DEWALT
ANCHORS & FASTENERS

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CCU+™ Undercut Anchor Replacement Option for Atomic+ Undercut Anchor

To Whom It May Concern:

The CCU+ undercut anchor is now available for consideration as a direct replacement option for Atomic+ undercut anchor in concrete.

The DEWALT Critical Connection Undercut (CCU+™) anchor is a post-installed structural anchor designed for static, dynamic and seismic loading in the tension zone of both cracked and uncracked concrete. The high capacity CCU+ anchor can be loaded immediately following installation and is available in zinc plated ASTM A36 (F1554 Grade 36) mild carbon steel and ASTM A193 Grade B7 high strength carbon steel. For exterior applications or where high corrosion resistance is required, the CCU+ is also available in ASTM A193 Grade 8BM, Class 2 high strength 316 stainless steel.

CCU+ anchors are installed into a fixed depth hole with a cone-shaped cavity at the bottom which is created in a secondary drilling operation using a specialty undercut drill bit supplied by DEWALT. The result is bottom-bearing post-installed anchor which keys into the base material with minimal expansive forces allowing for close edge distance and anchor spacing, similar to a cast-in-place headed stud. The heavy-wall expansion sleeve contributes to load transfer and improved shear capacities particularly for the thrubolt version.

In almost all concrete anchoring applications, the CCU+ undercut anchor has equivalent or higher published load values compared to the Atomic+ undercut anchor product. The CCU+ is qualified to ACI requirements and given approval by ICC-ES for anchoring to concrete including seismic recognition under the IBC and IRC. See ESR-4810 (including supplements for regional listings for City of Los Angeles and Florida). The approvals include recognition for mild carbon steel anchors, high strength carbon steel anchors and high strength 316 stainless steel anchors, in both preset (shear through rod) and thrubolt versions (shear through sleeve).

For more detailed information, please refer to the CCU+ links and consider downloading a free copy of the DEWALT anchor software.

- General info: http://anchors.dewalt.com/anchors/products/mechanical-anchors/undercut-anchors/critical-connection-undercut
- CCU+ undercut anchor product pages: http://anchors.dewalt.com/anchors/_documents/uploads/DWANF_CCU+_TP_revA.pdf
- DEWALT Design Assist anchor software: http://www.dewaltdesignassist.com/
- CCU+ undercut anchors made in USA at time of publication (product certifications available by request)
- DEWALT dust removal drilling system, with HEPA dust extractor, can be used for an OSHA 1926.1153 Table 1 compliant solution

Our technical services department and local field teams are available to answer any additional questions you may have.
The fastest way to reach us is using email at anchors@DEWALT.com but you are also welcome to contact us at 800-524-3244.

Reference Design Load Capacity Tables for CCU+™ Undercut Anchors and Atomic+ Undercut® Anchors[1,2,3,4]

Anchor Rod Dia. (in.)	Anchor Rod Material (ASTM)	h_{ef} (in.)	Cracked Concrete (f'_c = 2500 psi)						Uncracked Concrete (f'_c = 2500 psi)					
			Tension (pounds)		Shear, preset version (pounds)		Shear, thrubolt version (pounds)		Tension (pounds)		Shear, preset version (pounds)		Shear, thrubolt version (pounds)	
			CCU+	Atomic+	CCU+	Atomic+	CCU+	Atomic+	CCU+	Atomic+	CCU+	Atomic+	CCU+	Atomic+
3/8	Grade B7	4	6,240	5,850	3,170	3,155	9,230	3,155	7,315	7,315	3,170	3,155	9,230	3,155
	Gr. B8M (316 SS)	4	6,240	5,850	3,320	2,770	10,110	2,770	7,020	6,145	3,320	2,770	10,110	2,770
1/2	Grade B7	5	8,720	7,305	5,770	5,755	12,165	5,755	10,900	10,900	5,770	5,755	12,165	5,755
	Gr. B8M (316 SS)	5	8,720	7,305	5,755	5,075	15,735	5,075	10,900	10,900	5,755	5,075	15,735	5,075
5/8	Grade B7	7.5	16,020	9,750	9,180	9,170	18,835	9,170	20,025	20,025	9,180	9,170	18,835	9,170
	Gr. B8M (316 SS)	7.5	16,020	9,750	9,490	8,080	25,215	8,080	18,645	17,800	9,490	8,080	25,215	8,080
3/4	Grade B7	10	24,665	14,300	13,570	13,570	27,065	13,570	30,830	30,830	13,570	13,570	27,065	13,570
	Gr. B8M (316 SS)	10	24,665	14,300	14,520	11,960	37,520	11,960	27,555	26,305	14,520	11,960	37,520	11,960

