

SHIPPING NOTIFICATION:

1. PLACE ORDER BY MARK NUMBER AND REQUIRED SEQUENCE OF INSTALLATION. REFER TO TRANSPORTATION SECTION FOR ADDITIONAL INFORMATION.
2. MARK NUMBER LABEL: JOB #, MARK #, CAST DATE, HCP, CPCI, MADE IN CANADA, WEIGHT, BED ID AND LOCATION
3. CONTACT THE PROJECT MANAGER TO CONFIRM THAT THE DRAWING SET IS CURRENT PRIOR TO PLACING YOUR ORDER. IF DRAWING PACKAGE IS NOT SEALED AND NOT ISSUED FOR CONSTRUCTION PLEASE CONTACT HAYWOOD CONCRETE PRODUCTS LTD.
4. DELIVERY OF PRODUCT TO SITE WILL REQUIRE A MINIMUM OF 48 HOURS NOTIFICATION.

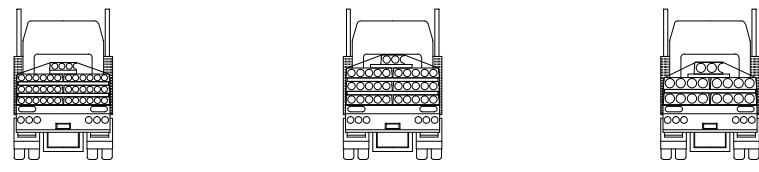
BEFORE ORDERING:

1. INSTALLATION CONTRACTOR TO CONFIRM ALL SITE DIMENSIONS PRIOR TO PLACING ORDER AND NOTIFY HAYWOOD CONCRETE IF ANY DISCREPANCY IN THE MEASUREMENTS HAS BEEN DISCOVERED. PLEASE DISCLOSE AREAS THAT HAVE UNEVEN OR INSUFFICIENT BEARING. STARTING OF WORK IMPLIES THAT CONTRACTOR HAS TAKEN ACCEPTANCE OF CURRENT SITE CONDITIONS. ALL CORRECTION AND FIELD ALTERATIONS ARE TO BE COMPLETED PRIOR TO PLACING ORDER.
2. BEARING REQUIREMENTS AND CONSTRUCTION DETAILS SHALL BE AS PER HAYWOOD CONCRETE SHOP DRAWINGS AND DETAILS.
3. HAYWOOD DRAWINGS ARE TO BE READ IN CONJUNCTION WITH STRUCTURAL AND ARCHITECTURAL DRAWING WITH REGARDS TO CONNECTION DETAILS.
4. IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO VERIFY THAT THE BUILDING STRUCTURE IS STABLE DURING ALL PHASES OF THE CONSTRUCTION.
5. OBTAIN ALL NECESSARY ERECTION MATERIAL REQUIRED FOR THE ERECTION OF THE HOLLOW-CORE SLABS. ENSURE LOOSE ERECTION MATERIAL IS DELIVERED TO SITE WITH FIRST LOAD BY HCP AND IS PROPERLY LOCATED AS PER DRAWINGS AND DETAILS.

TRANSPORTATION:

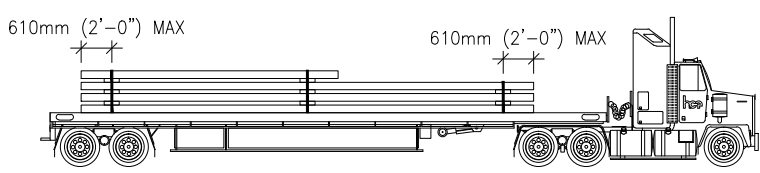
1. THE FIGURE BELOW SHOWS THE MAXIMUM LOADING PATTERNS ON HIGH-BED TRAILERS. LOADS MAY BE COVERED BY LEGAL TRAILER CAPACITY AND SLAB GEOMETRY. SEQUENCE OF SLAB FOR OFF-LOADING MAY DIFFER SLIGHTLY FROM THAT ORDERED DUE TO SLAB GEOMETRY.

** IRREGULAR SLABS ON TOP**



203mm (8") HOLLOW-CORE 254mm (10") HOLLOW-CORE 305mm (12") HOLLOW-CORE

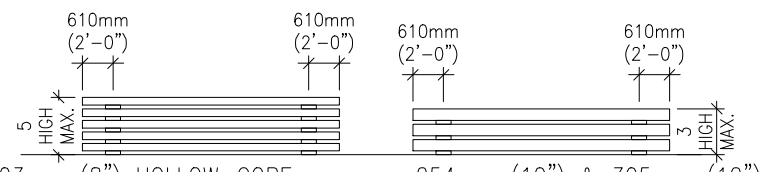
2. TIE DOWNS AND MINIMUM 100mm (4") WIDE DUNNAGE TO BE LOCATED WITHIN 610mm (2'-0") FROM ENDS OF HOLLOW-CORE SLABS; AT SAME LOCATION ABOVE ONE ANOTHER. DUNNAGE TO RUN ACROSS FULL WIDTH OF SLAB TYPICAL.



