GENERAL NOTES FOR POST-INSTALLED ANCHORS (HILTI)

- EXCEPT WHERE INDICATED ON THE DRAWINGS, POST-INSTALLED ANCHORS SHALL CONSIST OF THE FOLLOWING ANCHOR TYPES AS PROVIDED BY HILTI, INC. CONTACT HILTI AT (800) 879-8000 FOR PRODUCT RELATED QUESTIONS.

ANCHORAGE TO CONCRETE

ADHESIVE ANCHORS FOR CRACKED AND UNCRACKED CONCRETE USE:

- **HILTI HIT-HY 200 SAFE SET SYSTEM WITH THE HILTI HIT-Z ROD** PER ICC ESR-3187
- **HILTI HIT-HY 200 SAFE SET SYSTEM WITH HILTI HOLLOW DRILL BIT AND VACUUM SYSTEM** WITH **HAS-E-55** THREADED ROD PER ICC ESR-3187
- **HILTI HIT-RE 500v3 SAFE SET SYSTEM WITH HILTI HOLLOW DRILL BIT AND VACUUM** WITH **HAS-E-55** THREADED ROD PER ICC ESR-3814
- **HILTI HIT-RE 500v3 SAFE SET SYSTEM WITH HILTI ROUGHENING TOOL** (HIT RT) WITH **HAS-E-55** THREADED ROD PER ICC ESR-3814 FOR DIAMOND CORED HOLES
-

GENERAL NOTES FOR POST-INSTALLED ANCHORS (HILTI)

MEDIUM DUTY MECHANICAL ANCHORS FOR CRACKED AND UNCRACKED CONCRETE USE:

- **HILTI KWIK HUS EZ AND KWIK HUS EZ-I SCREW ANCHORS SAFE SET SYSTEM WITH HOLLOW DRILL BIT AND VACUUM SYSTEM** PER ICC ESR-3027
- **HILTI KWIK BOLT-TZ EXPANSION ANCHORS SAFE SET SYSTEM WITH HOLLOW DRILL BIT AND VACUUM SYSTEM AND SI-AT-A22 TOOL WITH ADAPTIVE TORQUE** PER ICC ESR-1917
- **HILTI KWIK BOLT 3 EXPANSION ANCHOR SAFE SET SYSTEM WITH HOLLOW DRILL BIT AND VACUUM SYSTEM AND SI-AT-A22 TOOL WITH ADAPTIVE TORQUE** (UNCRACKED CONCRETE ONLY) PER ICC ESR-2302

HEAVY DUTY MECHANICAL ANCHORS FOR CRACKED AND UNCRACKED CONCRETE USE:

- **HILTI HDA UNDERCUT ANCHORS** PER ICC ESR 1546
- **HILTI HSL-3 EXPANSION ANCHORS** PER ICC ESR 1545

REBAR DOWELING INTO CONCRETE

ADHESIVE ANCHORS FOR CRACKED AND UNCRACKED CONCRETE USE:

- **HILTI HIT-HY 200 SAFE SET SYSTEM WITH HILTI HOLLOW DRILL BIT AND VACUUM SYSTEM** WITH CONTINUOUSLY DEFORMED REBAR PER ICC ESR-3187
- **HILTI HIT-HY 500v3 SAFE SET SYSTEM WITH HILTI HOLLOW DRILL BIT AND VACUUM SYSTEM** WITH CONTINUOUSLY DEFORMED REBAR PER ICC ESR-3814
- **HILTI HIT-RE 500v3 SAFE SET SYSTEM WITH HILTI ROUGHENING TOOL** (HIT RT) WITH CONTINUOUSLY DEFORMED REBAR PER ICC ESR-3814 IN DIAMOND CORED HOLES

ANCHORAGE TO SOLID GROUTED MASONRY

ADHESIVE ANCHORS USE:

- HILTI HIT-HY 270 SAFE SET SYSTEM WITH HILTI HOLLOW DRILL BIT AND VACUUM SYSTEM PER ICC ESR-4143
- STEEL ANCHOR ELEMENT SHALL BE HILTI **HAS-E-55** CONTINUOUSLY THREADED ROD **THAT MEETS F1554 COMPLIANCE** OR CONTINUOUSLY DEFORMED STEEL REBAR

