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TYPES AND PURPOSES

THERE ARE (2) BASIC TYPES OF CONNECTIONS WHICH ARE CATEGORIZED BASED ON THEIR PURPOSE.

1. LOAD BEARING - CARRIES PANEL WEIGHT AND WEIGHT OF OTHER CONSTRUCTION.

2. LATERAL LOAD RESISTING (TIE-BACK)

   END CONNECTIONS - RESIST PANEL ROTATION DUE TO ECCENTRICITY OF BEARING CONNECTIONS ALONG WITH A PORTION OF THE WIND, SEISMIC, EARTH, FLUID, OR TEMPERATURE LOADS.

   MIDSPAN CONNECTIONS - RESIST A PORTION OF THE WIND, SEISMIC, EARTH, FLUID, OR TEMPERATURE LOADS.

GUIDELINES

BEARING CONNECTIONS:

- ONLY (2) SUPPORT POINTS PER PANEL ARE POSSIBLE.
- GRAVITY SUPPORT USUALLY GOES DIRECTLY ON COLUMNS BUT SOMETIMES MUST GO ON BEAMS.
- ALLOW FOR FIELD ADJUSTMENT.
- TYPICALLY DO NOT EXPECT A LOAD BEARING CONNECTION TO RESIST LATERAL LOAD; PROVIDE A SEPARATE TIE-BACK CONNECTION.

TIE-BACK CONNECTIONS:

- PROVIDE (4) CONNECTIONS AS A MINIMUM; USE ADDITIONAL MIDSPAN CONNECTIONS AS REQUIRED.
- END CONNECTIONS MUST BE "QUICK RELEASE" ADJUSTABLE CONNECTIONS TO ALLOW FINAL PANEL POSITIONING TO OCCUR AFTER CRANE IS RELEASED.
- END CONNECTIONS MUST ALSO ALLOW VOLUME CHANGE RELIEF.
- MIDSPAN CONNECTIONS TYPICALLY CONNECT TO TOP OF SLAB OR OTHER STRUCTURAL MEMBER AND MUST ALLOW FOR DEFLECTION THEREOF.
- PLACE IN-PLANE SEISMIC CONNECTION NEAR THE PANEL'S C.G. IF POSSIBLE. A MIDSPAN CONNECTION USED FOR OUT-OF-PLANE LOADS WILL TYPICALLY SERVE AS AN IN-PLANE SEISMIC CONNECTION ALSO. CONSIDER VOLUME CHANGE RESTRAINT IN PLANE OF PANEL IF MORE THAN (1) IN-PLANE SEISMIC CONNECTION EXISTS IN A GIVEN PANEL.
- ALLOW FOR FIELD ADJUSTMENT IN (3) DIRECTIONS. SLOTTED INSERTS ARE TYPICALLY ORIENTED PERPENDICULAR TO THE SPAN OF THE FRAMING MEMBER; SLOT IN LOOSE HARDWARE PARALLEL TO THE SPAN OF THE FRAMING MEMBER.

ALL CONNECTIONS:

- DESIGN FOR "WORST CASE" LOADS.
- MINIMIZE THE NUMBER OF DIFFERENT CONNECTION DETAILS AND HARDWARE ITEMS ON A GIVEN PROJECT.
- USE STANDARD HARDWARE AS MUCH AS POSSIBLE.
- MAKE CONNECTIONS PRODUCTION AND ERECTION "FRIENDLY." IN OTHER WORDS, "KEEP IT SIMPLE."
- ALLOW FOR CONSTRUCTION TOLERANCES.
- PROVIDE SPACE FOR CONNECTION HARDWARE.
- CHECK FOR: 1) INTERFERENCE WITH OTHER CONNECTIONS, 2) FIT IN PANEL, 3) PANEL TO PANEL ACCURACY, AND 4) PROPER FINISHES.
- DESIGN FOR MOST ECONOMICAL SOLUTION.
- AS ALWAYS, ACCEPTABLE ENGINEERING JUDGEMENT SHOULD BE USED.

CONNECTION TYPES, PUPOSES, GUIDELINES

ARCHITECTURAL

COMMON THINGS TO CONSIDER

10-25-05

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