Grade B7 = ASTM A193, Grade B7 carbon steel

Gr. B8M (316 SS) = ASTM A193, Grade B8M, Class 2 stainless steel (316 SS)

h_{ef} = effective embedment in concrete

1. Design load capacity values determined in accordance with ACI 318-14 Chapter 17 and ACI 318-11 Appendix D.
2. Single anchor capacities with no influence factors for concrete member thickness or edge distance.
3. Preset anchors are designed so the top of the expansion sleeve is approximately flush with the base material after setting; shear loads act through the rod.
4. Thrubolt anchors are designed so the expansion sleeve can be set through and can engage the fixture; shear loads act through the sleeve.

Please find a crossover list of anchor diameters and lengths for CCU+ undercut anchors and Atomic+ undercut anchors.
The listed anchor lengths are based on standard anchor sizes at the time of publication; custom lengths can be produced by request.

CCU+ Cat. No.	HIGH STRENGTH CARBON STEEL ANCHORS (ASTM A193, Grade B7 anchor rod)	Atomic+ Cat. No.	HIGH STRENGTH CARBON STEEL ANCHORS (ASTM A193, Grade B7 anchor rod)
DFM1371050	CCU+ PS B7 3/8 IN X 6 IN	03104SD-PWR	Atomic+ PS B7 3/8 IN X 6-3/4 IN
DFM1371550	CCU+ TB B7 3/8 IN X 6 IN	03106SD-PWR	Atomic+ TB B7 3/8 IN X 6-3/4 IN
DFM1371100	CCU+ PS B7 1/2 IN X 7-1/2 IN	03112SD-PWR	Atomic+ PS B7 1/2 IN X 8 IN
DFM1371600	CCU+ TB B7 1/2 IN X 7-1/2 IN	03114SD-PWR	Atomic+ TB B7 1/2 IN X 8 IN
DFM1371150	CCU+ PS B7 1/2 IN X 8-1/4 IN	03116SD-PWR	Atomic+ PS B7 1/2 IN X 9-3/4 IN
DFM1371650	CCU+ TB B7 1/2 IN X 8-1/4 IN	03118SD-PWR	Atomic+ TB B7 1/2 IN X 9-3/4 IN
DFM1371200	CCU+ PS B7 5/8 IN X 10-3/4 IN	03124SD-PWR	Atomic+ PS B7 5/8 IN X 10-3/4 IN
DFM1371700	CCU+ TB B7 5/8 IN X 10-3/4 IN	03126SD-PWR	Atomic+ TB B7 5/8 IN X 10-3/4 IN
DFM1371250	CCU+ PS B7 5/8 IN X 11-1/2 IN	03128SD-PWR	Atomic+ PS B7 5/8 IN X 12-1/4 IN
DFM1371750	CCU+ TB B7 5/8 IN X 11-1/2 IN	03130SD-PWR	Atomic+ TB B7 5/8 IN X 12-1/4 IN
DFM1371300	CCU+ PS B7 3/4 IN X 14 IN	03136SD-PWR	Atomic+ PS B7 3/4 IN X 13-5/8 IN
DFM1371800	CCU+ TB B7 3/4 IN X 14 IN	03138SD-PWR	Atomic+ TB B7 3/4 IN X 13-5/8 IN
DFM1371350	CCU+ PS B7 3/4 IN X 16 IN	N/A	NO CROSSOVER
DFM1371850	CCU+ TB B7 3/4 IN X 16 IN	N/A	NO CROSSOVER
PS = preset version, TB = thrubolt version		PS = preset version, TB = thrubolt version	

