 6 | 6 | 5 | 4 | 4 | 6 | 4 | 6 | 6 | |
| 82 | 30 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | |
| | 40 | 6 | 6 | 6 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 5 | |
| | 45 | 6 | 6 | 6 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 5 | 6 | 4 | 6 | 4 | |
| | 50 | 6 | 6 | 6 | 4 | 4 | 4 | 6 | 6 | 6 | 6 | 5 | 4 | 6 | 4 | 6 | 4 | |
| | 55 | 6 | 6 | 6 | 4 | 4 | 4 | 6 | 6 | 6 | 6 | 5 | 4 | 6 | 3 | 6 | 3 | |
| | 60 | 6 | 6 | 6 | 3 | 3 | 3 | 6 | 6 | 6 | 6 | 4 | 4 | 5 | 3 | 6 | 3 | |
| | 65 | 6 | 6 | 6 | 3 | 3 | 3 | 6 | 6 | 6 | 6 | 4 | 3 | 5 | 3 | 6 | 3 | |
| | 70 | 6 | 6 | 6 | 3 | 3 | 3 | 6 | 6 | 6 | 6 | 4 | 3 | 5 | 3 | 6 | 3 | |
| 94 | 30 | 6 | 6 | 6 | 4 | 4 | 4 | 6 | 6 | 6 | 5 | 5 | 6 | 4 | 6 | 4 | 6 | |
| | 40 | 6 | 5 | 6 | 3 | 3 | 3 | 6 | 6 | 6 | 4 | 3 | 5 | 3 | 6 | 3 | 6 | |
| | 45 | 5 | 5 | 6 | - | - | - | 6 | 6 | 6 | 3 | 3 | 5 | 3 | 6 | 3 | 6 | |
| | 50 | 5 | 4 | 6 | - | - | - | 6 | 6 | 6 | 5 | 3 | 3 | 4 | - | 6 | 3 | |
| | 55 | 4 | 4 | 6 | - | - | - | 5 | 6 | 6 | 5 | 3 | - | 4 | - | 6 | 3 | |
| 109 | 30 | 6 | 6 | 6 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 5 | |
| | 40 | 6 | 6 | 6 | 4 | 4 | 4 | 6 | 6 | 6 | 6 | 5 | 5 | 6 | 4 | 6 | 4 | |
| | 45 | 6 | 6 | 6 | 3 | 3 | 3 | 6 | 6 | 6 | 6 | 5 | 4 | 6 | 4 | 6 | 4 | |
| 124 | 30 | 6 | 6 | 6 | 3 | 3 | 3 | 6 | 6 | 6 | 6 | 4 | 4 | 6 | 4 | 6 | 4 | |
| | 40 | 6 | 6 | 6 | 3 | 3 | 3 | 6 | 6 | 6 | 6 | 5 | 6 | 6 | 4 | 6 | 4 | |

SEE WALL MOUNT TABLE 2
FOR MAXIMUM ANCHOR SPACING
FUNCTION OF ANCHOR TYPE

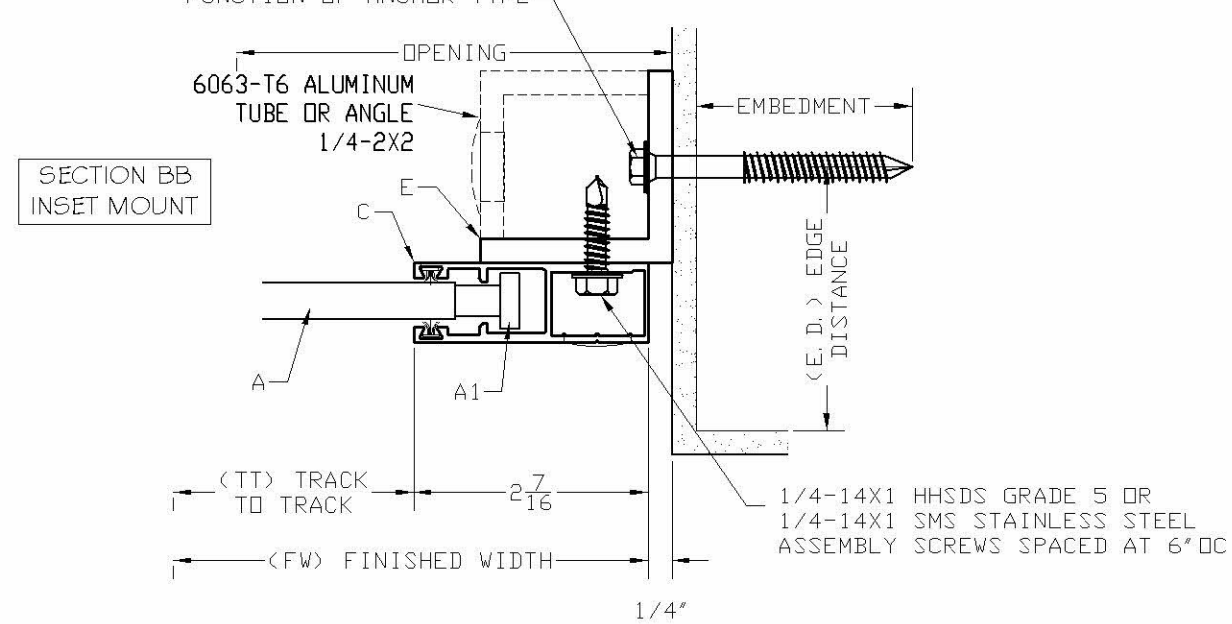


| ANCHOR SCHEDULE: | | | | |
|------------------|---|--|-----------|---------------|
| ANCHOR | DESCRIPTION | MATERIAL | EMBEDMENT | EDGE DISTANCE |
| A | 1/4" TAPCONS | MIN. 3192 psi CONCRETE | 1-3/4" | 2-1/2" |
| A1 | 1/4" ss TAPCONS | MIN. 3192 psi CONCRETE | 1-3/4" | 2-1/2" |
| A2 | 1/4" ss AGGRE-GATOR | MIN. 3275 psi CONCRETE | 1-3/4" | 3" |
| A3 | 5/16" TAPCONS | MIN. 2899 psi CONCRETE | 2 1/4" | 3 1/8" |
| A4 | 3/8" SS DROP-IN | MIN. 3000 psi CONCRETE | 1 9/16" | 5 1/4" |
| A5 | 3/8" POWERS WEDGE BOLT STAINLESS OR CARBON STEEL | MIN. 3000 psi CONCRETE | 3 1/2" | 4-1/2" |
| B | 1/4" TAPCONS | HOLLOW C-90 BLOCK | 1 1/4" | 2-1/2" |
| B1 | 1/4" ss TAPCONS | HOLLOW C-90 BLOCK | 1 1/4" | 2-1/2" |
| B2 | 1/4" ss AGGRE-GATOR | HOLLOW C-90 BLOCK | 1 1/4" | 4" |
| C | 1/4" ss AGGRE-GATOR | GF C-90 BLOCK | 2" | 4" |
| C1 | 5/16" X3" TAPCONS | GROUT FILLED C-90 BLOCK | 2 1/4" | 4" |
| D | 1/4"-14X1" GRADE 5 SELF DRILLING SCREWS | MIN. 1/4" 6063-T6 ALUM. OR A36 1/8" STEEL | | 1/2" |
| D1 | 1/4"-14X1" SS SHEET METAL SCREWS | | 3/8" | |
| E | 1/4" TAPCONS | WOOD WITH G>= .55 | 2 1/4" | 2-1/2" |
| E1 | 1/4" ss TAPCONS | | | |
| E2 | 5/16" TAPCONS | | | |
| E3 | 5/16" X3" LAG SCREWS | | | |