MECHANICAL ANCHORS USE:

- **HILTI KWIK BOLT-3 EXPANSION ANCHORS WITH SI-AT-A22 WITH ADAPTIVE TORQUE** PER ICC ESR 1385

ANCHORAGE TO HOLLOW / MULTI-WYTHE MASONRY

ADHESIVE ANCHORS USE:

- HILTI HIT-HY 270 SAFE SET SYSTEM WITH HILTI HOLLOW DRILL BIT AND VACUUM SYSTEM PER ICC ESR-4143.
- STEEL ANCHOR ELEMENT SHALL BE HILTI **HAS-E-55** CONTINUOUSLY THREADED ROD **THAT MEETS F1554 COMPLIANCE** OR CONTINUOUSLY DEFORMED STEEL REBAR
- THE APPROPRIATE SIZE SCREEN TUBE SHALL BE USED PER ADHESIVE MANUFACTURER'S RECOMMENDATION
- ANCHOR CAPACITY USED IN DESIGN SHALL BE BASED ON THE TECHNICAL DATA PUBLISHED BY HILTI OR SUCH OTHER METHOD AS APPROVED BY THE STRUCTURAL ENGINEER OF RECORD. SUBSTITUTION REQUESTS FOR ALTERNATE PRODUCTS MUST BE APPROVED IN WRITING BY THE STRUCTURAL ENGINEER OF RECORD PRIOR TO USE. CONTRACTOR SHALL PROVIDE CALCULATIONS DEMONSTRATING THAT THE SUBSTITUTED PRODUCT IS CAPABLE OF ACHIEVING THE PERFORMANCE VALUES OF THE SPECIFIED PRODUCT. SUBSTITUTIONS WILL BE EVALUATED BY THEIR HAVING AN ICC ESR SHOWING COMPLIANCE WITH THE RELEVANT BUILDING CODE FOR SEISMIC USES, LOAD RESISTANCE, INSTALLATION CATEGORY, AND AVAILABILITY OF COMPREHENSIVE INSTALLATION INSTRUCTIONS. ADHESIVE ANCHOR EVALUATION WILL ALSO CONSIDER CREEP, IN-SERVICE TEMPERATURE AND INSTALLATION TEMPERATURE.

- **STEEL ANCHOR ELEMENTS SHALL MEET F1554 COMPLIANCE.**

- INSTALL ANCHORS PER THE MANUFACTURER INSTRUCTIONS, AS INCLUDED IN THE ANCHOR PACKAGING.

- OVERHEAD ADHESIVE ANCHORS MUST BE INSTALLED USING THE HILTI PROFI SYSTEM.

- THE CONTRACTOR SHALL ARRANGE AN ANCHOR MANUFACTURER'S REPRESENTATIVE TO PROVIDE ONSITE INSTALLATION TRAINING FOR ALL OF THEIR ANCHORING PRODUCTS SPECIFIED. THE STRUCTURAL ENGINEER OF RECORD MUST RECEIVE DOCUMENTED CONFIRMATION THAT ALL OF THE CONTRACTOR'S PERSONNEL WHO INSTALL ANCHORS ARE TRAINED PRIOR TO THE COMMENCEMENT OF INSTALLING ANCHORS.

- ANCHOR CAPACITY IS DEPENDENT UPON SPACING BETWEEN ADJACENT ANCHORS AND PROXIMITY OF ANCHORS TO EDGE OF CONCRETE. INSTALL ANCHORS IN ACCORDANCE WITH SPACING AND EDGE CLEARANCES INDICATED ON THE DRAWINGS.

- EXISTING REINFORCING BARS IN THE CONCRETE STRUCTURE MAY CONFLICT WITH SPECIFIC ANCHOR LOCATIONS. UNLESS NOTED ON THE DRAWINGS THAT THE BARS CAN BE CUT, THE CONTRACTOR SHALL REVIEW THE EXISTING STRUCTURAL DRAWINGS AND SHALL UNDERTAKE TO LOCATE THE POSITION OF THE REINFORCING BARS AT THE LOCATIONS OF THE CONCRETE ANCHORS, BY HILTI **PS 1000 OR OTHER** GPR, X-RAY, CHIPPING OR OTHER MEANS.

