

STRAP TIE HOLDDOWNS

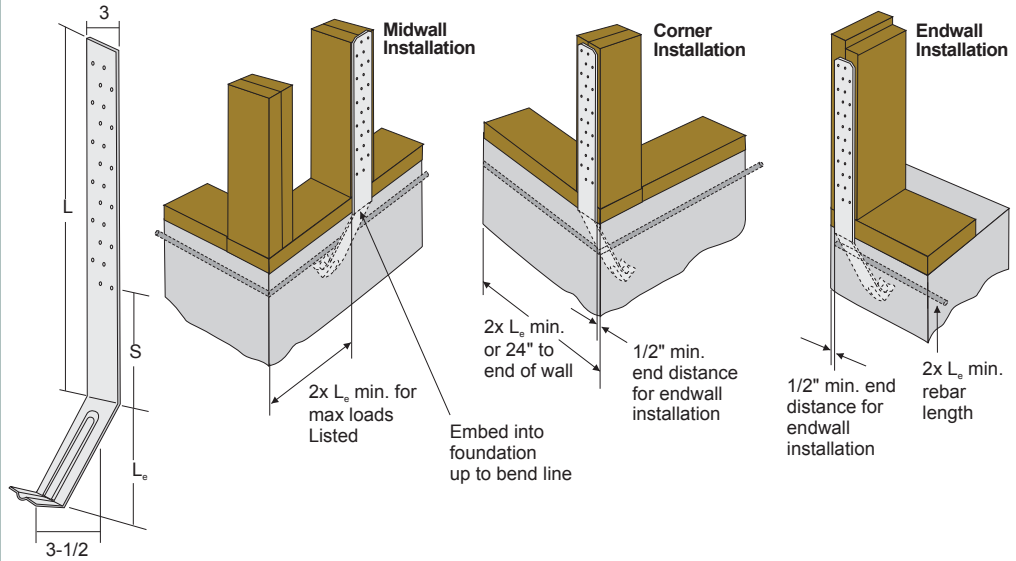
DESIGN FEATURES: The ASTHD holdowns embed into concrete foundations and nail to shear panel perimeter members to resist uplift load caused by earthquake and hurricane forces on a structure. They are an economical, high load connector preferred by contractors. The nail pattern facilitates nailing to the edges of double 2x members.

MATERIAL: 12 ga. galvanized steel
Available in G-185 Triple Zinc or Hot-Dip Galvanized. Call for availability.

CODES: ICC ER-5271

INSTALLATION:

- All specified fasteners must be used.
- Fill holes starting from bottom of the strap up.
- Strap may be bent on full cycle from vertical to horizontal (90°) and back to vertical during installation.
- Bending strap may cause spalling or breaking away of the concrete at the bent location.
- For ASTHD10 and ASTHD14 full loads may be applied if spall is less than 4"
- When nailing holddown to two wood members designer must specify required fasteners to join wood members together to act as one unit. Additional stud members may be required by the designer for required wall sheathing nailing.



| MIN STEM WALL ² (IN.) | ITEM ID | REF. | DIMENSIONS (IN.) | | | REQUIRED NAILS ^{3,4} | ALLOWABLE TENSION LOADS ¹ (LBS) | | | | | |
|---|---------|--------|------------------|-------|----------------|-------------------------------|--|--------|---------|---------|--------|---------|
| | | | L | S | L _e | | NON-CRACKED | | | CRACKED | | |
| | | | | | | | MIDWALL | CORNER | ENDWALL | MIDWALL | CORNER | ENDWALL |
| WIND AND SDS A&B -- ALLOWABLE TENSION LOADS FOR DOUG FIR & SOUTHERN PINE (160) | | | | | | | | | | | | |
| 6 | ASTHD10 | STHD10 | 24 | 3-7/8 | 10 | 24-16d sinkers | 4145 | 3715 | 2200 | 4145 | 3715 | 2200 |
| | ASTHD14 | STHD14 | 27-1/8 | 5 | 14 | 32-16d sinkers | 7025 | 5834 | 3660 | 7025 | 5835 | 3660 |
| 8 | ASTHD10 | STHD10 | 24 | 3-7/8 | 10 | 28-16d sinkers | 6150 | 3825 | 3055 | 6150 | 3825 | 3055 |
| | ASTHD14 | STHD14 | 27-1/8 | 5 | 14 | 32-16d sinkers | 7025 | 5835 | 4040 | 7025 | 5835 | 4040 |
| SDS C&F -- ALLOWABLE TENSION LOADS FOR DOUG FIR & SOUTHERN PINE (160) | | | | | | | | | | | | |
| 6 | ASTHD10 | STHD10 | 24 | 3-7/8 | 10 | 18-16d sinkers | 3550 | 3185 | 1890 | 3550 | 3185 | 1885 |
| | ASTHD14 | STHD14 | 27-1/8 | 5 | 14 | 28-16d sinkers | 6150 | 5000 | 3140 | 6150 | 5000 | 3140 |
| 8 | ASTHD10 | STHD10 | 24 | 3-7/8 | 10 | 20-16d sinkers | 4390 | 3280 | 2615 | 4390 | 3280 | 2615 |
| | ASTHD14 | STHD14 | 27-1/8 | 5 | 14 | 28-16d sinkers | 6150 | 5000 | 3460 | 6150 | 5000 | 3460 |