TABLE 3- INSET MOUNT ANCHORAGE SPACING

| SHUTTER WIDTH (SW) OR SHUTTER MODULE (SM) | LOAD PSF | ANCHOR TYPE | | | | | | | | | | | | | | | | |
|---|----------|-------------|----|----|----|----|----|---|----|----|---|----|---|----|---|----|----|----|
| | | A | A1 | A2 | A3 | A4 | A5 | B | B1 | B2 | C | C1 | D | D1 | E | E1 | E2 | E3 |
| 64 | 30 | 6 | 6 | 6 | 6 | 6 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 40 | 6 | 6 | 6 | 6 | 6 | 3 | 3 | 4 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 45 | 6 | 5 | 6 | 6 | 3 | - | 3 | 6 | 6 | 6 | 5 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 50 | 6 | 4 | 6 | - | - | - | 3 | 6 | 6 | 6 | 5 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 55 | 6 | 4 | 6 | - | - | - | 6 | 6 | 6 | 4 | 5 | 5 | 6 | 6 | 6 | 6 | 6 |
| | 60 | 5 | 3 | 6 | - | - | - | 5 | 6 | 6 | 4 | 5 | 4 | 6 | 6 | 6 | 6 | 6 |
| | 65 | 5 | 3 | 6 | - | - | - | 5 | 6 | 6 | 3 | 4 | 4 | 6 | 6 | 6 | 6 | 6 |
| | 70 | 4 | 3 | 6 | - | - | - | 4 | 6 | 6 | 3 | 4 | 4 | 6 | 6 | 6 | 6 | 6 |
| | 80 | 4 | - | 6 | - | - | - | 4 | 6 | 6 | 3 | 3 | 3 | 6 | 5 | 5 | 5 | 5 |
| | 90 | 3 | - | 5 | - | - | - | 3 | 6 | - | 3 | 3 | 3 | 5 | 4 | 4 | 4 | 4 |
| | 100 | 3 | - | 5 | - | - | - | 3 | 6 | - | 3 | 3 | 3 | 5 | 4 | 4 | 4 | 4 |
| 105 | 3 | - | 5 | - | - | - | 3 | 5 | - | 3 | - | 5 | 4 | 4 | 4 | 4 | 4 | |
| 110 | 3 | - | 5 | - | - | - | 3 | 5 | - | 3 | - | 4 | 4 | 4 | 4 | 4 | 4 | |
| 82 | 30 | 5 | 3 | 6 | - | - | - | 5 | 6 | 3 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | |
| | 40 | 4 | - | 6 | - | - | - | 3 | 6 | - | 3 | 3 | 6 | 6 | 6 | 6 | 6 | |
| | 45 | 3 | - | 5 | - | - | - | 3 | 6 | - | 3 | 3 | 5 | 5 | 5 | 5 | 5 | |
| | 50 | 3 | - | - | - | - | - | 3 | 5 | - | 3 | - | 5 | 5 | 5 | 5 | 5 | |
| | 55 | 3 | - | - | - | - | - | 5 | - | - | - | - | 4 | 4 | 4 | 4 | 4 | |
| | 60 | - | - | - | - | - | - | - | 4 | - | - | - | - | 4 | 4 | 4 | 4 | |
| | 65 | - | - | - | - | - | - | - | 4 | - | - | - | - | 4 | 4 | 4 | 4 | |
| | 70 | - | - | - | - | - | - | - | 4 | - | - | - | - | 3 | 3 | 3 | 3 | |
| 94 | 30 | 4 | - | 5 | - | - | - | 3 | 6 | - | 3 | 3 | 6 | 6 | 6 | 6 | 6 | |
| | 40 | 3 | - | - | - | - | - | 5 | - | - | - | - | 4 | 4 | 4 | 4 | 4 | |
| | 45 | - | - | - | - | - | - | - | 4 | - | - | - | - | 4 | 4 | 4 | 4 | |
| | 50 | - | - | - | - | - | - | - | 4 | - | - | - | - | 3 | 3 | 3 | 3 | |
| | 55 | - | - | - | - | - | - | - | - | - | - | - | - | 3 | 3 | 3 | 3 | |
| | 60 | - | - | - | - | - | - | - | - | - | - | - | - | 3 | 3 | 3 | 3 | |
| | 65 | - | - | - | - | - | - | - | - | - | - | - | - | 3 | 3 | 3 | 3 | |
| 109 | 30 | 4 | - | 6 | - | - | - | 4 | 6 | 3 | 4 | 3 | 6 | 6 | 6 | 6 | 6 | |
| | 40 | 3 | - | 5 | - | - | - | 3 | 6 | - | 3 | 3 | 5 | 5 | 5 | 5 | 5 | |
| | 45 | 3 | - | 5 | - | - | - | 3 | 5 | - | 3 | - | 5 | 4 | 4 | 4 | 4 | |
| 124 | 30 | 4 | 3 | 6 | - | - | - | 4 | 6 | 3 | 4 | 4 | 6 | 6 | 6 | 6 | 6 | |
| | 40 | 4 | - | 6 | - | - | - | 4 | 6 | - | 3 | 3 | 6 | 5 | 5 | 5 | 5 | |

SEE INSET MOUNT TABLE 3 FOR MAXIMUM ANCHOR SPACING FUNCTION OF ANCHOR TYPE



| ANCHOR SCHEDULE: | | | | |
|------------------|--|---|-----------|---------------|
| ANCHOR | DESCRIPTION | MATERIAL | EMBEDMENT | EDGE DISTANCE |
| A | 1/4" TAPCONS | MIN. 3192 psi CONCRETE | 1-3/4" | 2-1/2" |
| A1 | 1/4" ss TAPCONS | MIN. 3192 psi CONCRETE | 1-3/4" | 2-1/2" |
| A2 | 1/4" ss AGGRE-GATOR | MIN. 3275 psi CONCRETE | 1-3/4" | 3" |
| A3 | 5/16" TAPCONS | MIN. 2899 psi CONCRETE | 2 1/4" | 3 1/8" |
| A4 | 3/8" SS DROP-IN | MIN. 3000 psi CONCRETE | 1 9/16" | 5 1/4" |
| A5 | 3/8" POWERS WEDGE BOLT STAINLESS OR CARBON STEEL | MIN. 3000 psi CONCRETE | 3 1/2" | 4-1/2" |
| B | 1/4" TAPCONS | HOLLOW C-90 BLOCK | 1 1/4" | 2-1/2" |
| B1 | 1/4" ss TAPCONS | HOLLOW C-90 BLOCK | 1 1/4" | 2-1/2" |
| B2 | 1/4" ss AGGRE-GATOR | HOLLOW C-90 BLOCK | 1 1/4" | 4" |
| C | 1/4" ss AGGRE-GATOR | GF C-90 BLOCK | 2" | 4" |
| C1 | 5/16" X3" TAPCONS | GROUT FILLED C-90 BLOCK | 2 1/4" | 4" |
| D | 1/4"-14X1" GRADE 5 SELF DRILLING SCREWS | MIN. 1/4" 6063-T6 ALUM. OR A36 1/8" STEEL | | 1/2" |
| D1 | 1/4"-14X1" SS SHEET METAL SCREWS | | 3/8" | |
| E | 1/4" TAPCONS | WOOD WITH G>= .55 | 2 1/4" | 2-1/2" |
| E1 | 1/4" ss TAPCONS | | | |
| E2 | 5/16" TAPCONS | | | |
| E3 | 5/16" X3" LAG SCREWS | | | |



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Engineering:
EngCo Inc.
CR 11234
9715 WEST BROWARD BLVD. 247
PLANTATION - FLORIDA - 33324

PRODUCT NAME:

ES 44 SUP
EXTRUDED ALUMINUM
ROLL-UP SHUTTER

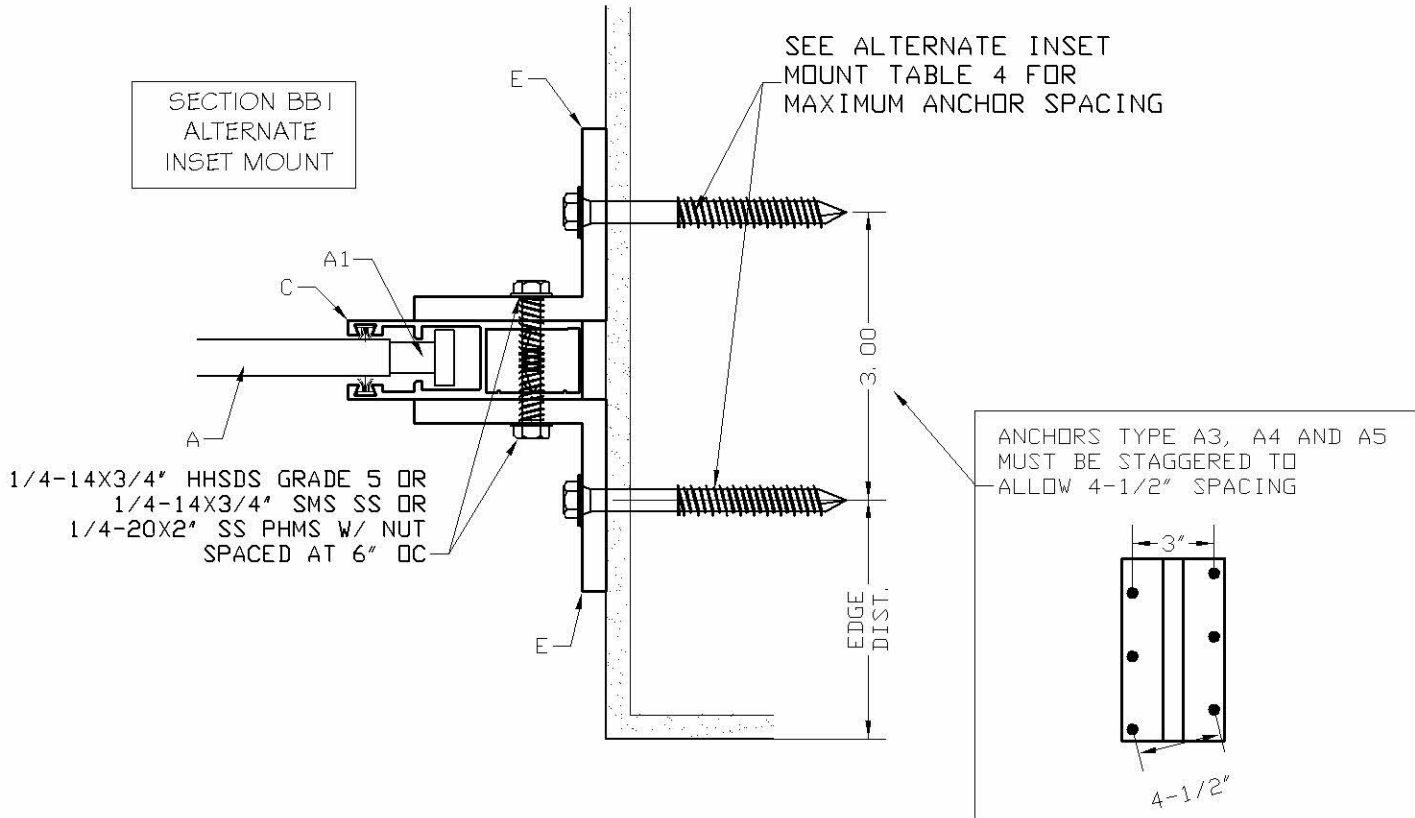
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CROCI NORTH AMERICA
11600 ADELMO LANE - FORT MYERS, FL 33966
Tel.: (239) 278-3066 - Fax: (239) 278-5977