- POST-INSTALLED REINFORCING BAR CONNECTIONS SHALL BE DESIGNED PER THE ACI 318 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE (ACI 318-11). POST-INSTALLED REINFORCING BAR CONNECTIONS SHALL CONSIST OF THE FOLLOWING EPOXY SYSTEMS AS PROVIDED BY HILTI, INC.
CONTACT HILTI AT (800) 879-8000 FOR PRODUCT RELATED QUESTIONS.

POST-INSTALLED REINFORCING BAR CONNECTIONS IN CONCRETE

- EPOXY SYSTEMS WITH SafeSet™ TECHNOLOGY:
- **HILTI HIT-RE 500 V3 SAFESET SYSTEM WITH HILTI HOLLOW DRILL BIT (TE-CD OR TE-YD), AND HILTI VC 150/300 VACUUM (VC 150 OR VC 300**) POST-INSTALLED STEEL REINFORCING BARS INSTALLED PER ICC ESR-3814
- **HILTI HIT-HY 200 SAFESET SYSTEM WITH HILTI HOLLOW DRILL BIT (TE-CD OR TE-YD), AND HILTI VC 150/300 VACUUM (VC 150 OR VC 300**) WITH POST-INSTALLED STEEL REINFORCING BARS INSTALLED PER ICC ESR-3187

- THE DESIGN OF STRAIGHT POST-INSTALLED REINFORCING BARS SHALL BE PERFORMED PER THE DEVELOPMENT AND SPLICE REQUIREMENTS OF THE ACI 318 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE (ACI 318-11). THE POST-INSTALLED REINFORCING BAR SYSTEM IS AN ALTERNATIVE TO CAST-IN-PLACE REINFORCING BARS GOVERNED BY ACI 318 AND IBC CHAPTER 19.

- THE EPOXY SYSTEM SHALL BE TESTED IN ACCORDANCE WITH THE ICC-ES ACCEPTANCE CRITERIA FOR POST-INSTALLED EPOXY ANCHORS IN CONCRETE ELEMENTS (AC308), TABLE 3.8. TECHNICAL DATA SHALL BE PUBLISHED IN AN ICC-ES EVALUATION SERVICE REPORT SHOWING COMPLIANCE WITH IBC 2012.
- **ICC-ES ESR-3814 FOR HILTI HIT-RE 500 V3** EPOXY ANCHORS AND POST-INSTALLED REINFORCING BAR CONNECTIONS IN CRACKED AND UNCRACKED CONCRETE
- **ICC-ES ESR-3187 FOR HILTI HIT HY-200** EPOXY ANCHORS AND POST-INSTALLED REINFORCING BAR CONNECTIONS IN CRACKED AND UNCRACKED CONCRETE.

GENERAL NOTES FOR POST-INSTALLED ANCHORS (HILTI) CONTINUES:

- POST-INSTALLED REINFORCING BAR INSTALLATION SHALL BE PERFORMED BY PERSONNEL TRAINED TO INSTALL THE SYSTEM PER THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS (MPII), AS INCLUDED IN THE ANCHOR PACKAGING. THE CONCTRACTOR SHALL ARRANGE FOR A MANUFACTURER'S REPRESENTATIVE TO PROVIDE ONSITE INSTALLATION TRAINING FOR POST-INSTALLED REINFORCING BARS. THE STRUCTURAL ENGINEER OF RECORD MUST RECEIVE DOCUMENTED CONFIRMATION PRIOR TO THE COMMENCEMENT OF INSTALLING THE BARS THAT ALL OF THE CONTRACTOR'S PERSONNEL WHO WILL INSTALL POST-INSTALLED REINFORCING BARS HAVE BEEN TRAINED TO INSTALL THE SYSTEM PER THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS (MPII).

