



NOTE: AS AN ALTERNATIVE, BOLT THROUGH THE THIMBLE DIRECTLY TO THE ANGLE FRAME AT THE CORNER BOLT. USE LARGE O.D. WASHER

INSTALLATION INSTRUCTIONS FOR CABLE RESTRAINTS

1. CABLE IS 1/4" (6mm) WITH MAXIMUM BREAKING STRENGTH OF 7,000 (31 KN). CABLE, ANGLE BRACKETS, SHACKLES, U BOLT CLIPS ONLY BY BVA. SUPPORT AND ANCHOR BOLTS BY OTHERS.
2. CABLE RESTRAINT ANCHORS TO CONCRETE TO BE 1/2" (13mm) DIA. HILTI TYPE HSL ANCHORS WITH MINIMUM 3" (75mm) IMBEDMENT.
3. CABLE RESTRAINTS COME IN KIT FORM WITH LENGTH OF CABLE TO BE CUT TO SUIT ON SITE. (MEASURE REQUIRED LENGHT INCLUDING TURNBACKS AND CUT)
4. INSTALL U-BOLT SECTION OF WIRE ROPE CLIPS ON "DEAD" OR SHORT END ROPE AND SADDLE ON "LIVE" OR LONG END OF ROPE. APPLY FIRST U-BOLT AS NEAR THE THIMBLE AS POSSIBLE. TURNBACK TO BE 4.8" (122mm). U-BOLT TORQUE TO BE 15ft.lb (20 N.M).
5. TENSION CABLE ONLY ENOUGH TO REMOVE SAG.

| DUCT WIDTH in (mm) | HORIZONTAL ANGLE (or equivalent) | VERTICAL ANGLE (or equivalent) | ANCHOR TO CONCRETE in (mm) | THREADED ROD ALTERNATE TO VERTICAL ANGLE |
|-----------------------|-------------------------------------|-----------------------------------|-------------------------------|---|
| 30 (762) | 2 x 2 (51x51) x16 GA | 2 1/2 x 2 1/2 (64x64) x16 GA | 1/2 (13) | 1/2 (13) |
| 42 (1067) | 2 1/2 x 2 1/2 (64x64) x16 GA | 4 x 4 (102x102) x16 GA | 5/8 (16) | 1/2 (13) |
| 54 (1372) | 2 1/2 x 2 1/2 (64x64) x16 GA | 4 x 4 (102x102) x12 GA | 2 @ 1/2 (13) | 5/8 (16) |
| 60 (1524) | 3 x 3 (76x76) x16 GA | 4 x 4 (102x102) x12 GA | 2 @ 1/2 (13) | 5/8 (16) |
| 84 (2134) | 4 x 4 (102x102) x16 GA | 3 x 3 x 1/4 (76x76x6) | 2 @ 5/8 (16) | 3/4 (19) |
| 96 (2438) | 4 x 4 (102x102) x12 GA | 4 x 4 x 1/4 (102x102x6) | 2 @ 3/4 (19) | 3/4 (19) |
| 108 (2743) | 3 x 3 x 1/4 (76x76x6) | 4 x 4 x 1/4 (102x102x6) | 4 @ 5/8 (16) | 3/4 (19) |
| 120 (3048) | 3 x 3 x 1/4 (76x76x6) | 4 x 4 x 1/4 (102x102x6) | 4 @ 5/8 (16) | 3/4 (19) |

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| PROJECT: | | SEISMIC CABLE RESTRAINT- DUCT | | | |
| CUSTOMER: | | | | | |
| CONSULTANT: | | DRAWN BY: SB | SCALE: NTS | | |
| PROJECT NO.: | PROJECT MANAGER: | CHECKED BY: JP | DATE: 18 Aug 03 | DRAWING NO.: Ducting 3of5 | REVISION NO.: 0 |