TENSION TIES

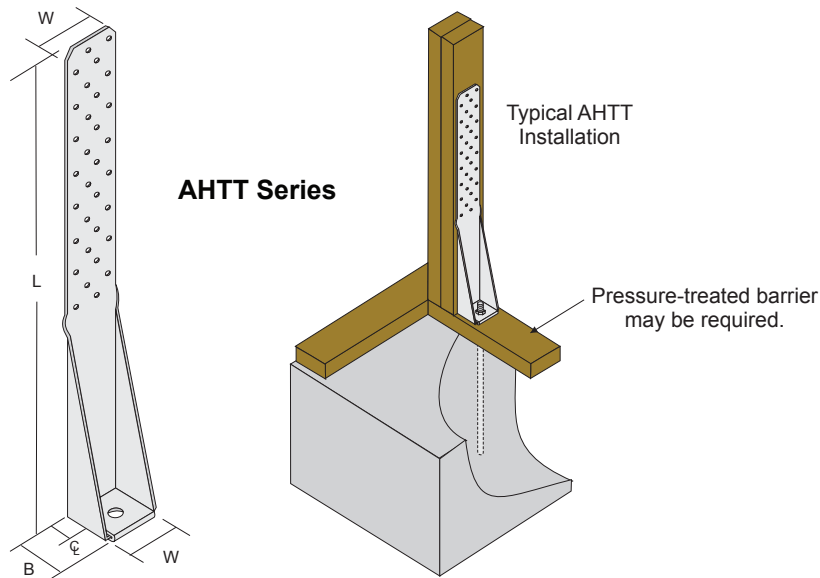
DESIGN FEATURES: The AHTT series tension ties provide a full range of load capacity for retrofitting or new construction. Tension ties connect shear panels to the foundation and can be installed after the pour.

MATERIAL: 11 ga. galvanized steel
Available in G-185 Triple Zinc or Hot-Dip Galvanized. Call for availability.

CODES: ICC ER-5271

NOTES:

- AHTT tension ties are attached to approved anchor bolts of the diameter specified with a capacity equal to or greater than the allowable holddown capacity. Concrete compressive strength must be a minimum of 2,000 psi at 28 days. Side cover and embedment depth requirements in accordance with the approved anchor bolt requirements.
- Nail lengths are minimum penetration into the structural wood member (minus steel thickness). Longer nails may be used at the same load values.
- Uplift loads have been increased 33% and 60% (C_o = 1.33 or 1.60, for fastener design in wood) for short-term wind and earthquake loading for recognition under UBC and IBC/IRC, respectively. No further increase is permitted.
- Allowable loads are based on the use of either nails or bolts, and are not otherwise cumulative.



| ITEM ID | REF. | MATERIAL (GA) | DIMENSIONS (IN) | | | | FASTENERS ² | | ALLOWABLE TENSION LOADS ³ | |
|---------|-------|---------------|-----------------|--------|---|----------------|------------------------|----------------|--------------------------------------|------|
| | | | W | L | B | C _L | ANCHOR BOLTS | NAILS | 133% | 160% |
| | | | | | | | | | | |
| AHTT16 | HTT16 | 11 | 2-1/2 | 16 | 2 | 1-3/16 | 5/8 | 18-16dx2-1/2 | 3495 | 4195 |
| AHTT22 | HHT22 | 11 | 2-1/2 | 22-1/8 | 2 | 1-3/16 | 5/8 | 32-16d sinkers | 5300 | 5430 |