THE POSITION OF EXISTING REINFORCING BARS IN THE CONCRETE STRUCTURE SHALL BE LOCATED PRIOR TO POST-INSTALLING BARS. EXISTING BARS SHALL BE LOCATED USING HILTI FERROSCAN, GPR, X-RAY, CHIPPING OR OTHER MEANS.

POST-INSTALLED ANCHORS INTO CONCRETE, MASONRY AND STEEL AND CAST-IN-PLACE ANCHORS INTO CONCRETE: (SIMPSON)

- THE BELOW PRODUCTS ARE THE DESIGN BASIS FOR THIS PROJECT. SUBSTITUTION REQUESTS FOR PRODUCTS OTHER THAN THOSE LISTED BELOW MAY BE SUBMITTED BY THE CONTRACTOR TO THE ENGINEER-OF-RECORD (EOR) FOR REVIEW. SUBSTITUTIONS WILL ONLY BE CONSIDERED FOR PRODUCTS HAVING A CODE REPORT RECOGNIZING THE PRODUCT FOR THE APPROPRIATE APPLICATION AND PROJECT BUILDING CODE. SUBSTITUTION REQUESTS SHALL INCLUDE CALCULATIONS THAT DEMONSTRATE THE SUBSTITUTED PRODUCT IS CAPABLE OF ACHIEVING THE EQUIVALENT PERFORMANCE VALUES OF THE DESIGN BASIS PRODUCT. CONTRACTOR SHALL CONTACT MANUFACTURER'S REPRESENTATIVE FOR PRODUCT INSTALLATION TRAINING AND A LETTER SHALL BE SUBMITTED TO THE EOR INDICATING TRAINING HAS TAKEN PLACE. REFER TO THE BUILDING CODE AND/OR EVALUATION REPORT FOR SPECIAL INSPECTIONS AND PROOF LOAD REQUIREMENTS.

FOR ANCHORING INTO CRACKED AND UNCRACKED CONCRETE:

MECHANICAL ANCHORS SHALL HAVE BEEN TESTED IN ACCORDANCE WITH ACI 355.2 AND/OR ICC-ES AC193 FOR CRACKED CONCRETE AND SEISMIC APPLICATIONS. PRE-APPROVED PRODUCTS INCLUDE:

- SIMPSON STRONG-TIE "STRONG-BOLT 2" (ICC-ES ESR-3037)
- SIMPSON STRONG-TIE "TITEN-HD" (ICC-ES ESR-2713)
- SIMPSON STRONG-TIE "TORQ-CUT" (ICC-ES ESR-2705)
- SIMPSON STRONG-TIE "TITEN-HD ROD HANGER" (ICC-ES ESR-2713)

ADHESIVE ANCHORS SHALL HAVE BEEN TESTED IN ACCORDANCE WITH ACI 355.4 AND/OR ICC-ES AC308 FOR CRACKED CONCRETE AND SEISMIC APPLICATIONS. ADHESIVE ANCHORS SHALL BE INSTALLED BY A CERTIFIED ADHESIVE ANCHOR INSTALLER WHERE DESIGNATED ON THE CONTRACT DOCUMENTS. PRE-APPROVED PRODUCTS INCLUDE:
- SIMPSON STRONG-TIE "AT-XP" (IAPMO-UES ER-263)
- SIMPSON STRONG-TIE "SET-XP" (ICC-ES ESR-2508)

FOR ANCHORING INTO UNCRACKED CONCRETE:

MECHANICAL ANCHORS SHALL HAVE BEEN TESTED IN ACCORDANCE WITH FACTOR MUTUAL AND UNDERWRITERS LABORATORIES STANDARDS AND MEET THE APPROPRIATE FEDERAL SPECIFICATIONS REQUIREMENTS. PRE-APPROVED PRODUCTS INCLUDE:

- SIMPSON STRONG-TIE "SLEEVE-ALL" (FEDERAL SPECIFICATION A-A-1922A)
- SIMPSON STRONG-TIE "DROP-IN" (FEDERAL SPECIFICATION A-A-55614, TYPE 1)

FOR CAST-IN-PLACE INSERTS IN CONCRETE:

CAST-IN-PLACE INSERTS SHALL HAVE BEEN TESTED IN ACCORDANCE WITH FACTOR MUTUAL AND UNDERWRITERS LABORATORIES STANDARDS. PRE-APPROVED PRODUCTS INCLUDE:

- SIMPSON STRONG-TIE "BLUE BANGER HANGER" (UL STANDARD 2043, 2ND EDITION)

FOR ANCHORING INTO GROUT-FILLED CONCRETE MASONRY UNITS:

MECHANICAL ANCHORS SHALL HAVE BEEN TESTED IN ACCORDANCE WITH ICC-ES AC01 OR ICC-ES AC106. PRE-APPROVED PRODUCTS INCLUDE:

- SIMPSON STRONG-TIE "STRONG-BOLT 2" (IAPMO-UES ER-240)
- SIMPSON STRONG-TIE "WEDGE-ALL" (ICC-ES ESR-1396)
- SIMPSON STRONG-TIE "TITEN-HD" (ICC-ES ESR-1056)
- SIMPSON STRONG-TIE "SLEEVE-ALL" (FEDERAL SPECIFICATION A-A-1922A)

ADHESIVE ANCHORS SHALL HAVE BEEN TESTED IN ACCORDANCE WITH ICC-ES AC58. PRE-APPROVED PRODUCTS INCLUDE:

- SIMPSON STRONG-TIE "SET-XP" (IAPMO-UES ER-265)
- SIMPSON STRONG-TIE "AT-XP" (IAPMO-UES ER-281)
- SIMPSON STRONG-TIE "ET-HP" (IAPMO-UES ER-241)

FOR ANCHORING INTO HOLLOW CONCRETE MASONRY UNITS:

MECHANICAL ANCHORS SHALL HAVE BEEN TESTED IN ACCORDANCE WITH ICC-ES AC106 FOR PERFORMANCE IN HOLLOW CONCRETE MASONRY. PRE-APPROVED PRODUCTS INCLUDE:

- SIMPSON STRONG-TIE "TITEN HD"

ADHESIVE ANCHORS SHALL HAVE BEEN TESTED IN ACCORDANCE WITH ICC-ES AC58 FOR PERFORMANCE IN HOLLOW CONCRETE MASONRY USING MANUFACTURER'S RECOMMENDED SCREEN TUBES. PRE-APPROVED PRODUCTS INCLUDE:

- SIMPSON STRONG-TIE "SET"
- SIMPSON STRONG-TIE "AT"
- SIMPSON STRONG-TIE "ET-HP"

FOR ANCHORING INTO UNREINFORCED MASONRY:

ADHESIVE ANCHORS SHALL HAVE BEEN TESTED IN ACCORDANCE WITH ICC-ES AC60 FOR PERFORMANCE IN UNREINFORCED MASONRY USING MANUFACTURER'S RECOMMENDED SCREEN TUBES. PRE-APPROVED PRODUCTS INCLUDE:

- SIMPSON STRONG-TIE "SET" (ICC-ES ESR-1772)
- SIMPSON STRONG-TIE "AT" (ICC-ES ESR-1958)
- SIMPSON STRONG-TIE "ET-HP"(ICC-ES ER-4945)

FOR ANCHORING LOW VELOCITY FASTENERS, THREADED STUDS AND FASTENERS INTO CONCRETE MASONRY AND STEEL:

POWDER-ACTUATED FASTENERS SHALL HAVE BEEN TESTED IN ACCORDANCE WITH ICC-ES AC70. PRE-APPROVED PRODUCTS INCLUDE:

- SIMPSON STRONG-TIE "POWDER ACTUATED PINS" (ICC-ES ESR-2138)

GAS-ACTUATED FASTENERS SHALL HAVE BEEN TESTED IN ACCORDANCE WITH ICC-ES AC70. PRE-APPROVED PRODUCTS INCLUDE:

SIMPSON STRONG-TIE "GAS ACTUATED PINS" (ICC-ES ESR-2811)

ANCHORS IN CONCRETE AND MASONRY: (POWERS)

