



CALIFORNIA DEPARTMENT OF TRANSPORTATION

AUTHORIZED MATERIAL LIST FOR CHEMICAL ADHESIVES

Drill and Bond Dowel (Chemical Adhesive), DBCA, intended for structural applications, such as for bonding threaded rods and/or rebar into holes drilled in hardened concrete, must comply with ACI 355.4 and be installed in accordance with ACI 318 design standards. Chemical adhesive specifications are in Sections 41-10 and 51-1 of the 2018 Standard Specifications. Do not use DBCA in overhead applications where the anchor is subjected to sustained tension. Unless otherwise stated, the testing in the table below was evaluated with holes drilled with a hammer drill and carbide bit.

Evaluation Criteria: Authorization Requirements and Acceptance Criteria for Chemical Adhesives

Special Note for Section 51-1 use only: Materials on this list may be used if the project was designed in accordance with AASHTO LRFD Bridge Design Specifications, 8th edition and associated Bridge Design Aid 5-71. Contact the Resident Engineer or Project Designer for guidance.

Manufacturer/ Brand Name	Evaluation Report Number	Authorized Threaded Rod Diameters (inches)	Authorized Reinforcing Bar Sizes (Grade 60)	Minimum concrete temperature at time of installation (°F)	Maximum concrete temperature at time of installation (°F)	Reauthorization Date
ITW Red Head, C6+	ESR-4046	5/8, 3/4, 7/8, 1	#5, #6, #7, #8	50	110	09/2021
ITW Red Head, C6+ (hole drilled with diamond core bit)	ESR-4046	5/8, 3/4, 7/8	#5, #6, #7	50	110	09/2021
Hilti, HIT-RE 500 V3	ESR-3814	5/8, 3/4, 7/8, 1	#5, #6, #7, #8	23	104	01/2023
Adhesives Technology Corp, ULTRABOND HS-1CC	ESR-4094	5/8, 3/4, 7/8, 1	#5, #6, #7, #8	43	110	01/2022

Manufacturer/ Brand Name	Evaluation Report Number	Authorized Threaded Rod Diameters (inches)	Authorized Reinforcing Bar Sizes (Grade 60)	Minimum concrete temperature at time of installation (°F)	Maximum concrete temperature at time of installation (°F)	Reauthorization Date
Adhesives Technology Corp, ULTRABOND HYB-2CC	ESR-4535	5/8, 3/4, 7/8, 1	#5, #6, #7, #8	23	103	03/2022
DEWALT Pure110+	ESR-3298	5/8, 3/4, 7/8, 1	#5, #6, #7, #8	41	110	07/2021
DEWALT AC200+	ESR-4027	5/8, 3/4, 7/8, 1	#5, #6, #7, #8	14	104	01/2022
Hilti HIT-HY 200	ESR-3187	5/8, 3/4, 7/8, 1	#5, #6	14	104	03/2022
Hilti HIT-HY 200 (hole drilled with diamond core bit and roughened with a TE-YRT Roughening tool)	ESR-3187	5/8, 3/4, 7/8, 1	#5, #6	14	104	03/2022
Simpson Strong-Tie SET-3G	ESR-4057	5/8, 3/4	#5, #6, #7, #8	40	100	04/2022
MKT Fastening, LLC. Anchoring GmbH Liquid Roc 200	ESR-4252	5/8, 3/4, 7/8, 1	#5, #6, #7, #8	23	104	06/2021
Dayton Superior Corporation ProAnchor Elite	UES ER - 690	5/8, 1	#5, #6, #7, #8	43	110	01/2021

Products on this Authorized Material List (AML) are products that have been evaluated and found acceptable for use, provided the products are used in accordance with the manufacturer's instructions. Caltrans may perform additional job control testing during construction or installation.

If you have questions about this AML, please contact Joe Harline, Concrete Technology Committee Chair by phone at (530) 682-6224.