CCU+ Cat. No.	HIGH STRENGTH STAINLESS STEEL ANCHORS (ASTM A193, Grade B8M Class 2 anchor rod)	Atomic+ Cat. No.	HIGH STRENGTH STAINLESS STEEL ANCHORS (ASTM A193, Grade B8M Class 2 anchor rod)
DFM1361050	CCU+ PS SS316-C2 3/8 IN X 6 IN	03603SD-PWR	Atomic+ PS SS316-C2 3/8 IN X 6-3/4 IN
DFM1361550	CCU+ TB SS316-C2 3/8IN X 6 IN	03605SD-PWR	Atomic+ TB SS316-C2 3/8 IN X 6-3/4 IN
DFM1361100	CCU+ PS SS316-C2 1/2 IN X 7-1/2 IN	03609SD-PWR	Atomic+ PS SS316-C2 1/2 IN X 8 IN
DFM1361600	CCU+ TB SS316-C2 1/2 IN X 7-1/2 IN	03613SD-PWR	Atomic+ TB SS316-C2 1/2 IN X 8 IN
DFM1361150	CCU+ PS SS316-C2 1/2 IN X 8-1/4 IN	N/A	NO CROSSOVER
DFM1361650	CCU+ TB SS316-C2 1/2 IN X 8-1/4 IN	N/A	NO CROSSOVER
DFM1361200	CCU+ PS SS316-C2 5/8 IN X 10-3/4 IN	03635SD-PWR	Atomic+ PS SS316-C2 5/8 IN X 10-3/4 IN
DFM1361700	CCU+ TB SS316-C2 5/8 IN X 10-3/4 IN	03639SD-PWR	Atomic+ TB SS316-C2 5/8 IN X 10-3/4 IN
DFM1361250	CCU+ PS SS316-C2 5/8 IN X 11-1/2 IN	N/A	NO CROSSOVER
DFM1361750	CCU+ TB SS316-C2 5/8 IN X 11-1/2 IN	N/A	NO CROSSOVER
DFM1361300	CCU+ PS SS316-C2 3/4 IN X 14 IN	03648SD-PWR	Atomic+ PS SS316-C2 3/4 IN X 13-5/8 IN
DFM1361800	CCU+ TB SS316-C2 3/4 IN X 14 IN	03649SD-PWR	Atomic+ TB SS316-C2 3/4 IN X 13-5/8 IN
DFM1361350	CCU+ PS SS316-C2 3/4 IN X 16 IN	N/A	NO CROSSOVER
DFM1361850	CCU+ TB SS316-C2 3/4 IN X 16 IN	N/A	NO CROSSOVER
PS = preset version, TB = thrubolt version		PS = preset version, TB = thrubolt version	

CCU+ Cat. No.	MILD CARBON STEEEL ANCHORS (ASTM A36 anchor rod)	Atomic+ Cat. No.	MILD CARBON STEEL ANCHORS (ASTM A36 anchor rod)
DFM1311050	CCU+ PS A36 3/8 IN X 6 IN	03100SD-PWR	Atomic+ PS B7 3/8 IN X 5-1/2 IN
DFM1311550	CCU+ TB A36 3/8 IN X 6 IN	03100SD-PWR	Atomic+ TB B7 3/8 IN X 5-1/2 IN
DFM1311100	CCU+ PS A36 1/2 IN X 7-1/2 IN	03108SD-PWR	Atomic+ PS B7 3/8 IN X 7 IN
DFM1311600	CCU+ TB A36 1/2 IN X 7-1/2 IN	03110SD-PWR	Atomic+ TB B7 3/8 IN X 7 IN
DFM1311150	CCU+ PS A36 1/2 IN X 8-1/4 IN	N/A	NO CROSSOVER
DFM1311650	CCU+ TB A36 1/2 IN X 8-1/4 IN	N/A	NO CROSSOVER
DFM1311200	CCU+ PS A36 5/8 IN X 10-3/4 IN	N/A	NO CROSSOVER
DFM1311700	CCU+ TB A36 5/8 IN X 10-3/4 IN	N/A	NO CROSSOVER
DFM1311250	CCU+ PS A36 5/8 IN X 11-1/2 IN	N/A	NO CROSSOVER
DFM1311750	CCU+ TB A36 5/8 IN X 11-1/2 IN	N/A	NO CROSSOVER
DFM1311300	CCU+ PS A36 3/4 IN X 14 IN	N/A	NO CROSSOVER
DFM1311800	CCU+ TB A36 3/4 IN X 14 IN	N/A	NO CROSSOVER
DFM1311350	CCU+ PS A36 3/4 IN X 16 IN	N/A	NO CROSSOVER
DFM1311850	CCU+ TB A36 3/4 IN X 16 IN	N/A	NO CROSSOVER
PS = preset version, TB = thrubolt version		PS = preset version, TB = thrubolt version	