NOTE: SELECT CODE REFERENCES BASED ON PROJECT/LOCATION REQUIREMENTS FOR IBC & ACI 318

ANCHORS IN CONCRETE AND MASONRY

- POST INSTALLED ANCHORS SHALL BE USED ONLY WHERE SPECIFIED ON STRUCTURAL DRAWINGS

- THE INSTALLATION OF POST INSTALLED ANCHORS FOR MISSING OR MISPLACED CAST IN-PLACE ANCHORS SHALL BE APPROVED BY THE ENGINEER OF RECORD

- EXISTING REINFORCING BARS IN THE CONCRETE STRUCTURE SHALL NOT BE CUT UNLESS APPROVED BY THE STRUCTURAL ENGINEER OF RECORD

- SUBMITTAL OF ALL PROPOSED PRODUCTS, WITH TECHNICAL DATA AND CURRENT ICC-ESR REPORTS IS REQUIRED FOR REVIEW AND APPROVAL BY EOR. ADDITIONAL APPLICATION CALCULATIONS MAY BE REQUIRED BY THE EOR

- ALL ANCHORS SHALL BE INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS (MPII) IN CONJUNCTION WITH EDGE DISTANCE, SPACING AND EMBEDMENT DEPTH AS INDICATED ON THE DRAWINGS

ANCHORS IN CONCRETE AND MASONRY: (POWERS) *CONTINUES:*

- THE CONTRACTOR SHALL ARRANGE FOR A MANUFACTURER'S FIELD REPRESENTATIVE TO PROVIDE INSTALLATION TRAINING FOR ALL PRODUCTS TO BE USED, PRIOR TO COMMENCEMENT OF WORK. ONLY TRAINED INSTALLAERS SHALL PERFORM POST INSTALLED ANCHOR INSTALLATION. A RECORD OF TRAINING SHALL BE KEPT ON SITE AND BE MADE AVAILABLE TO THE EOR/ IOR AS REQUESTED.

- ADHESIVE ANCHORS INSTALLED IN HORIZONTAL TO VERTICALLY OVERHEAD ORIENTATION TO SUPPORT SUSTAINED TENSION LOADS SHALL BE DONE BY A CERTIFIED ADHESIVE ANCHOR INSTALLER (AAI) AS CERTIFIED THROUGH ACI/CRSI (ACI 318-11 D.9.2.2)/ (ACI 318-14 D.9.2.2) PROOF OF CURRENT CERTIFICATION SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO COMMENCEMENT OF INSTALLATION.

- ADHESIVE ANCHORS MUST BE INSTALLED IN CONCRETE AGED A MINIMUM OF 21 DAYS (ACI 318-11 D.2.2)/ (ACI 318-14 17.1.2).

- PROVIDE SPECIAL INSPECTION FOR ALL MECHANICAL AND ADHESIVE ANCHORS PER THE APPLICABLE BUILDING CODE AND PER THE CURRENT ICC-ES REPORT (IBC 2012 TABLE 1705.3 NOTE B).

CONCRETE ANCHORS

- MECHANICAL ANCHORS SHALL HAVE BEEN TESTED AND QUALIFIED FOR USE IN ACCORDANCE WITH ACI 355.2 AND ICC-ES AC193 FOR CRACKED, UNCRACKED AND SEISMIC CONCRETE RECOGNITION.

- ADHESIVE ANCHORS SHALL HAVE BEEN TESTED AND QUALIFIED FOR USE IN ACCORDANCE WITH ACI 355.4 AND ICC-ES AC308 FOR CRACKED, UNCRACKED AND SEISMIC CONCRETE RECOGNITION.

- CAST-IN-PLACE INSERTS SHALL HAVE BEEN TESTED AND QUALIFIED FOR USE IN ACCORDANCE WITH ICC-ES AC446 FOR CRACKED, UNCRACKED AND SEISMIC CONCRETE RECOGNITION.

