

SIMPSON STRONG-TIE® SUGGESTED GENERAL NOTES FOR ANCHOR PRODUCTS

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THIS COMPREHENSIVE NOTE IS PROVIDED TO THE DESIGNER IN ORDER TO SPECIFY THE 'DESIGN BASIS' POST-INSTALLED ANCHOR PRODUCTS TO BE USED ON THE PROJECT. IT IS ENVISIONED THAT AT THE START OF EACH PROJECT THE PROJECT MANAGER WILL SELECT THE POST-INSTALLED ANCHOR PRODUCT(S) THAT ARE MOST APPROPRIATE FOR THE PROJECT (BASED ON ENGINEER PREFERENCE, CONTRACTOR PREFERENCE, BASE MATERIALS ON THE PROJECT, ETC). THIS DOCUMENT IS BEING DISTRIBUTED WITH SOMETIMES MULTIPLE PRODUCTS THAT ARE APPLICABLE FOR A SIMILAR APPLICATION (BASE MATERIAL, ANCHOR TYPE, ETC), THEREFORE, IT IS UP TO THE EOR USING THIS NOTE TO DETERMINE WHETHER THEY PREFER TO KEEP ALL PRODUCTS LISTED BELOW OR NARROW THE PRODUCTS DOWN TO ONE PRODUCT PER APPLICATION. CONTACT SIMPSON STRONG-TIE® (800-999-5099) WITH ANY QUESTIONS CONCERNING THIS DOCUMENT.

POST-INSTALLED ANCHORS INTO CONCRETE AND MASONRY

POST-INSTALLED ANCHORS SHALL ONLY BE USED WHERE SPECIFIED ON THE CONSTRUCTION DOCUMENTS. THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE ENGINEER-OF-RECORD (EOR) PRIOR TO INSTALLING POST-INSTALLED ANCHORS IN PLACE OF MISSING OR MISPLACED CAST-IN-PLACE ANCHORS. CARE SHALL BE TAKEN IN PLACING POST-INSTALLED ANCHORS TO AVOID CONFLICTS WITH EXISTING REBAR. HOLES SHALL BE DRILLED AND CLEANED IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS (MPII). SUBSTITUTION REQUESTS FOR PRODUCTS OTHER THAN THOSE SPECIFIED BELOW SHALL BE SUBMITTED BY THE CONTRACTOR TO THE ENGINEER-OF-RECORD ALONG WITH CALCULATIONS THAT ARE PREPARED & SEALED BY A REGISTERED PROFESSIONAL ENGINEER. THE CALCULATIONS SHALL DEMONSTRATE THAT THE SUBSTITUTED PRODUCT IS CAPABLE OF ACHIEVING EQUIVALENT PERFORMANCE (MINIMUM) VALUES OF THE SPECIFIED PRODUCT USING THE APPROPRIATE DESIGN PROCEDURE AND/OR STANDARD(S). PROVIDE SPECIAL INSPECTIONS AS REQUIRED BY THE ANCHOR'S EVALUATION REPORT (ICC-ES ESR OR IAPMO-UES ER). CONTACT MANUFACTURER'S REPRESENTATIVE FOR THE INITIAL TRAINING AND INSTALLATION OF ANCHORS AND FOR PRODUCT RELATED QUESTIONS AND AVAILABILITY. CALL SIMPSON STRONG-TIE AT (800) 999-5099.

1. FOR ANCHORING INTO CRACKED AND UNCRACKED CONCRETE
 - A. **MECHANICAL ANCHORS** SHALL HAVE BEEN TESTED IN ACCORDANCE WITH ACI 355.2 AND/OR ICC-ES AC193 FOR CRACKED AND UNCRACKED CONCRETE. PRE-APPROVED PRODUCTS INCLUDE:
 - I. **SIMPSON STRONG-TIE "STRONG-BOLT 2" (ICC-ES ESR-3037)**
 - II. **SIMPSON STRONG-TIE "TITEN HD", "TITEN HD-RH" & "TITEN HD-CS" (ICC-ES ESR-2713)**
 - III. **SIMPSON STRONG-TIE "STAINLESS STEEL TITEN HD" (IAPMO-UES ER-493)**
 - IV. **SIMPSON STRONG-TIE "TITEN TURBO" (IAPMO-UES Ek-712) – FOR UNCRACKED CONCRETE ONLY**
 - B. **ADHESIVE ANCHORS** SHALL HAVE BEEN TESTED IN ACCORDANCE WITH ACI 355.4 AND ICC-ES AC308 FOR CRACKED AND UNCRACKED CONCRETE. ADHESIVE ANCHORS SHALL BE INSTALLED IN CONCRETE HAVING A MINIMUM AGE OF 21 DAYS. HOLES SHALL BE DRY AT THE TIME OF INSTALLATION. ACI 355.4 TEMPERATURE CATEGORY 'B' ASSUMED IN DESIGN. PRIOR TO INSTALLATION OF ADHESIVE ANCHORS IN HORIZONTAL OR UPWARDLY INCLINED ORIENTATIONS RESISTING SUSTAINED TENSION LOADS, INSTALLERS ARE REQUIRED TO BE CERTIFIED IN ACCORDANCE WITH THE ACI/CRSI ADHESIVE ANCHOR INSTALLER CERTIFICATION PROGRAM AND MUST BE CONTINUOUSLY INSPECTED. PRE-APPROVED PRODUCTS INCLUDE:
 - I. **THREADED ROD & REBAR AS ANCHOR ELEMENTS - SIMPSON STRONG-TIE "SET-3G" (ICC-ES ESR-4057)**
 - II. **THREADED ROD & REBAR AS ANCHOR ELEMENTS - SIMPSON STRONG-TIE "SET-XP" (ICC-ES ESR-2508)**
 - III. **THREADED ROD & REBAR AS ANCHOR ELEMENTS - SIMPSON STRONG-TIE "AT-XP" (IAPMO-UES ER-263)**
 - IV. **POST-INSTALLED REINFORCING BARS USING THE ACI 318 DEVELOPMENT LENGTH PROVISION - SIMPSON STRONG-TIE "SET-3G" (ICC-ES ESR-4057)**
 - V. **POST-INSTALLED REINFORCING BARS USING THE ACI 318 DEVELOPMENT LENGTH PROVISION - SIMPSON STRONG-TIE "SET-XP" (ICC-ES ESR-2508)**
 - C. **SIMPSON STRONG-TIE SPEED CLEAN DXS DUST EXTRACTION SYSTEM** IS APPROVED FOR USE WITH THE PRODUCTS LISTED ABOVE TO DRILL AND CLEAN HOLES.
2. FOR ANCHORING INTO GROUT-FILLED CONCRETE MASONRY UNITS
 - A. **MECHANICAL ANCHORS** SHALL HAVE BEEN TESTED IN ACCORDANCE WITH ICC-ES AC01 (EXPANSION ANCHORS) OR ICC-ES AC106 (SCREW ANCHORS). PRE-APPROVED PRODUCTS INCLUDE:
 - I. **SIMPSON STRONG-TIE "STRONG-BOLT 2" (IAPMO-UES ER-240)**
 - II. **SIMPSON STRONG-TIE "WEDGE-ALL" (ICC-ES ESR-1396)**
 - III. **SIMPSON STRONG-TIE "TITEN HD" & "STAINLESS STEEL TITEN HD" (ICC-ES ESR-1056)**
 - IV. **SIMPSON STRONG-TIE "TITEN TURBO" (IAPMO-UES ER-716)**
 - B. **ADHESIVE ANCHORS** SHALL HAVE BEEN TESTED IN ACCORDANCE WITH ICC-ES AC58. PRE-APPROVED PRODUCTS INCLUDE:
 - I. **SIMPSON STRONG-TIE "SET-XP" (IAPMO-UES ER-265)**
 - II. **SIMPSON STRONG-TIE "AT-XP" (IAPMO-UES ER-281)**
 - III. **SIMPSON STRONG-TIE "ET-HP" (IAPMO-UES ER-241)**
3. FOR ANCHORING INTO HOLLOW CONCRETE MASONRY UNITS
 - A. **MECHANICAL ANCHORS** SHALL HAVE BEEN TESTED IN ACCORDANCE WITH ICC-ES AC106 FOR PERFORMANCE IN HOLLOW CONCRETE MASONRY. PRE-APPROVED PRODUCTS INCLUDE:
 - I. **SIMPSON STRONG-TIE "STAINLESS STEEL TITEN HD" (ICC-ES ESR-1056)**
 - II. **SIMPSON STRONG-TIE "TITEN TURBO" (IAPMO-UES ER-716)**
 - B. **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:
 - I. **SIMPSON STRONG-TIE "SET-XP" (IAPMO-UES ER-265)**
 - II. **SIMPSON STRONG-TIE "AT-XP" (IAPMO-UES ER-281)**
4. FOR ANCHORING INTO UNREINFORCED MASONRY
 - A. **ADHESIVE ANCHORS** SHALL HAVE BEEN TESTED IN ACCORDANCE WITH ICC-ES AC60 FOR PERFORMANCE IN UNREINFORCED MASONRY CONFIGURATIONS A, B AND C. PRE-APPROVED PRODUCTS INCLUDE:
 - I. **SIMPSON STRONG-TIE "ET-HP" (ICC-ES ER-3638)**

5. FOR ANCHORING LOW VELOCITY FASTENERS AND THREADED STUDS INTO CONCRETE, MASONRY AND STEEL
 - A. **POWDER-ACTUATED FASTENERS** SHALL HAVE BEEN TESTED IN ACCORDANCE WITH ICC-ES AC70. PRE-APPROVED PRODUCTS INCLUDE:
 - I. **SIMPSON STRONG-TIE "POWDER ACTUATED FASTENERS" (ICC-ES ESR-2138)**
 - B. **GAS-ACTUATED FASTENERS** SHALL HAVE BEEN TESTED IN ACCORDANCE WITH ICC-ES AC70. PRE-APPROVED PRODUCTS INCLUDE:
 - I. **SIMPSON STRONG-TIE "GAS ACTUATED FASTENERS" (ICC-ES ESR-2811)**