SCALE:
NA
DATE:
04/22/2020
DRAWING #
19-056.1
SHEET
5 OF 12

TABLE 4- ALTERNATE INSET MOUNT ANCHORAGE SPACING

| SHUTTER WIDTH (SW) OR SHUTTER MODULE (SM) | LOAD PSF | ANCHOR TYPE | | | | | | | | | | | | | | |
|---|----------|-------------|----|----|----------------|---|----|----|---|----|---|----|---|----|----|----|
| | | A | A1 | A2 | A3 A4 A5 | B | B1 | B2 | C | C1 | D | D1 | E | E1 | E2 | E3 |
| 64 | 30 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 40 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 45 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 50 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 55 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 60 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 65 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 70 | 6 | 6 | 6 | 6 | 5 | 4 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 80 | 6 | 6 | 6 | 6 | 5 | 4 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 90 | 6 | 6 | 6 | 6 | 5 | 4 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 100 | 6 | 6 | 6 | 6 | 4 | 4 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| 82 | 30 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 40 | 6 | 6 | 6 | 6 | 5 | 4 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 45 | 6 | 6 | 6 | 6 | 5 | 4 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 50 | 6 | 6 | 6 | 6 | 4 | 4 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 55 | 6 | 6 | 6 | 6 | 4 | 3 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 60 | 6 | 6 | 6 | 6 | 4 | 3 | 4 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 65 | 6 | 6 | 6 | 6 | 3 | 3 | 4 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 70 | 6 | 6 | 6 | 6 | 3 | 3 | 4 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 80 | 6 | 5 | 6 | 6 | 3 | 3 | 4 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 90 | 6 | 6 | 6 | 6 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 100 | 6 | 6 | 6 | 6 | 4 | 3 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| 94 | 45 | 6 | 6 | 6 | 6 | 4 | 3 | 4 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 50 | 6 | 6 | 6 | 6 | 3 | 3 | 4 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 55 | 6 | 5 | 6 | 6 | 3 | 3 | 4 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 60 | 6 | 5 | 6 | 6 | 3 | 3 | 4 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| 109 | 30 | 6 | 6 | 6 | 6 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 40 | 6 | 6 | 6 | 6 | 4 | 4 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 45 | 6 | 6 | 6 | 6 | 4 | 4 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| 124 | 30 | 6 | 6 | 6 | 6 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 40 | 6 | 6 | 6 | 6 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |



ANCHOR SCHEDULE:

| ANCHOR | DESCRIPTION | MATERIAL | EMBEDMENT | EDGE DISTANCE |
|--------|---|--|-----------|---------------|
| A | 1/4" TAPCONS | MIN. 3192 psi CONCRETE | 1-3/4" | 2-1/2" |
| A1 | 1/4" ss TAPCONS | MIN. 3192 psi CONCRETE | 1-3/4" | 2-1/2" |
| A2 | 1/4" ss AGGRE-GATOR | MIN. 3275 psi CONCRETE | 1-3/4" | 3" |
| A3 | 5/16" TAPCONS | MIN. 2899 psi CONCRETE | 2 1/4" | 3 1/8" |
| A4 | 3/8" SS DROP-IN | MIN. 3000 psi CONCRETE | 1 9/16" | 5 1/4" |
| A5 | 3/8" POWERS WEDGE BOLT STAINLESS OR CARBON STEEL | MIN. 3000 psi CONCRETE | 3 1/2" | 4-1/2" |
| B | 1/4" TAPCONS | HOLLOW C-90 BLOCK | 1 1/4" | 2-1/2" |
| B1 | 1/4" ss TAPCONS | HOLLOW C-90 BLOCK | 1 1/4" | 2-1/2" |
| B2 | 1/4" ss AGGRE-GATOR | HOLLOW C-90 BLOCK | 1 1/4" | 4" |
| C | 1/4" ss AGGRE-GATOR | GF C-90 BLOCK | 2" | 4" |
| C1 | 5/16" X3" TAPCONS | GROUT FILLED C-90 BLOCK | 2 1/4" | 4" |
| D | 1/4"-14X1" GRADE 5 SELF DRILLING SCREWS | MIN. 1/4" 6063-T6 ALUM. OR A36 1/8" STEEL | | 1/2" |
| D1 | 1/4"-14X1" SS SHEET METAL SCREWS | | 3/8" | |
| E | 1/4" TAPCONS | WOOD WITH G>= .55 | 2 1/4" | 2-1/2" |
| E1 | 1/4" ss TAPCONS | | | |
| E2 | 5/16" TAPCONS | | | |
| E3 | 5/16" X3" LAG SCREWS | | | |



Engineering:
EngCo Inc.
CR 11234
9715 WEST BROWARD BLVD. 247
PLANTATION - FLORIDA - 33324

PRODUCT NAME:
ES 44 SUP
EXTRUDED ALUMINUM
ROLL-UP SHUTTER

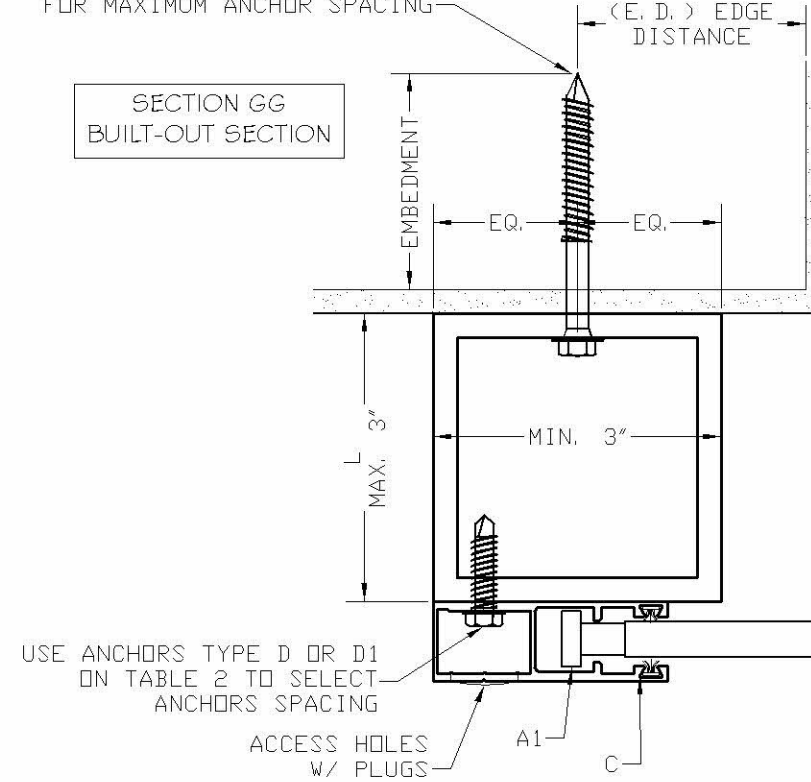
MANUFACTURER:
CROCI NORTH AMERICA
11600 ADELMO LANE - FORT MYERS, FL 33966
Tel.: (239) 278-3066 - Fax: (239) 278-5977

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6 OF 12

TABLE 5- BUILT-OUT MOUNT ANCHORAGE SPACING

| SHUTTER WIDTH (SW) OR SHUTTER MODULE (SM) | LOAD PSF | ANCHOR TYPE | | | | | | | | | | | | | | | | |
|---|----------|-------------|----|----|----|----|----|---|----|----|---|----|---|----|---|----|----|----|
| | | A | A1 | A2 | A3 | A4 | A5 | B | B1 | B2 | C | C1 | D | D1 | E | E1 | E2 | E3 |
| 64 | 30 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 40 | 6 | 6 | 6 | 6 | 4 | 3 | 4 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 45 | 6 | 6 | 6 | 6 | 3 | 3 | 3 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 50 | 6 | 5 | 6 | 6 | 3 | - | 3 | 6 | 6 | 5 | 6 | 5 | 6 | 6 | 6 | 6 | 6 |
| | 55 | 6 | 4 | 6 | 6 | - | - | - | 6 | 6 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 |
| | 60 | 6 | 4 | 6 | 6 | - | - | - | 6 | 6 | 4 | 5 | 4 | 6 | 6 | 6 | 6 | 6 |
| | 65 | 5 | 3 | 6 | 6 | - | - | - | 5 | 6 | 4 | 4 | 4 | 6 | 5 | 6 | 5 | 6 |
| | 70 | 5 | 3 | 6 | 6 | - | - | - | 5 | 6 | 4 | 4 | 3 | 6 | 5 | 6 | 5 | 6 |
| | 80 | 4 | 3 | 6 | 6 | - | - | - | 4 | 6 | 3 | 3 | 3 | 5 | 4 | 6 | 5 | 4 |
| | 90 | 4 | - | 6 | 6 | - | - | - | 4 | 6 | 3 | 3 | 3 | 5 | 4 | 6 | 5 | 4 |
| | 100 | 3 | - | 5 | 6 | - | - | - | 3 | 6 | - | 3 | - | 4 | 3 | 6 | 5 | 4 |
| 105 | 3 | - | 5 | 6 | - | - | - | 3 | 6 | - | 3 | - | 4 | 3 | 6 | 5 | 4 | |
| 110 | 3 | - | 5 | 6 | - | - | - | 3 | 6 | - | 3 | - | 4 | 3 | 6 | 5 | 4 | |
| 82 | 30 | 5 | 3 | 6 | 6 | - | - | - | 5 | 6 | 3 | 4 | 3 | 6 | 4 | 6 | 4 | |
| | 40 | 3 | - | 5 | 6 | - | - | - | 3 | 6 | - | - | - | 4 | 3 | 6 | 4 | |
| | 45 | 3 | - | - | 6 | - | - | - | 3 | 5 | - | - | - | 4 | 3 | 6 | 4 | |
| | 50 | - | - | - | 6 | - | - | - | - | 4 | - | - | - | 3 | - | 6 | 4 | |
| | 55 | - | - | - | 6 | - | - | - | - | 4 | - | - | - | 3 | - | 6 | 4 | |
| | 60 | - | - | - | 6 | - | - | - | - | 4 | - | - | - | 3 | - | 6 | 4 | |
| | 65 | - | - | - | 6 | - | - | - | - | 4 | - | - | - | 3 | - | 6 | 4 | |
| | 70 | - | - | - | 6 | - | - | - | - | 4 | - | - | - | 3 | - | 6 | 4 | |
| 94 | 30 | 3 | - | 5 | 6 | - | - | - | 3 | 5 | - | - | - | 4 | 3 | 6 | 4 | |
| | 40 | - | - | - | 6 | - | - | - | - | 4 | - | - | - | 3 | - | 6 | 4 | |
| | 45 | - | - | - | 6 | - | - | - | - | - | - | - | - | 3 | - | 6 | 4 | |
| | 50 | - | - | - | 6 | - | - | - | - | - | - | - | - | 3 | - | 6 | 4 | |
| | 55 | - | - | - | 6 | - | - | - | - | - | - | - | - | 3 | - | 6 | 4 | |
| | 60 | - | - | - | 6 | - | - | - | - | - | - | - | - | 3 | - | 6 | 4 | |
| 109 | 30 | 4 | - | 6 | 6 | - | - | - | 4 | 6 | 3 | 3 | 3 | 5 | 4 | 6 | 4 | |
| | 40 | 3 | - | 5 | 6 | - | - | - | 3 | 5 | - | - | - | 4 | 3 | 6 | 4 | |
| | 45 | 3 | - | - | 6 | - | - | - | 3 | 5 | - | - | - | 4 | 3 | 6 | 4 | |
| | 50 | 3 | - | - | 6 | - | - | - | 3 | 5 | - | - | - | 3 | 3 | 6 | 4 | |
| 124 | 30 | 4 | 3 | 6 | 6 | - | - | - | 4 | 6 | 3 | 3 | 3 | 6 | 4 | 6 | 4 | |
| | 40 | 4 | - | 6 | 6 | - | - | - | 4 | 6 | 3 | 3 | 3 | 5 | 4 | 6 | 4 | |