- ACCEPTABLE PRODUCTS IN NORMAL-WEIGHT AND SAND LIGHT-WEIGHT UNCRACKED AND CRACKED CONCRETE

EXPANSION ANCHORS:

- **DEWALT POWER-STUD+SD2** (ICC-ES-ESR 2502)
- **DEWALT POWER-STUD+SD6**, TYPE 316 STAINLESS STEEL (ICC-ES-ESR 2502)
- **DEWALT POWER-STUD+SD4**, TYPE 304 STAINLESS STEEL (ICC-ES-ESR 2502)
- **DEWALT POWER-STUD+SD1** (ICC-ES-ESR 2818)

HEAVY DUTY EXPANSION ANCHORS:

- **DEWALT POWER-BOLT+**, SLEEVE ANCHOR (ICC-ES-ESR 3260)
- **DEWALT ATOMIC+UNDERCUT ANCHOR**, UNDERCUT ANCHOR (ICC-ES-ESR 3067)

SCREW ANCHORS:

- **DEWALT SCREW BOLT+** (ICC-ES-ESR 3889)
- **DEWALT HANGER-MATE+**, INTERNALLY THREADED COUPLER HEAD (ICC-ES-ESR 3889)
- **DEWALT SNAKE+**, INTERNALLY THREADED (ICC-ES-ESR 2272)
- **DEWALT TAPPER+**LIGHT DUTY (UNCRACKED CONCRETE) (ICC-ES-ESR 3068)

SHALLOW EMBEDMENT INTERNALLY THREADED INSERT (3/4" MAX EMBEDMENT):

- **DEWALT MINI-UNDERCUT+** (ICC-ES-ESR 3912)

CAST-IN-PLACE CONCRETE FORM INTERNALLY THREADED INSERTS:

- **DEWALT WOOD-KNOCKER+ & WOOD-KNOCKER II+** (ICC-ES-ESR 3657)

ADHESIVE ANCHORS:

- PURE EPOXY SYSTEM, STANDARD CURE TIME, FOR CONCRETE TEMPERATURES OF 41˚F TO 110˚F
- **DEWALT PURE 110+**, EPOXY SYSTEM (ICC-ES-ESR 3298)

- ACRYLIC BASED ADHESIVE SYSTEM, FAST CURE TIME, FOR CONCRETE TEMPERATURES OF 23 ˚F TO 104˚F
- **DEWALT AC200+**, ACRYLIC ADHESIVE SYSTEM (ICC-ES-ESR 4027)

ACCEPTABLE PRODUCTS INSTALLED IN NORMAL-WEIGHT CONCRETE AND SAND LIGHT-WEIGHT CONCRETE OVER METAL DECK
(NOTE TO SPECIFIER: PLEASE NOTE THAT THE FOLLOWING PRODUCTS ALL HAVE SOME FORM OF METAL DECK APPLICATION APPROVAL. APPROVALS VARY ACCORDING TO APPLICATION ORIENTATION I.E. TOPSIDE OR UNDERSIDE, DECK PROFILE/FLUTE WIDTH, AND DECK MANUFACTURER. CHECK CURRENT ICC-ESR FOR APPROVALS AND EDIT PRODUCTS ACCORDING TO THE NEEDS OF THE CURRENT PROJECT)

EXPANSION ANCHORS:

- **DEWALT POWER-STUD+ SD1** (ICC-ES ESR 2818)
- **DEWALT POWER-STUD+ SD2** (ICC-ES ESR 2502)
- **DEWALT POWER-STUD+ SD4**, TYPE 304 SS (ICC-ES ESR 2502)
- **DEWALT POWERSTUD+ SD6**, TYPE 316 SS (ICC-ES ESR 2502)

SCREW ANCHORS:

- **DEWALT SCREW-BOLT+** (ICC-ES ESR 3889)
- **DEWALT SNAKE+** INTERNALLY THREADED (ICC-ES ESR 2272)
- **DEWALT HANGER-MATE+** INTERNALLY THREADED COUPLER (ICC-ES ESR 3889)

CAST-IN-PLACE INSERTS:

- **DEWALT "BANG-IT"+** INTERNALLY THREADED (ICC-ES ESR 3657)
- **DEWALT DDI+** HEADED STUD SPECIALTY INSERT (ICC-ES ESR 3958)

POST INSTALLED REBAR
- ADHESIVE PRODCUTS FOR POST INSTALLING REBAR SHALL BE TESTED IN ACCORDANCE WITH ICC-ES ACCEPTANCE CRITERIA FOR POST INSTALLED ANCHORS IN CONCRETE ELEMENTS (AC308), TABLE 3.8. PRODUCT SHALL HAVE A CURRENT ICC-ES REPORT WITH QUALIFICATION FOR CRACKED CONCRETE
- POST INSTALLED REINFORCING BARS SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE CURRENT MANUFACTURER'S PUBLISHED INSTALLATION INSTRUCTIONS.

