



## 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, 8<sup>th</sup> 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	09/20
ITW Red Head, C6+ (hole drilled with diamond core bit)	ESR-4046	5/8, 3/4, 7/8	#5, #6, #7	50	110	09/20
Hilti, HIT-RE 500 V3	ESR-3814	5/8, 3/4, 7/8, 1	#5, #6, #7, #8	23	104	01/21
Adhesives Technology Corp.	ESR-4094	5/8, 3/4, 7/8, 1	#5, #6, #7, #8	43	110	01/21



## CALIFORNIA DEPARTMENT OF TRANSPORTATION

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
ULTRABOND HS-1CC						
Adhesives Technology Corp, ULTRABOND HYB-2CC	ESR-4535	5/8, 3/4, 7/8, 1	#5, #6, #7, #8	23	103	03/21
DEWALT Pure110+	ESR-3298	5/8, 3/4, 7/8, 1	#5, #6, #7, #8	41	110	07/21
DEWALT AC200+	ESR-4027	5/8, 3/4, 7/8, 1	#5, #6, #7, #8	14	104	01/21
Hilti HIT-HY 200	ESR-3187	5/8, 3/4, 7/8, 1	#5, #6	14	104	03/22
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	03/22
Simpson Strong-Tie SET-3G	ESR-4057	5/8, 3/4	#5, #6, #7, #8	40	100	04/20

Products on this 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 Jacquelyn Wong, Concrete Technology Committee Chair, at (916) 227-7205.