SEE BUILT-OUT MOUNT TABLE 5 FOR MAXIMUM ANCHOR SPACING



USE ANCHORS TYPE D OR D1 ON TABLE 2 TO SELECT ANCHORS SPACING

| ANCHOR SCHEDULE: | | | | |
|------------------|--|---|-----------|---------------|
| ANCHOR | DESCRIPTION | MATERIAL | EMBEDMENT | EDGE DISTANCE |
| A | 1/4" TAPCONS | MIN. 3192 psi CONCRETE | 1-3/4" | 2-1/2" |
| A1 | 1/4" ss TAPCONS | MIN. 3192 psi CONCRETE | 1-3/4" | 2-1/2" |
| A2 | 1/4" ss AGGRE-GATOR | MIN. 3275 psi CONCRETE | 1-3/4" | 3" |
| A3 | 5/16" TAPCONS | MIN. 2899 psi CONCRETE | 2 1/4" | 3 1/8" |
| A4 | 3/8" SS DROP-IN | MIN. 3000 psi CONCRETE | 1 9/16" | 5 1/4" |
| A5 | 3/8" POWERS WEDGE BOLT STAINLESS OR CARBON STEEL | MIN. 3000 psi CONCRETE | 3 1/2" | 4-1/2" |
| B | 1/4" TAPCONS | HOLLOW C-90 BLOCK | 1 1/4" | 2-1/2" |
| B1 | 1/4" ss TAPCONS | HOLLOW C-90 BLOCK | 1 1/4" | 2-1/2" |
| B2 | 1/4" ss AGGRE-GATOR | HOLLOW C-90 BLOCK | 1 1/4" | 4" |
| C | 1/4" ss AGGRE-GATOR | GF C-90 BLOCK | 2" | 4" |
| C1 | 5/16" X3" TAPCONS | GROUT FILLED C-90 BLOCK | 2 1/4" | 4" |
| D | 1/4"-14X1" GRADE 5 SELF DRILLING SCREWS | MIN. 1/4" 6063-T6 ALUM. OR A36 1/8" STEEL | | 1/2" 3/8" |
| D1 | 1/4"-14X1" SS SHEET METAL SCREWS | | | |
| E | 1/4" TAPCONS | WOOD WITH G>= .55 | 2 1/4" | 2-1/2" |
| E1 | 1/4" ss TAPCONS | | | |
| E2 | 5/16" TAPCONS | | | |
| E3 | 5/16" X3" LAG SCREWS | | | |



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Pedro De Figueredo
TEXAS - PE 102937

Engineering:
EngCo Inc.
CR 11234

9715 WEST BROWARD BLVD. 247
PLANTATION - FLORIDA - 33324

PRODUCT NAME:

ES 44 SUP

EXTRUDED ALUMINUM
ROLL-UP SHUTTER

MANUFACTURER:

CROCI NORTH AMERICA

11600 ADELMO LANE - FORT MYERS, FL 33966
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EQUALLY SPACED MULLIONS SELECTION

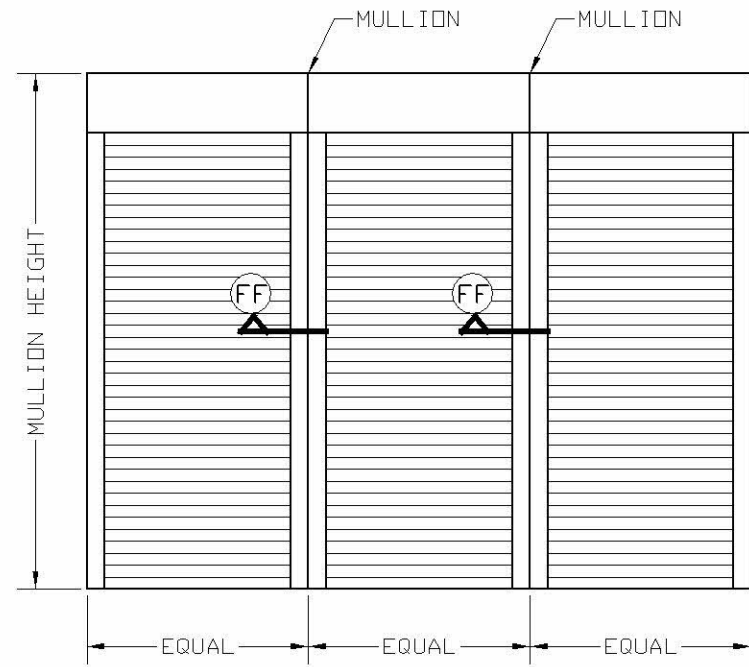


TABLE 6 - EQUAL SPACED MULLION DESIGNED PRESSURES (PSF)

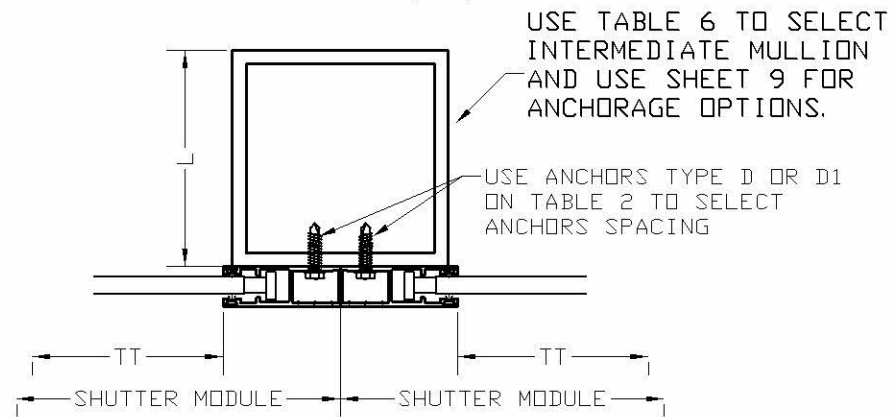
| SHUTTER MODULE | MULLION TYPE & MAX. HEIGHT | | | | | | | | |
|----------------|----------------------------|-----|-----|---------|-----|-----|---------|----|----|
| | 1/4-4x6 | | | 1/4-4x4 | | | 1/4-3x3 | | |
| 124 | 40 | 40 | 40 | 38 | 40 | 40 | 20 | 29 | 40 |
| 109 | 50 | 50 | 50 | 43 | 50 | 50 | 23 | 33 | 50 |
| 94 | 60 | 60 | 60 | 50 | 60 | 60 | 27 | 39 | 58 |
| 82 | 79 | 80 | 80 | 57 | 79 | 80 | 31 | 44 | 66 |
| 64 | 101 | 110 | 110 | 74 | 101 | 110 | 40 | 57 | 85 |

MULLION MAX. HEIGHT

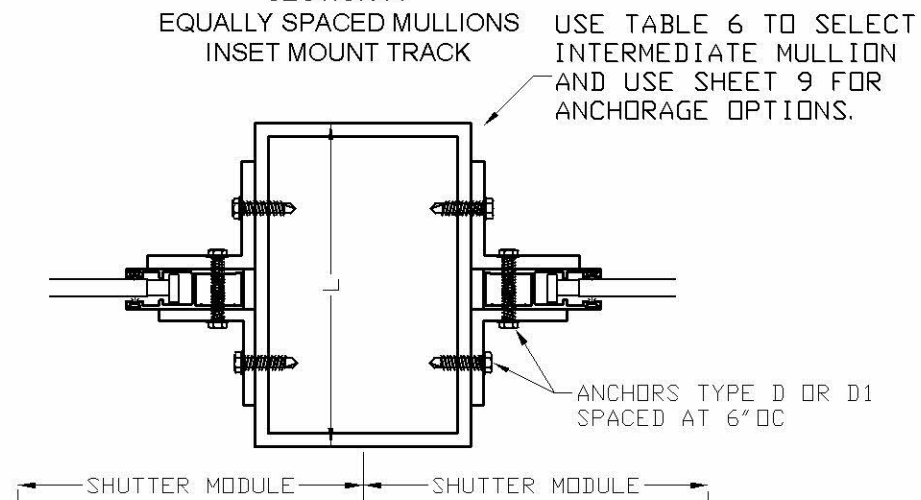
MAXIMUM PRESSURE IN PSF

NOTE: TABLE 2 IS APPLICABLE ONLY FOR EQUAL SHUTTER MODULES

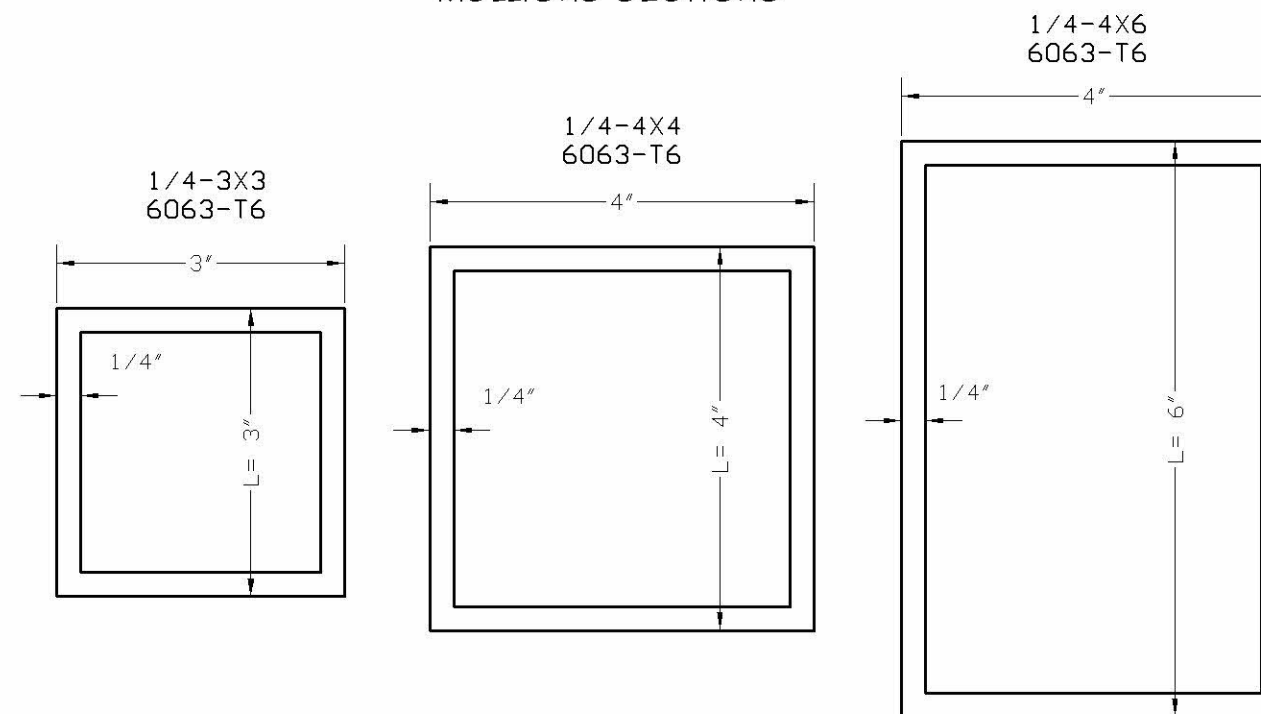
SECTION FF
EQUALLY SPACED MULLIONS
WALL MOUNT TRACK



SECTION FF
EQUALLY SPACED MULLIONS
INSET MOUNT TRACK



MULLIONS SECTIONS



Engineering:
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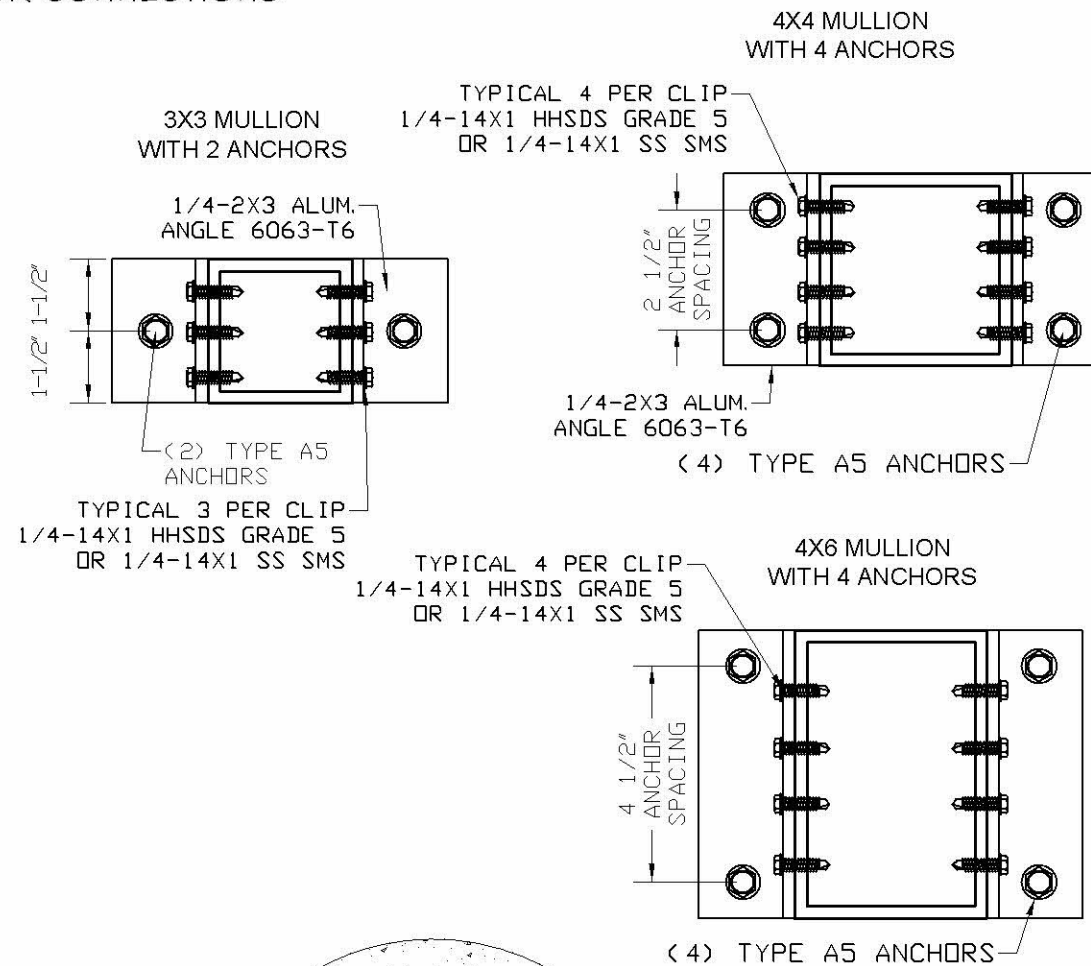
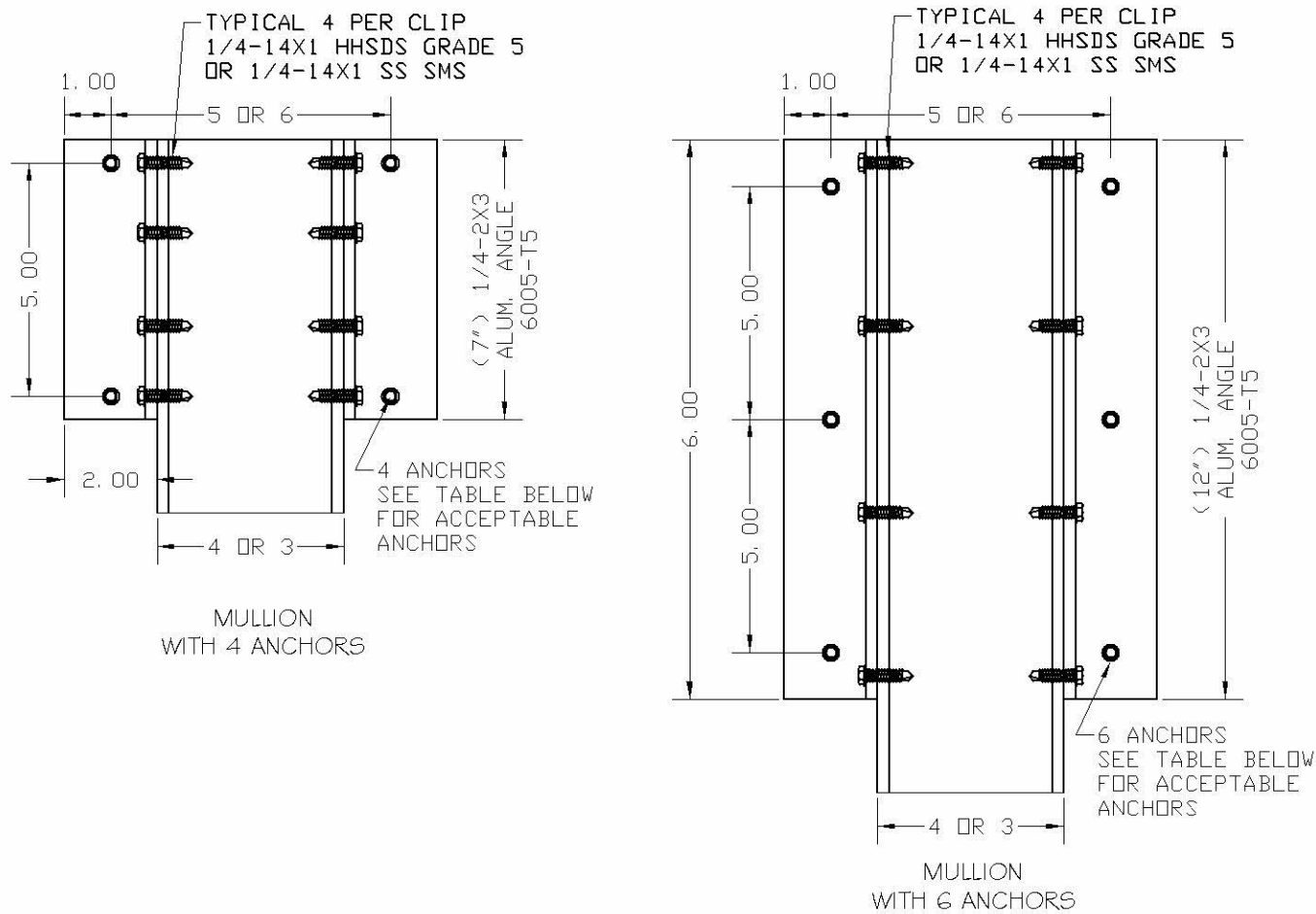
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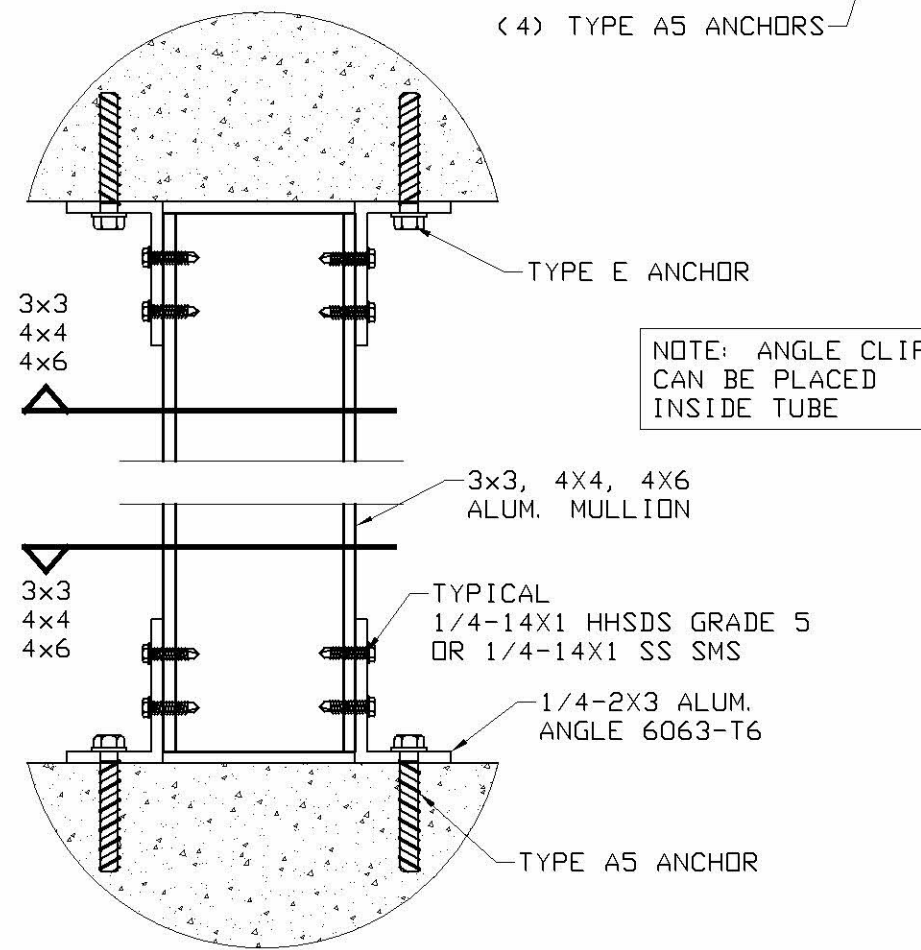
EQUALLY SPACED MULLIONS WALL AND FLOOR CONNECTIONS