ADHESIVE ANCHORS, PURE EPOXY SYSTEM:

- **DEWALT PURE 110+**, EPOXY SYSTEM (ICC-ES-ESR 3298)

MASONRY ANCHORS
- MECHANICAL ANCHORS SHALL HAVE BEEN TESTED AND QUALIFIED FOR USE IN ACCORDANCE WITH ICC-ES AC01 OR AC106.

- ADHESIVE ANCHORS SHALL HAVE BEEN TESTED AND QUALIFIED FOR USE IN ACCORDANCE WITH ICC-ES AC58.

- ACCEPTABLE PRODUCTS INSTALLED IN GROUT-FILLED CONCRETE MASONRY
  - EXPANSION ANCHORS
  - **DEWALT POWER-STUD+SD1** (ICC-ES-ESR 2966) SCREW ANCHORS
  - **DEWALT SCREW-BOLT+** (ICC-ES-ESR 4042)
  - **DEWALT TAPPER+ SCREW ANCHORS** (ICC-ES-ESR 3196)

- ACCEPTABLE PRODUCTS INSTALLED IN GROUT-FILLED AND HOLLOW CONCRETE MASONRY
  - ADHESIVE ANCHORS
  - **DEWALT AC100+GOLD** (ICC-ES-ESR 3200)

ANCHORS IN CONCRETE AND MASONRY: (POWERS) (CONTINUES)

POWER ACTUATED FASTENERS

- POWER ACTUATED FASTENERS SHALL HAVE BEEN TESTED AND QUALIFIED FOR USE IN ACCORDANCE WITH ICC-ES AC70

- ACCEPTABLE POWER ACTUATED FASTENERS IN CONCRETE, CONCRETE OVER METAL DECK, STRUCTURAL STEEL, MASONRY
  - **DEWALT POWER DRIVEN FASTENERS**, POWDER ACTUATED (ICC-ES-ESR 2024)
  - **DEWALT TRAK-IT C5**, GAS ACTUATED (ICC-ES-ESR 3275)
  - **DEWALT CCN,** BATTERY ACTUATED (ICC-ES ESR 4076)

SPECIAL INSPECTION
SPECIAL INSPECTION REQUIREMENTS
- PROVIDE SPECIAL INSPECTION FOR ALL MECHANICAL AND ADHESIVE ANCHORS PER THE APPLICABLE BUILDING CODE AND PER THE CURRENT ICC-ES REPORT (IBC 2012 TABLE 1705.3 NOTE B)
- ADHESIVE ANCHORS INSTALLED IN HORIZONTAL OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS SHALL BE CONTINUOUSLY INSPECTED DURING INSTALLATION BY AN INSPECTOR SPECIALLY APPROVED FOR THAT PURPOSE BY THE BUILDING OFFICIAL (ACI 318-11 D.9.2. / (ACI 318-14 17.8)
- TEST METHODS, LOADS PROCEDURE, FREQUENCY, ACCEPTANCE CRITERIA PER 2013 CBC 1913A.7

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07/22/2019

TEXAS REGISTERED ENGINEERING FIRM F-17306

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PROJECT: 002-1029.19.00
DRAWN BY: PM
CHECKED BY: SS
DRAWING SCALE: AS NOTED

REVISION

NO.	DESCRIPTION	DATE

DATE
07.22.2019

ISSUE
PERMIT SET

BUILDING TITLE
GH SCHOOL
4724 N MAIN STREET

SHEET TITLE
CONCRETE - GENERAL STRUCTURAL NOTES

SHEET NO.
S0.21

PLOT DATE: 8/18/2019 8:20:59 PM TEMPLATE VERSION: