

	Depth	Condition	
[?]	$O\left((t, \log(1/\varrho)) \cdot N^{1/\mathfrak{K}}\right)$	C is a \mathfrak{K} -lattice	
[?]	$O\left((Nt^2 + t \log(1/\varrho)) \log N\right)$	—	diamond
[?]	$O(t N + t \log(1/\varrho))$	$t \leq 2^{N/4}$	
[?]	$O(t^2 N + t^2 \log(1/\varrho))$	$t \leq 2^{N/4}$	
[?]	$O\left((Nt + \log(1/\varrho)) \log^7 t\right)$	$t = O(2^{2N/5})$	diamond
[?]	$O\left((\xi t + \log(N/\varrho)) \log^7 t\right)$	$t = O(2^{2\xi/5})$, $\exists \xi \geq 1$	diamond

Table 1: Circuit depth upper bound for ϱ -approximate unitary t -designs on N qubits.