ANCHORAGE DESIGN FOR MAXIMUM LOADS FROM TABLE 6

| MULL | # OF ANCHORS | ACCEPTABLE ANCHORS |
|------|--------------|--|
| 3X3 | 4 | A, A1, A3, A4, A5, C, C1, E, E1, E2, E3 |
| | 6 | A, A1, A2, A3, A4, A5, C, C1, D, D1, E, E1, E2, E3 |
| 4X4 | 4 | A3, A4, A5, C1, E2, E3 |
| | 6 | A, A1, A3, A4, A5, C, C1, E, E1, E2, E3 |
| 4X6 | 4 | A5, E2, E3 |
| | 6 | A, A1, A3, A4, A5, C1, E2, E3 |

| ANCHOR SCHEDULE: | | | | |
|------------------|---|--|-----------|---------------|
| ANCHOR | DESCRIPTION | MATERIAL | EMBEDMENT | EDGE DISTANCE |
| A | 1/4" TAPCONS | MIN. 3192 psi CONCRETE | 1-3/4" | 2-1/2" |
| A1 | 1/4" ss TAPCONS | MIN. 3192 psi CONCRETE | 1-3/4" | 2-1/2" |
| A2 | 1/4" ss AGGRE-GATOR | MIN. 3275 psi CONCRETE | 1-3/4" | 3" |
| A3 | 5/16" TAPCONS | MIN. 2899 psi CONCRETE | 2 1/4" | 3 1/8" |
| A4 | 3/8" SS DROP-IN | MIN. 3000 psi CONCRETE | 1 9/16" | 5 1/4" |
| A5 | 3/8" POWERS WEDGE BOLT STAINLESS OR CARBON STEEL | MIN. 3000 psi CONCRETE | 3 1/2" | 4-1/2" |
| C | 1/4" ss AGGRE-GATOR | GF C-90 BLOCK | 2" | 4" |
| C1 | 5/16" X3" TAPCONS | GROUT FILLED C-90 BLOCK | 2 1/4" | 4" |
| D | 1/4"-14X1" GRADE 5 SELF DRILLING SCREWS | MIN. 1/4" 6063-T6 ALUM. OR A36 1/8" STEEL | | 1/2" |
| D1 | 1/4"-14X1" SS SHEET METAL SCREWS | | 3/8" | |
| E | 1/4" TAPCONS | WOOD WITH G>= .55 | 2 1/4" | 2-1/2" |
| E1 | 1/4" ss TAPCONS | | | |
| E2 | 5/16" TAPCONS | | | |
| E3 | 5/16" X3" LAG SCREWS | | | |



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ROLL-UP SHUTTER

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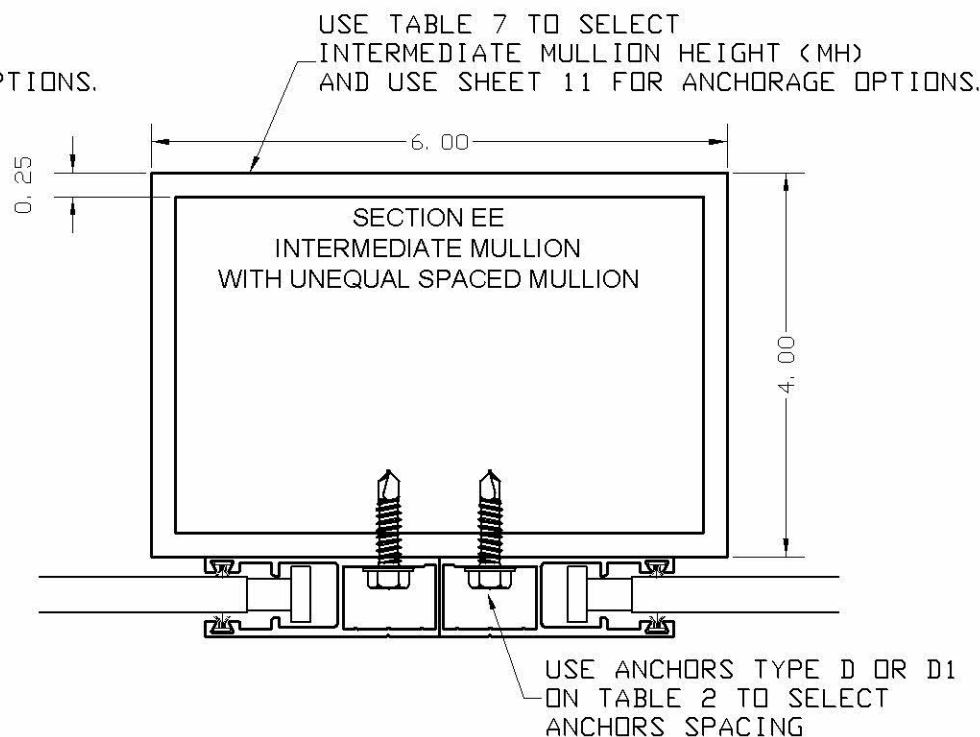
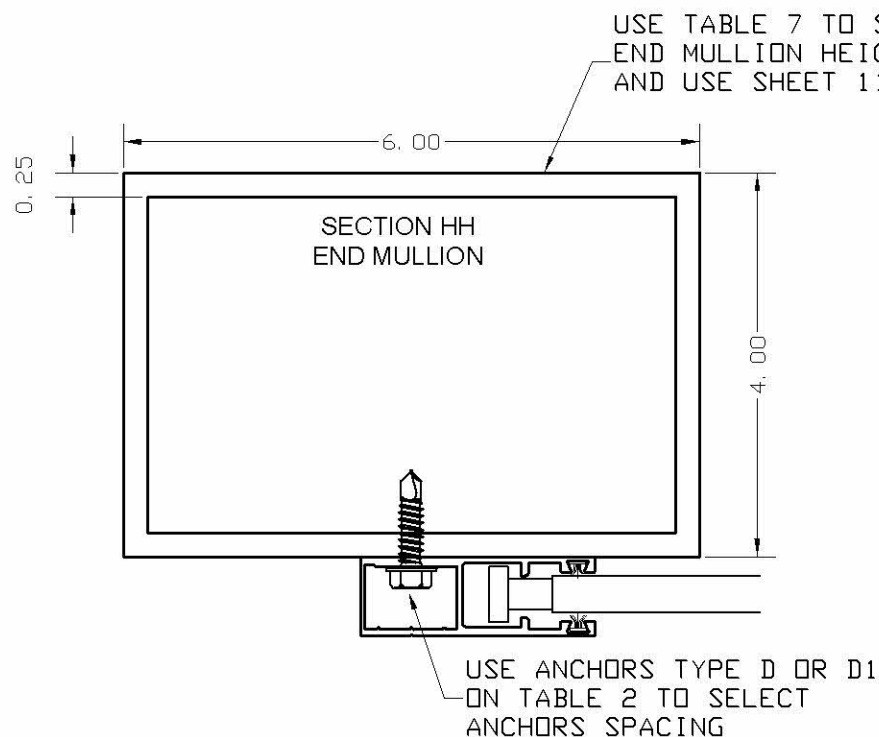
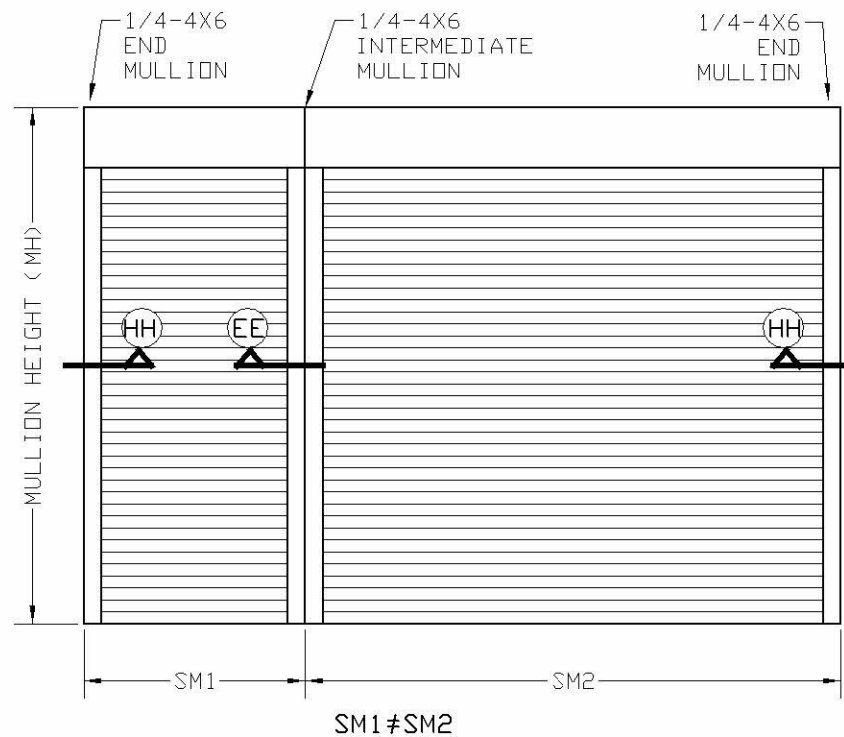
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Pedro De Figueiredo
TEXAS - PE 102937

