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EXPANSION ANCHOR FORCES

JT RACKING SYSTEMS

MEDICAL GAS ANCHORING SYSTEMS

DATE: 01.04.23

TABLE 2 - MAXIMUM EXPANSION ANCHOR FORCES (LBS, z/h=0)

DEPTH SERIES			WIDTH SERIES					
			1W	1W-(L or R)	2W	2W-(L or R)	3W	3W-(L or R)
DEPTH SERIES	1D	$\Omega_0 P_u$	2,592	2,645	2,503	3,053	2,455	2,894
		$\Omega_0 V_u$	585	386	583	660	586	467
	2D	$\Omega_0 P_u$	2,546	3,633	2,856	2,643	N.A.	
		$\Omega_0 V_u$	595	579	1,127	788		
	3D	$\Omega_0 P_u$	2,792	4,029	2,159	2,556		
		$\Omega_0 V_u$	670	657	751	739		
	4D	$\Omega_0 P_u$	N.A.		2,762	3,066		
		$\Omega_0 V_u$			968	687		

EXPANSION ANCHOR DESIGN (INCLUDING SEISMIC REDUCTION) IS PER ACI 318, CHAPTER 17, 2022 CBC, CHAPTER 19A AND IN ACCORDANCE WITH THE ICC REPORT.

NOTES:
1. FORCES SHOWN IN SCHEDULE ARE BASED ON ORTHOGONAL LOAD COMBINATIONS WITH 100% OF FORCE IN ONE DIRECTION AND 30% OF FORCE IN THE PERPENDICULAR DIRECTION.
2. "L" & "R" INDICATE LEFT AND RIGHT SIDE FRAMES.
3. AREA MARKED WITH N.A. INDICATES FRAMES OF THIS DIMENSION DO NOT EXIST.
4. EXPANSION ANCHORS SHALL BE ⅝"ϕ HILTI KB-TZ2 (ICC-4266) WITH 4½" NOMINAL EMBEDMENT & 4" EFFECTIVE EMBEDMENT.
5. MAXIMUM S_{DS} = 1.93g PER TABLE 1 ON SHEET 2/8.
6. SEOR TO CHECK STRUCTURE FOR THE LOADS SHOWN DIVIDED BY 2 (TO REMOVE THE OVERSTRENGTH FACTOR).

TABLE 3 - MAXIMUM THRU-BOLT ANCHOR FORCES (LBS, z/h≤1)

DEPTH SERIES			WIDTH SERIES					
			1W	1W (L or R)	2W	2W (L or R)	3W	3W (L or R)
DEPTH SERIES	1D	P_u	3,888	3,968	3,754	4,580	3,683	4,341
		$\Omega_0 V_u$	1,754	1,158	1,750	1,980	1,758	701
	2D	P_u	3,819	5,449	4,284	3,965	N.A.	
		$\Omega_0 V_u$	1,784	1,736	3,380	2,366		
	3D	P_u	4,188	6,043	3,239	3,834		
		$\Omega_0 V_u$	2,010	1,972	2,254	2,218		
	4D	P_u	N.A.		4,144	4,599		
		$\Omega_0 V_u$			2,904	2,060		

NOTES:
1. SEE NOTES ON TABLE 2 FOR ADDITIONAL INFORMATION.
2. ANCHORS SHALL BE ⅝"ϕ A36 RODS (SEE DETAILS AND GENERAL NOTES FOR ADDITIONAL INFORMATION.
3. MAXIMUM S_{DS} = 1.93g PER TABLE 1 ON SHEET 2/8.
4. ALTERNATE DESIGN FOR EXPANSION ANCHORS (WHEN S_{DS} IS SMALLER & WHEN ADEQUATE SLABS ARE PRESENT: SEE TABLE 1 FOR COEFFICENTS & EXAMPLE CALCULATION FOR MAXIMUM (z/h) FOR APPLICABILITY.
5. SEOR TO CHECK STRUCTURE FOR THE LOADS SHOWN WITH $\Omega_0 V_U$ DIVIDED BY 2 (TO REMOVE OVERSTRENGTH FACTOR).

REGISTERED PROFESSIONAL ENGINEER
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Signed 01.04.23