3. PLACEMENT OF DUNNAGE AND TIE-DOWNS ON IRREGULAR SLABS WILL BE SHOWN ON HAYWOOD LOADING DRAWINGS IF REQUIRED.
4. TRANSPORTING THE LOAD WITHOUT PROPERLY SECURING THE DUNNAGE AND TIE-DOWNS MAY DAMAGE THE HOLLOW-CORE SLABS.
5. INSTALLER TO THOROUGHLY INSPECT HOLLOW-CORE PRIOR TO IT BEING OFF-LOADED FROM TRAILER. IF SLABS ARE DAMAGED CONTACT HAYWOOD CONCRETE PROJECT MANGER IMMEDIATELY. ANY DAMAGED SLABS SHOULD BE RECORDED ON THE BILL OF LADING AND A COPY GIVEN TO THE TRUCK DRIVER.
6. DUNNAGES ARE THE PROPERTY OF HAYWOOD CONCRETE AND MUST BE RETURNED.
7. RIGGING OF SLABS WILL BE DONE BY THE INSTALLER OR THEIR CREW. THE DRIVER IS NOT ALLOWED TO ASSIST THE INSTALLER WITH RIGGING.

SITE STORAGE:

1. THE STORAGE OF HOLLOW CORE MUST CONFORM TO THE FOLLOWING GUIDELINES
 - 1.1. PRODUCT WILL BE STORED ON LEVEL AND FIRM GROUND.
 - 1.2. BOTTOM SLAB WILL REST ON BLOCKS THAT ARE A MINIMUM 100mm (4") ABOVE GRADE. MAXIMUM BLOCKING DISTANCE FROM SLAB ENDS IS 610mm (2'-0").
 - 1.3. NO STACKING OF OTHER ITEMS ON TOP OF THE HOLLOW-CORE IS ALLOWED.
 - 1.4. **WHEN HANDLING THE HOLLOW-CORE IT MUST BE LIFTED IN A FLAT HORIZONTAL POSITION AT ALL TIMES! NEVER TURN SLABS ON EDGE, UPSIDE DOWN, OR ROTATE SLABS ABOUT THEIR ENDS!**



203mm (8") HOLLOW-CORE 254mm (10") & 305mm (12") HOLLOW-CORE

NOTE: DUNNAGE FOR SITE STORAGE TO BE MINIMUM 150mm (6") WIDE AND RUN ACROSS FULL WIDTH OF SLABS TYPICAL.

HOISTING:

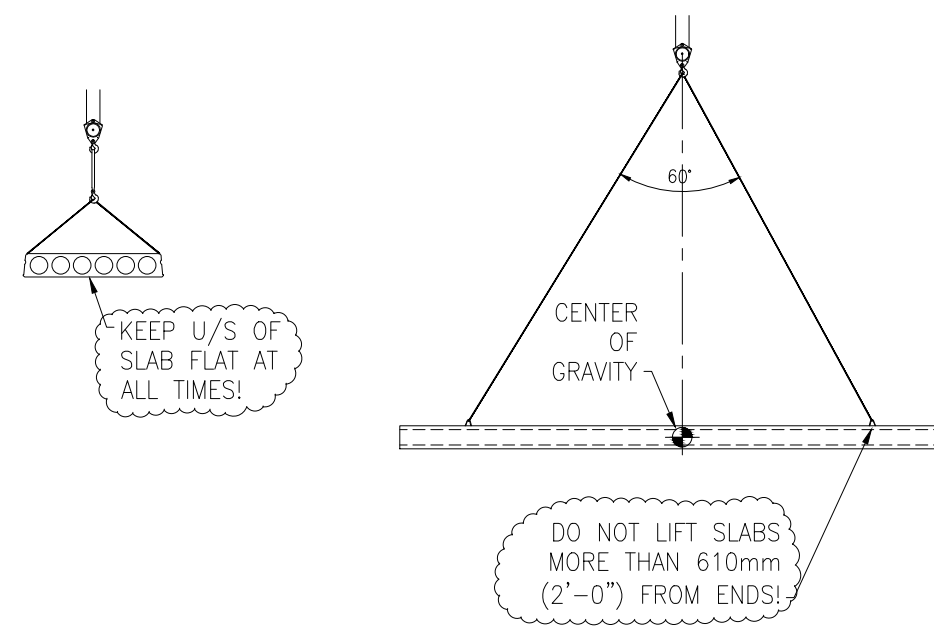
1. INSPECT LIFTING GEAR DAILY FOR SIGNS OF WEAR AND/OR DAMAGE. THE INSTALLER TO VERIFY THAT SAFE WORKING CAPACITIES ARE MET FOR ANY LIFTING GEAR, INCLUDING SLINGS AND SPREADER BARS PRIOR TO USING THEM.
2. THE RIGGING ASSEMBLY SHALL HAVE A SAFETY FACTOR OF 5 TO 1 (MINIMUM).
3. REFER TO SHOP DRAWINGS FOR POSITION RIGGING GEAR FOR HOISTING SLABS.
4. DO NOT LIFT MORE THAN ONE SLAB AT A TIME.
5. TO AVOID SLIPPING AND TWISTING ON LIFTING GEAR ENSURE LOAD IS BALANCED.
6. USAGE OF THE SLABS AS A LIFT PLATFORM FOR OTHER BUILDING MATERIALS IS FORBIDDEN UNLESS WRITTEN APPROVAL IS OBTAIN FROM HAYWOOD CONCRETE.
7. **THE END VOIDS ARE NOT TO BE USED FOR HOISTING SLABS!**
8. **ALWAYS HANDLE SLABS WITH LIFTING GEAR. NEVER PLACE HANDS ON SIDES OF HOLLOW-CORE, OR INSIDE VOIDS, AS THIS COULD RESULT IN PINNING HANDS. KEEP HANDS ON TOP OF SLAB AT ALL TIMES!**
9. SIDE CLAMPS ARE NOT RECOMMENDED FOR THE ERECTION OF THE HOLLOW-CORE SLABS.
10. **WEIGHT CALCULATIONS:**