UNEQUALLY SPACED MULLIONS SELECTION

TABLE 7 - MAXIMUM MULLION HEIGHT FOR UNEQUAL SPACED MULLIONS AND END MULLIONS

| Pd (Psf) | SM1 (in) | SM2 (in) | MH (in) | |
|----------|----------|----------|---------|-----------|
| 40 | 124 | 0-<64 | 132 | END MULL |
| | | 64 | 132 | INT. MULL |
| | | 82 | 132 | |
| | | 94 | 120 | |
| | | 109 | 120 | |
| 50 | 109 | 0-<64 | 114 | END MULL |
| | | 64 | 102 | INT. MULL |
| | | 82 | 90 | |
| | | 94 | 96 | |
| 60 | 94 | 0-<64 | 84 | END MULL |
| | | 64 | 96 | INT. MULL |
| | | 82 | 120 | |
| 80 | 82 | 0-<64 | 90 | END MULL |
| | | 64 | 102 | INT. MULL |
| 110 | 64 | 0 | 114 | END MULL |

- NOTES:
 1- TABLE IS APPLICABLE ONLY FOR UNEQUAL SHUTTER MODULES AND END MULLION.
 2- USE 1/4-4X6 MULLION AS PER SECTIONS EE, HH
 3- PD= MAXIMUM DESIGNED PRESSURE IN PSF
 4- THE MAXIMUM END MULLION SIZES (SM2=0) ARE FOUND WHEN SM2=0
 5- SPECIFIC CONDITIONS NOT INCLUDED HERE IN ARE TO BE ADDRESSED WITH SITE SPECIFIC PROVIDED BY A PROFESSIONAL ENGINEER.



Engineering:
Eng'Co Inc.

Engineer Seal
 Pedro De Figueiredo
 TEXAS - PE 102937

CR 11234
 9715 WEST BROWARD BLVD. 247
 PLANTATION - FLORIDA - 33324

PRODUCT NAME:
ES 44 SUP
 EXTRUDED ALUMINUM
 ROLL-UP SHUTTER

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UNEQUAL SPACED MULLIONS AND END MULLIONS
WALL AND FLOOR CONNECTIONS

WALL MOUNT END MULLION



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TEXAS - PE 102937

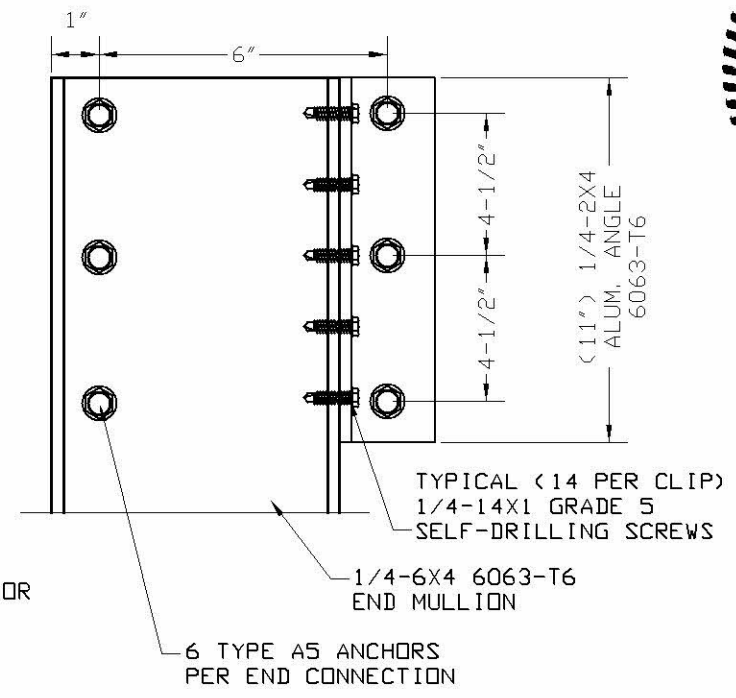
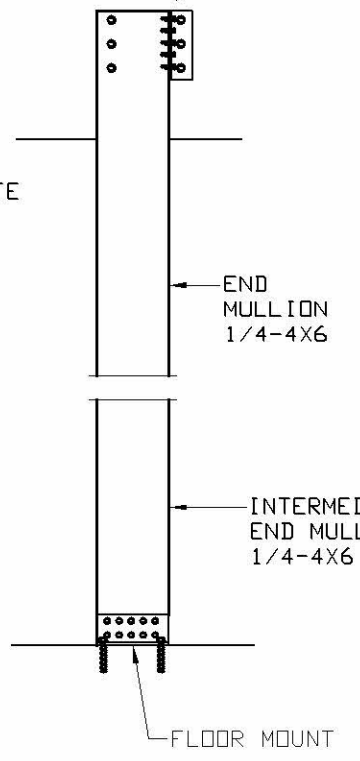
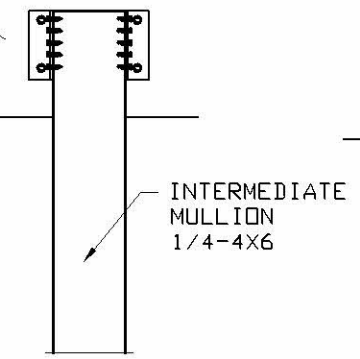
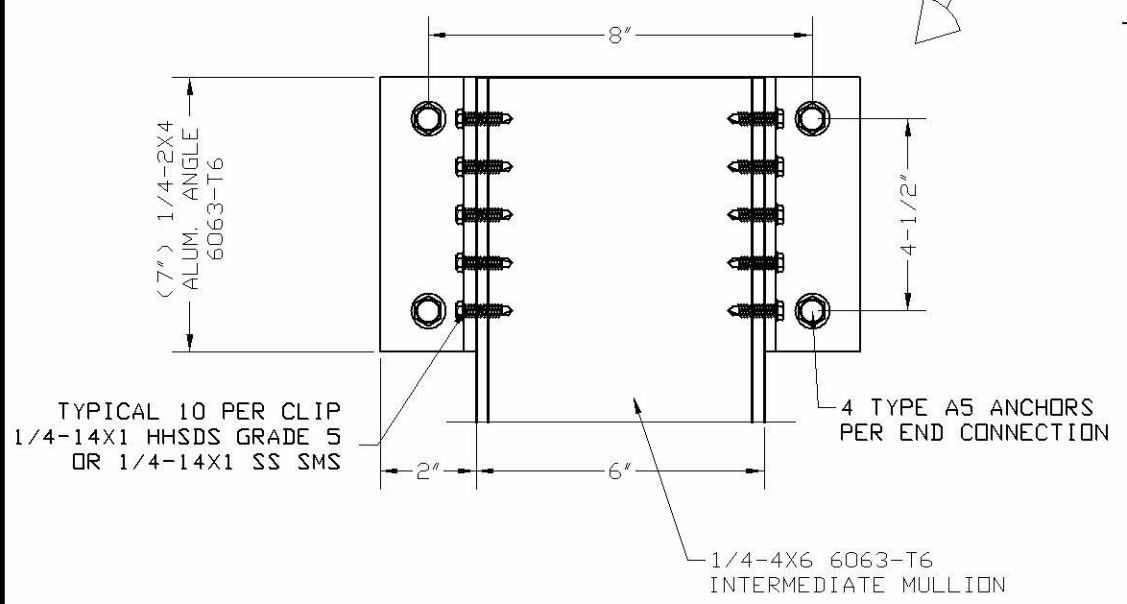
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PLANTATION - FLORIDA - 33324