- 10.1. 203mm (8") HOLLOW-CORE WEIGHT ESTIMATE:
METRIC - WEIGHT (kg) = 269kg/m² x SLAB WIDTH(m) x SLAB LENGTH(m)
IMPERIAL - WEIGHT (lbs) = 55psf x SLAB WIDTH(ft) x SLAB LENGTH(ft)
- 10.2. 254mm (10") HOLLOW-CORE WEIGHT ESTIMATE:
METRIC - WEIGHT (kg) = 317kg/m² x SLAB WIDTH(m) x SLAB LENGTH(m)
IMPERIAL - WEIGHT (lbs) = 65psf x SLAB WIDTH(ft) x SLAB LENGTH(ft)
- 10.3. 305mm (12") HOLLOW-CORE WEIGHT ESTIMATE:
METRIC - WEIGHT (kg) = 376kg/m² x SLAB WIDTH(m) x SLAB LENGTH(m)
IMPERIAL - WEIGHT (lbs) = 77psf x SLAB WIDTH(ft) x SLAB LENGTH(ft)

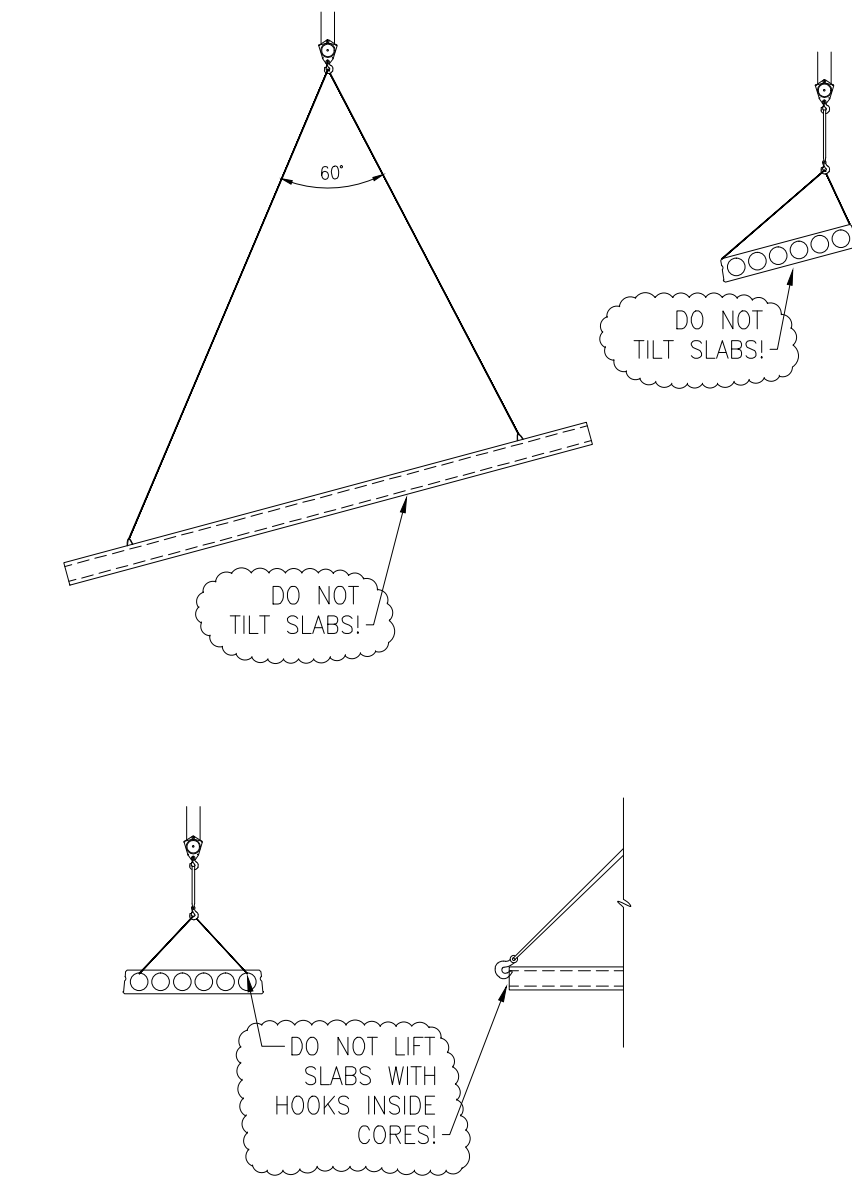
NOTE: THE ABOVE WEIGHTS ARE ESTIMATED ONLY AND DO NOT INCLUDE THE WEIGHT OF ANY COREFILL OR EMBEDMENT PLATES, ETC. FOR SPECIFIC PIECE

WEIGHTS, REFER TO SLAB TICKETS FOR ACTUAL WEIGHTS OF EACH SLAB.

CORRECT



INCORRECT



GROUTING (CONTINUED)

3. THE HOLLOW-CORE INSTALLATION CONTRACTOR IS REQUIRED TO REDUCE DIFFERENTIAL CAMBER BETWEEN ADJACENT SLABS TO NO LARGER THAN PER PCI MNL-135 TOLERANCE MANUAL, OR AS SPECIFIED IN THE PROJECT DOCUMENTS. PROCEDURES FOR REDUCING DIFFERENTIAL CAMBER SHALL BE SUBMITTED TO HAYWOOD CONCRETE FOR REVIEW. INSTALLATION CONTRACTOR SHALL ENSURE ALL REINFORCING BARS, SIDE TIE POCKET, CONNECTIONS AND OTHER MISCELLANEOUS HARDWARE PLACED AS PER THE HAYWOOD CONCRETE CONSTRUCTION DRAWINGS.
4. FOR SLABS WITH BONDED TOPPING THE SPECIFIED BONDED CONCRETE TOPPING THICKNESS SHALL BE MEASURED AT THE MID-SPAN OF THE SLAB, WITH ADDITIONAL TOPPING AT SLAB ENDS (DUE TO CAMBER). PREPARE THE SURFACE OF THE SLAB IN ACCORDANCE WITH CAN/CSA-A23.3 (ACI 318) LATEST ADOPTED EDITION PRIOR TO PLACING TOPPING.
5. ADDITIONAL HEATING IS REQUIRED WHEN AIR, AND SLAB TEMPERATURES FALL BELOW 5°C (41°F).
6. HEAT AND HOARD AS REQUIRED TO MAINTAIN A MINIMUM 10°C (50°F) TEMPERATURE OF AIR, SLABS AND GROUT.
7. THE BOTTOM LAYER OF GROUT SHALL BE PLACED PRIOR TO SETTING THE REBAR IN PLACE. APPLY A SECOND LAYER OF GROUT ONCE REBAR IS IN PLACE AND ENSURE PROPER GROUT COVERAGE OF BAR OCCURS.
8. ALL GROUT KEYS ARE TO BE FILLED TO THEIR FULL DEPTH, ALL GROUT KEY BARS ARE TO BE CENTERED IN THE ROUND PORTION OF THE GROUT KEY TYPICAL.
9. 15MPa (2,200 psi) SHALL BE ACHIEVED PRIOR TO REMOVAL OF SUPPLEMENTARY HEATING, HOARDING, AND SHORING. DO NOT USE CHLORIDES UNDER ANY CIRCUMSTANCES!
10. THE FLOOR SYSTEM SHALL NOT BE ASSUMED TO HAVE FULL LOAD CARRYING CAPACITY UNTIL THE GROUT HAS REACHED ITS DESIGN STRENGTH. REFER TO CONSTRUCTION LOADS SECTION FOR ADDITIONAL INFORMATION.
11. GROUTING CAN COMMENCE ONCE ALL REQUIRED VOID PLUGS ARE PROPERLY INSTALLED IN SLAB ENDS.
12. ALL GROUT SHALL BE WELL CONSOLIDATED IN THE KEYWAYS BY ADEQUATE VIBRATION DURING THE PLACEMENT PROCESS.
13. THE GROUTING OF JOINTS IS TO BE COMPLETED BEFORE HOLLOW-CORE TOPPING IS APPLIED. DO NOT GROUT HOLLOW-CORE JOINTS AS PART OF THE TOPPING OR CAST-IN-PLACE POUR!
14. DESIGN OF CAST-IN-PLACE POUR STRIPS IS BY OTHERS.

SAFETY:

1. IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO PROVIDE ALL OPENING COVERS, BARRICADES AND TIE-OFFS AS REQUIRED BY LOCAL CODES AND REGULATIONS.

FIELD CUT OPENINGS:

1. SUB-TRADES MAY DIAMOND DRILL OPENINGS TO A MAXIMUM DIAMETER OF 125mm (5"), LOCATED AT THE CENTER OF A VOID IN A 203mm (8") HOLLOW-CORE SLAB.
2. SUB-TRADES MAY DIAMOND DRILL OPENINGS TO A MAXIMUM DIAMETER OF 125mm (5"), LOCATED AT THE CENTER OF A VOID IN A 254mm (10") HOLLOW-CORE SLAB.
3. SUB-TRADES MAY DIAMOND DRILL OPENINGS TO A MAXIMUM DIAMETER OF 150mm (6"), LOCATED AT THE CENTER OF A VOID IN A 305mm (12") HOLLOW-CORE SLAB.
4. WRITTEN APPROVAL FROM HAYWOOD CONCRETE IS REQUIRED IF HOLES ARE LARGER THAN NOTED ABOVE, THERE IS A CONCENTRATION OF OPENINGS, OR IF WEBS MUST BE CUT TO ACCOMMODATE REQUIRED OPENING SIZE.
5. ANY LARGE FIELD-CUT OPENINGS SHALL BE CUT AS PER HAYWOOD CONCRETE INSTRUCTIONS AFTER THE GROUTING OPERATION IS COMPLETE. THE MINIMUM COMPRESSIVE STRENGTH OF THE GROUT SHALL BE GREATER THAN 15MPa (2,200 psi).

FIELD MODIFICATION / REPAIR OF HOLLOW-CORE:

1. IF ANY SLABS ARE CRACKED, DAMAGED, OR REQUIRE MODIFICATION TO SUIT SITE CONDITIONS, PLEASE CONTACT HAYWOOD PROJECT MANAGER.
2. REPAIR OR RE-WORK PROCEDURE TO BE REVIEWED BY HAYWOOD CONCRETE PRIOR TO IMPLEMENTATION.

PLACEMENT OF HOLLOW-CORE SLABS:

1. PLACE HOLLOW-CORE SLABS AS PER HAYWOOD CONCRETE 'ISSUED FOR CONSTRUCTION' DRAWINGS. ANY DEVIATIONS FROM HAYWOOD CONCRETE DRAWINGS ARE TO BE REPORTED TO THE HAYWOOD CONCRETE PROJECT MANAGER FOR REVIEW IMMEDIATELY. DRAWINGS SHALL BEAR THE SEAL OF HAYWOOD CONCRETE'S DESIGN ENGINEER.
2. MINIMUM BEARING IS 75mm (3") ON CONCRETE OR CMU AND 50mm (2") ON STRUCTURAL STEEL UNLESS NOTED OTHERWISE, WHERE BEARING IS LESS THEN THE ALLOWABLE BEARING INSTALLER TO NOTIFY HAYWOOD'S PROJECT MANAGER.
3. SURFACE WHERE HOLLOW-CORE IS TO REST TO BE SMOOTH, LEVEL AND FREE OF DEBRIS. SWEEP AREA CLEAR PRIOR TO THE INSTALLATION OF HOLLOW-CORE. TOLERANCE ALONG BEARING LENGTH TO BE ± 3mm (1/8") TYPICAL.
4. ALL CONNECTION DEVICES SHALL BE INSTALLED AND LOCATED AS PER HAYWOOD CONCRETE DRAWINGS. (i.e. CLIP ANGLES, SIDE-TIE POCKETS, HANGERS, ETC.)
5. IF SHORING OF SLABS IS REQUIRED (AS INDICATED ON HAYWOOD CONCRETE DRAWINGS) DO NOT REMOVE SHORING UNTIL GROUTING MEETS THE REQUIRED STRENGTH LEVELS. IT IS THE RESPONSIBILITY OF THE INSTALLER AND GENERAL CONTRACTOR TO ENSURE THAT TEMPORARY SHORING MEETS WITH GUIDELINES AND REGULATIONS OF THE WORKPLACE HEALTH & SAFETY. DESIGN, INSTALLATION AND INSPECTION OF SHORING IS NOT THE RESPONSIBILITY OF HAYWOOD CONCRETE.
7. WHERE DIFFERENTIAL CAMBERS BETWEEN SLABS OCCUR, IT IS THE RESPONSIBILITY OF THE INSTALLATION CONTRACTOR TO ADJUST AND LEVEL SLABS TO MEET ACCEPTABLE TOLERANCES PRIOR TO GROUTING THE KEYWAYS.
8. WITH RESPECT TO UNBALANCED LOAD OVER STRUCTURAL STEEL, PROVIDE ADEQUATE BRACING (BY OTHERS) OR ERECT THE HOLLOW-CORE SLABS IN AN ALTERNATING SEQUENCE TO PREVENT TWISTING OF THE BEAMS.
9. IF THERE IS A POSSIBILITY OF WATER BEING TRAPPED WITHIN THE VOIDS AFTER SLAB INSTALLATION, EACH VOID SHOULD BE DRILLED AT EACH END OF THE SLAB TO ALLOW THE WATER TO DRAIN (BY OTHERS).