PRODUCT NAME:
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EXTRUDED ALUMINUM
ROLL-UP SHUTTER

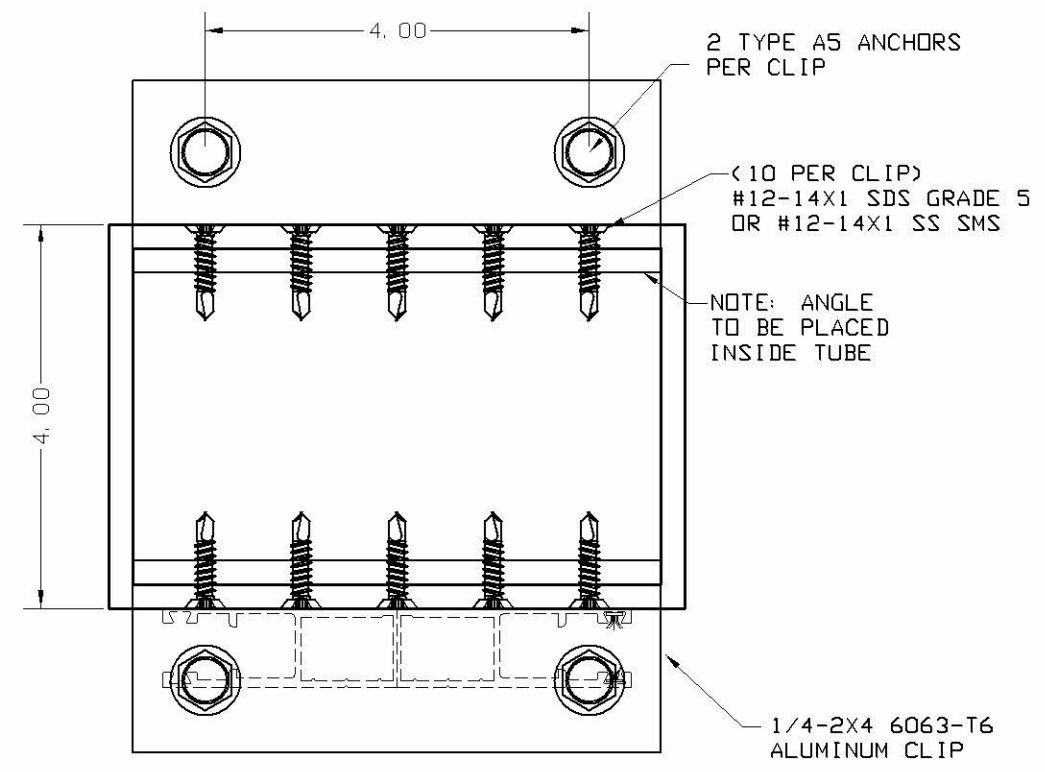
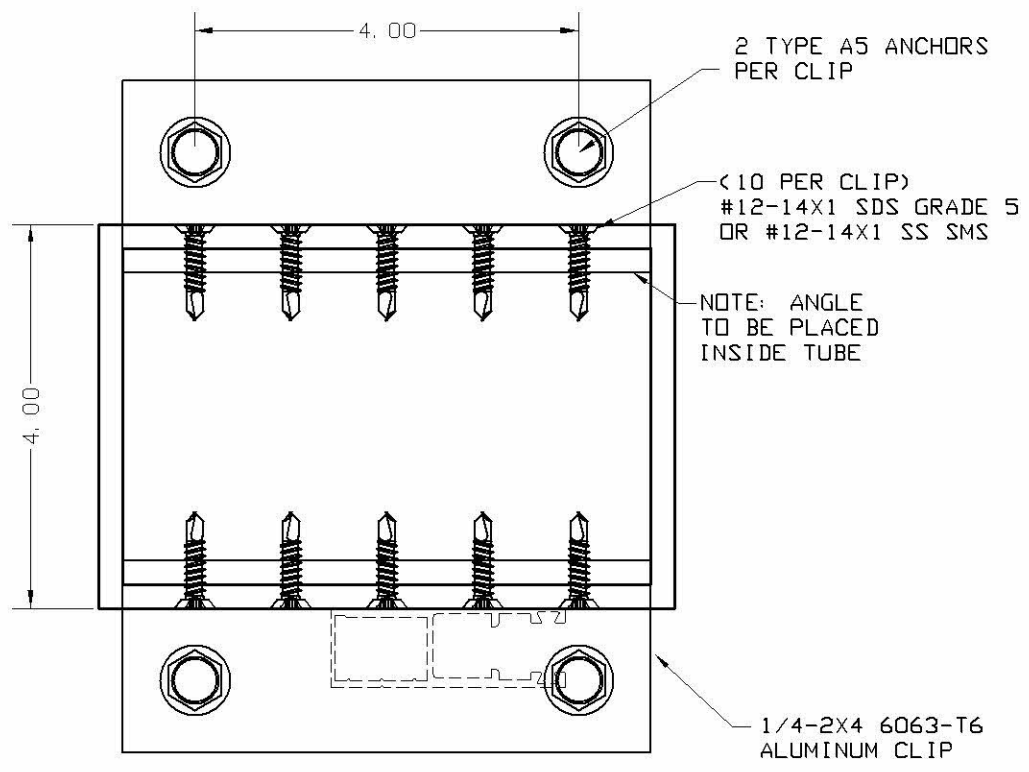
MANUFACTURER:
CROCI NORTH AMERICA
11600 ADELMO LANE - FORT MYERS, FL 33966
Tel.: (239) 278-3066 - Fax: (239) 278-5977

SCALE:
NA
DATE:
04/22/2020
DRAWING #
19-056.1
SHEET
11 OF 12

WALL MOUNT INTERMEDIATE MULLION

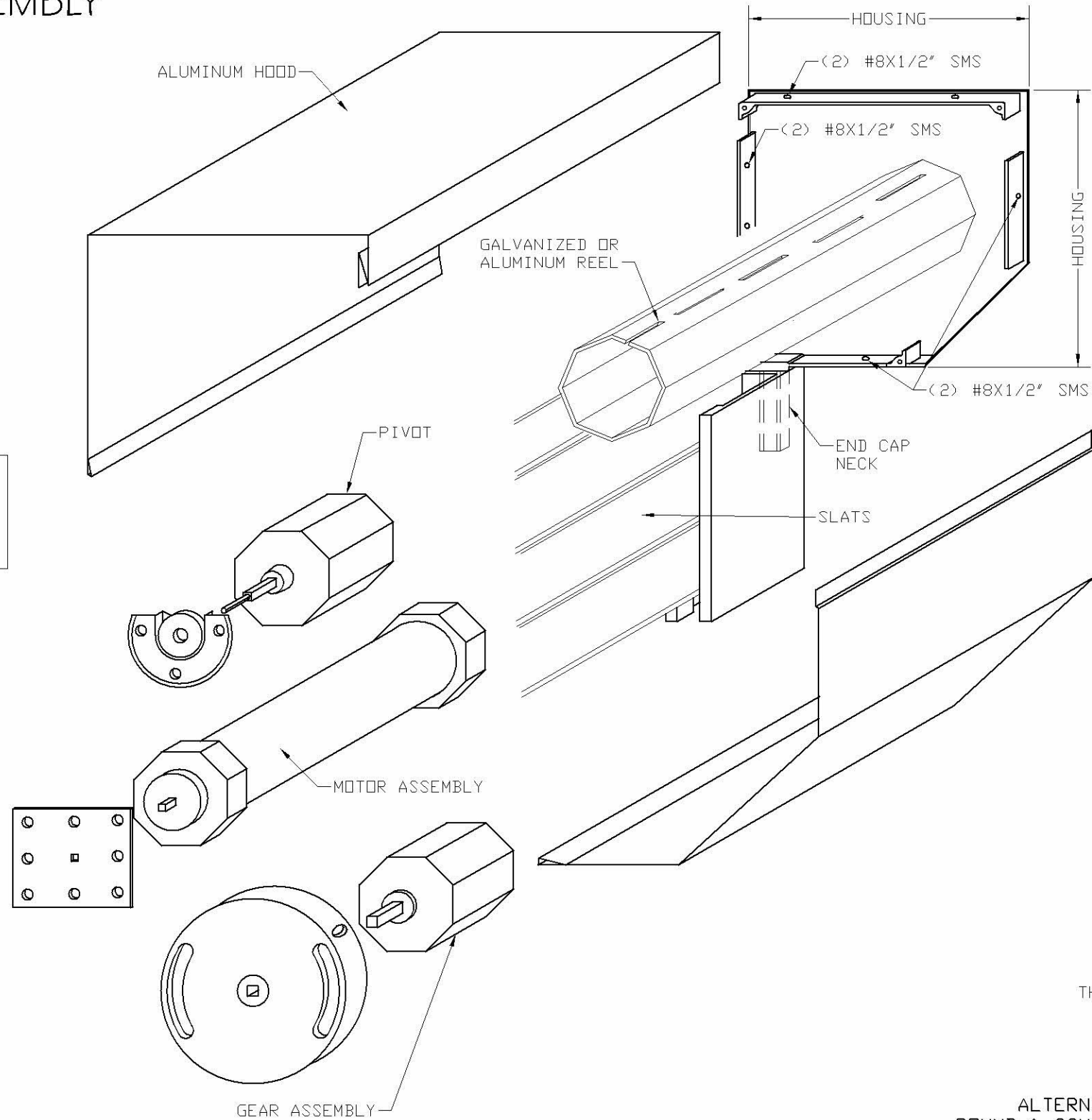


FLOOR MOUNT INTERMEDIATE & END MULLION



HOOD ASSEMBLY

NOTE: THE ROLL-UP MECHANISM (GEARS, MOTORS, SUPPORTING END PLATES) ARE NOT PART OF THIS APPROVAL. MANUFACTURER IS RESPONSIBLE TO SPECIFY THESE COMPONENTS FOR PROPER SHUTTER OPERATION.



Engineering:
Eng'Co Inc.
 CR 11234
 9715 WEST BROWARD BLVD. 247
 PLANTATION - FLORIDA - 33324

Engineer Seal
 Pedro De Figueredo
 TEXAS - PE 102937

PRODUCT NAME:
ES 44 SUP
 EXTRUDED ALUMINUM
 ROLL-UP SHUTTER

MANUFACTURER:
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 Tel.: (239) 278-3066 - Fax: (239) 278-5977

SCALE:
 NA

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 12 OF 12