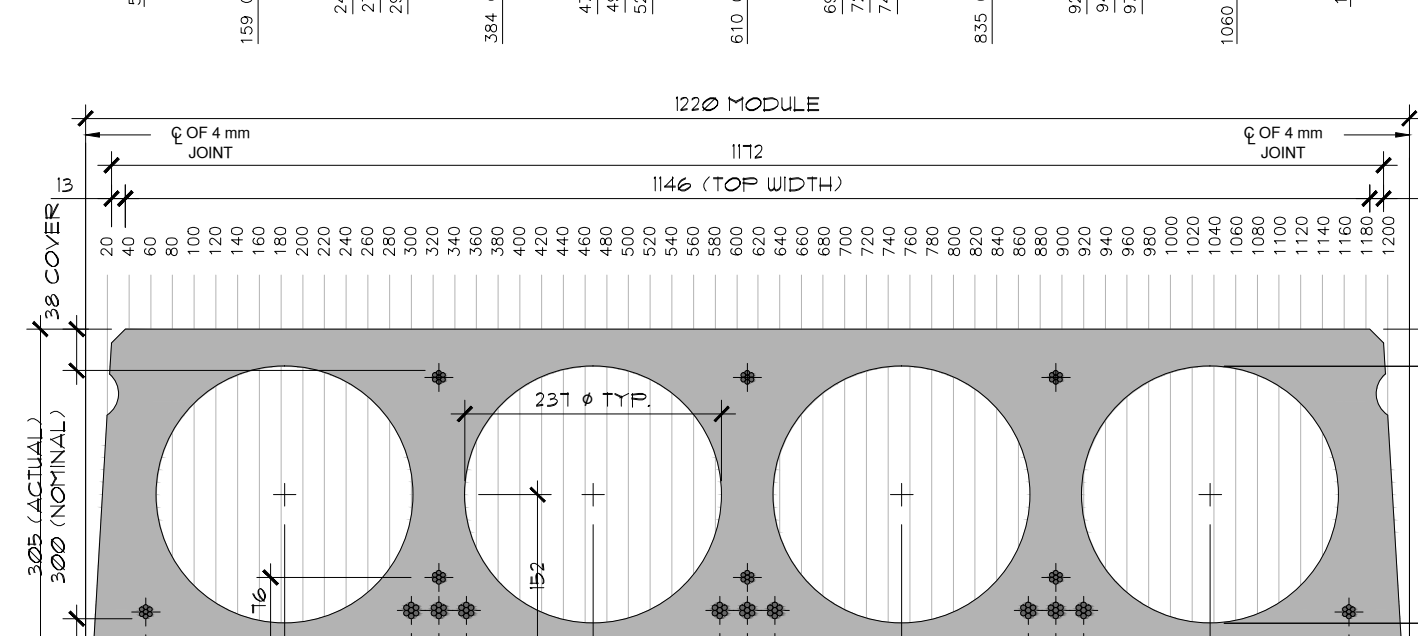
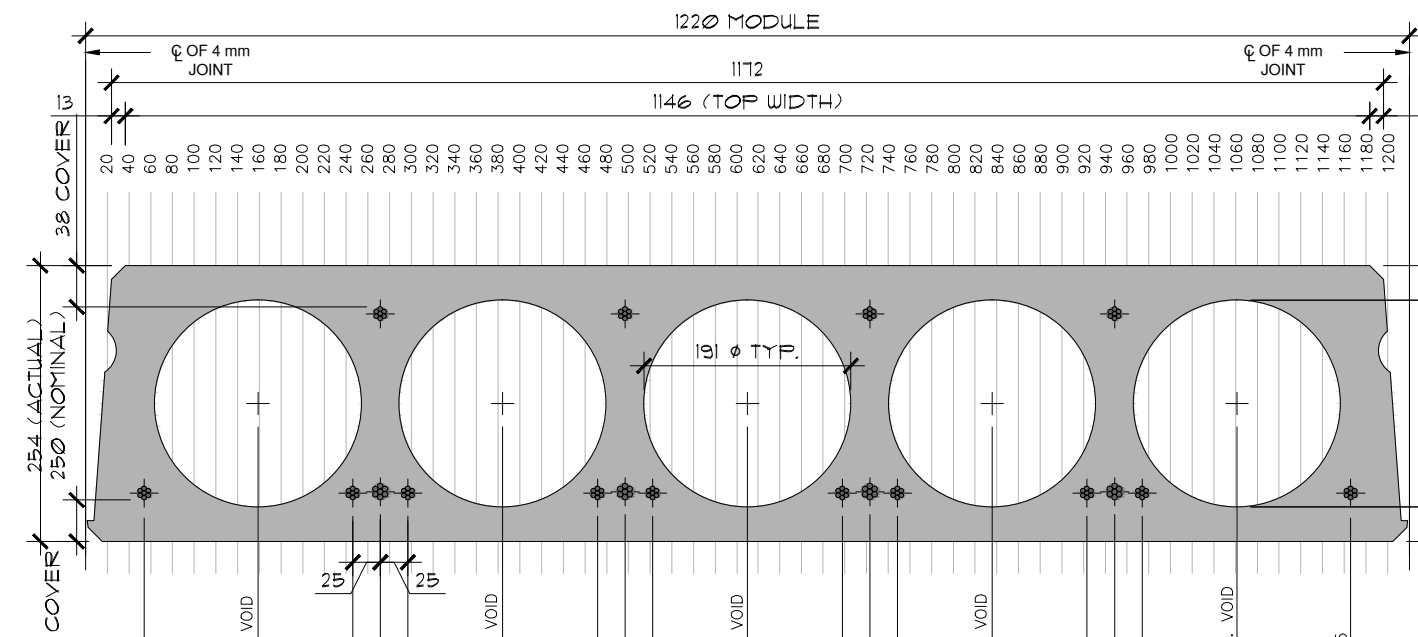
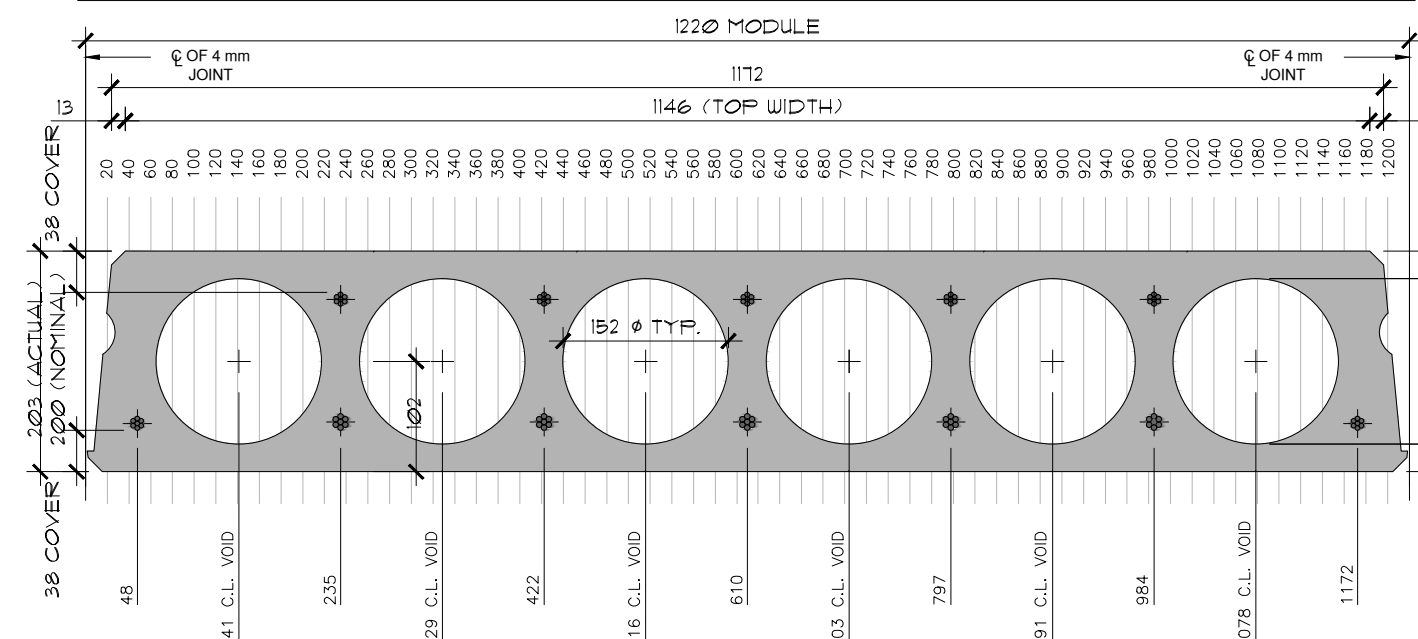
CONSTRUCTION LOADS:

1. UNTIL THE FLOOR SYSTEM IS INSTALLED AND THE GROUT HAS ACHIEVED IT'S FULL DESIGN STRENGTH, THE CONSTRUCTION LIVE LOAD OF THE HOLLOW-CORE SHALL BE LIMITED TO 0.5 kPa (10psf).
2. ANY CONSTRUCTION LOADS LARGER THAN LISTED ABOVE TO BE SUBMITTED TO HAYWOOD CONCRETE FOR REVIEW.
3. WHILE FLOOR SYSTEM IS UN-GROUTED ENSURE THAT CONSTRUCTION LOADS ARE NOT LOCATED ADJACENT TO OPENINGS.
4. REVIEW OF CONSTRUCTION LOADS ON THE STRUCTURE IS BY OTHERS.

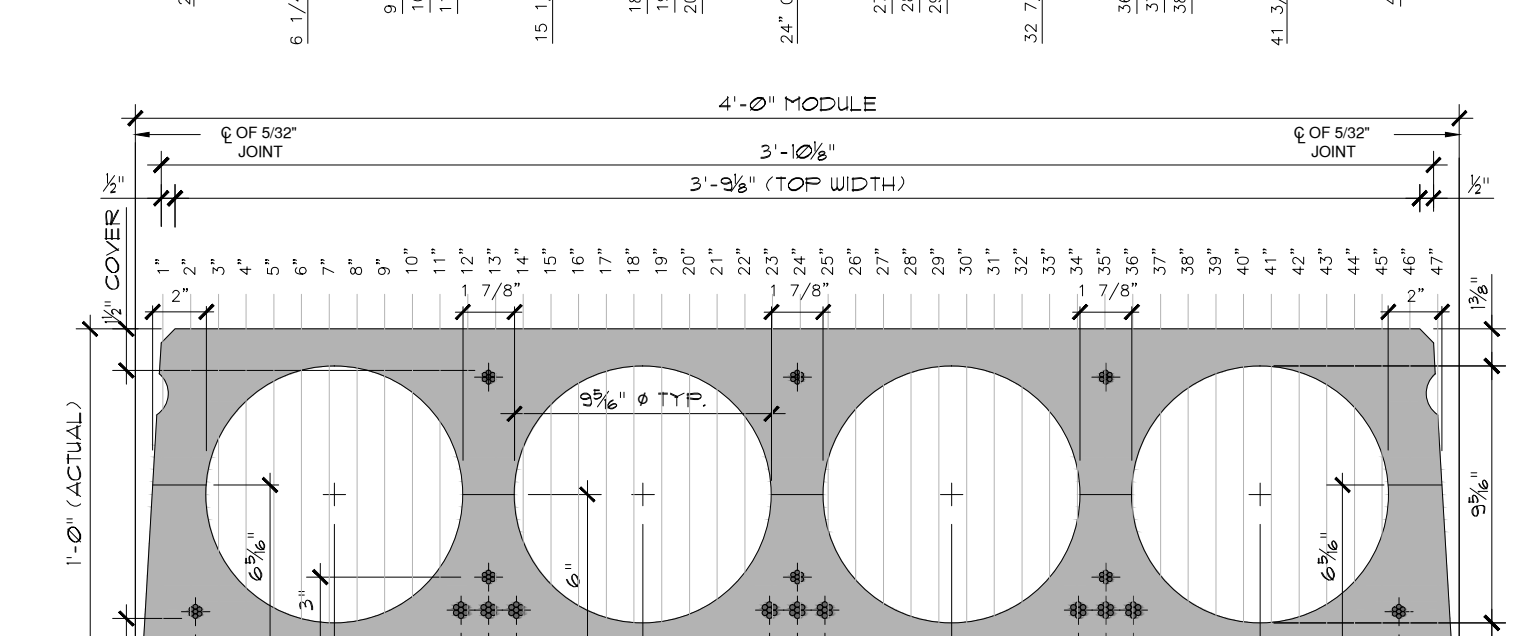
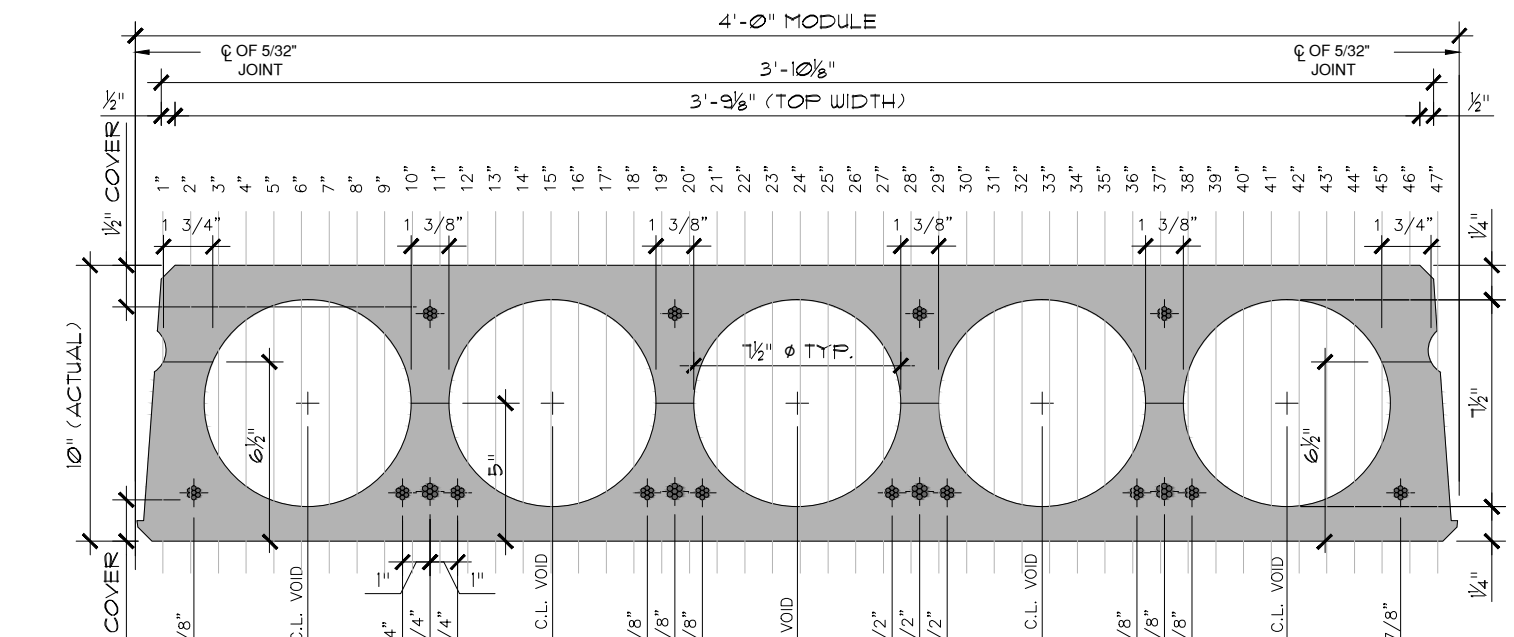
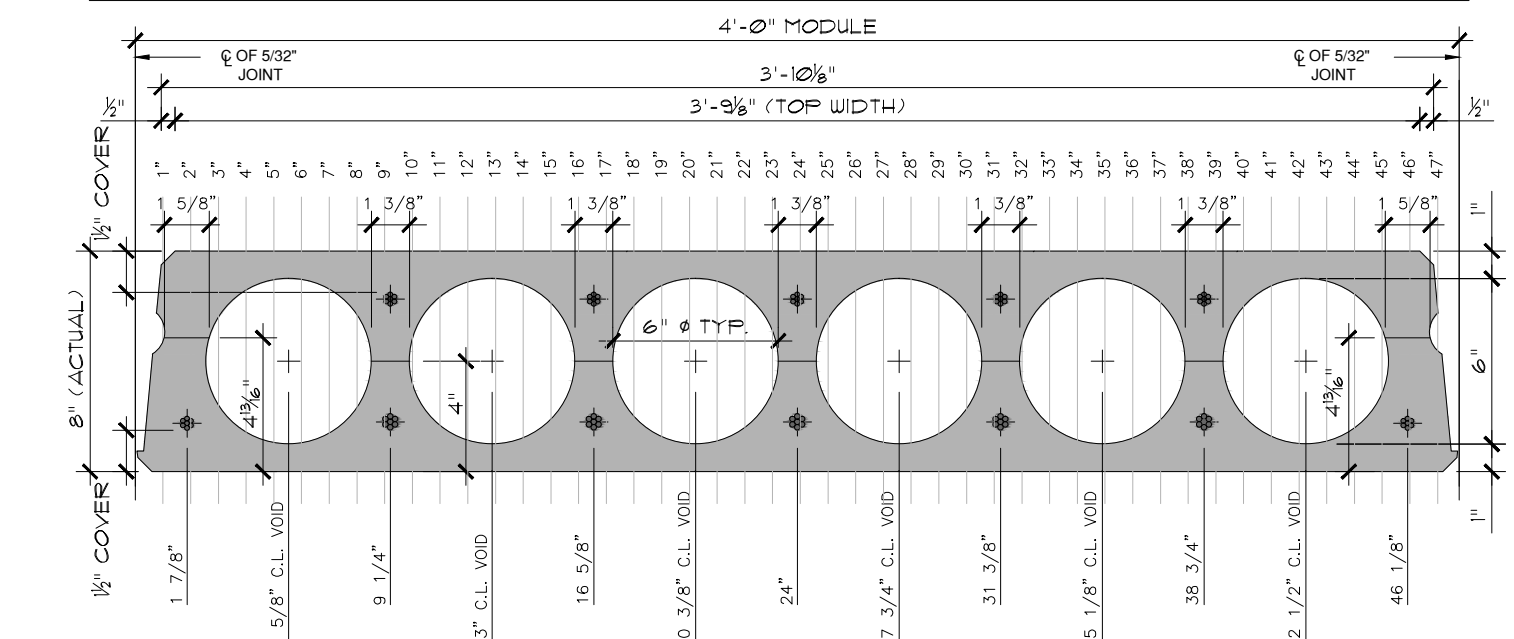
GROUTING:

1. ENSURE THAT JOINTS ARE FREE OF DEBRIS PRIOR TO GROUTING.
2. GROUTING MATERIAL SHALL HAVE A MINIMUM 28 DAY STRENGTH OF 21MPa (3,000 psi). AIR CONTENT 3% TO 6% AND CONSIST OF A MIXTURE OF 3:1 SAND AND CEMENT UNLESS SPECIFIED OTHERWISE BY ENGINEER OF RECORD.

STANDARD METRIC HOLLOW-CORE CROSS SECTIONS



STANDARD IMPERIAL HOLLOW-CORE CROSS SECTIONS



A	XX/XX/XX	XX	FOR APPROVAL
REV #	DATE	BY	DESCRIPTION

REVISIONS

hcp HAYWOOD CONCRETE hcp
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TITLE: Hollow-core Guidelines			
DRAWN BY: X.X.HGS	DATE: XX/XX/XX	PROJECT: XXXX	
CHECKED: K.K.HGS	PROJECT NO: XXXX-XXX	XXXX, XX	
APPROVED: K.K.HGS	DATE: XX/XX/XX	L-1.0	
SCALE: -	REVISION: A		