



OVERVIEW OF STANDARDIZED SLABS-ON-GROUND

From the 2005 Texas Risk Management Manual

SLAB	TYPE	Ym	EFF. PI	MIN. TENDON FORCE	MIN. SLAB REINFORCEMENT	AVG. BEAM SPACING	MAX. BEAM SPACING	MIN. BEAM DEPTH	MIN. BEAM REINFORCEMENT	MIN. TENDON SIZE	REC. STIRRUPS OR EQUIV.
SLAB I	PT	≤ 1 in.	0 - 22	75 psi or 0.075A	Determined by Engr.	12 ft	14 ft	26 in.	1 tendon bottom	0.5 in.	-
SLAB II	PT	≤ 2 in.	23 - 45	75 psi or 0.075A	Determined by Engr.	11 ft	12 ft	26 in.	2 tendon bottom ⁽¹⁾	0.5 in.	-
SLAB III	PT	≤ 3 in.	46 - 65	75 psi or 0.075A	Determined by Engr.	10 ft	12 ft	34 in.	2 tendon bottom ⁽¹⁾	0.5 in.	-
SLAB IV	PT	≤ 1 in.	0 - 15	75 psi or 0.075A	Determined by Engr.	15 ft	25 ft & under loads	24 in.	1 tendon bottom	0.5 in.	-

SLAB I-C	Conv	≤ 1 in.	0 - 22	-	#4 bars 18 in. OCEW	12 ft	14 ft	26 in.	2 # 6 bars top & bottom ⁽²⁾	-	-
SLAB II-C	Conv	≤ 2 in.	23 - 45	-	#4 bars 18 in. OCEW	11 ft	12 ft	26 in.	2 # 6 bars top & bottom ⁽²⁾	-	#3 stirrups at 24 in. OC
SLAB III-C	Conv	≤ 3 in.	46 - 65	-	#4 bars 18 in. OCEW	10 ft	12 ft	34 in.	3 #6 bars top & bottom ⁽²⁾	-	#3 stirrups at 30 in. OC
SLAB IV-C	Conv	≤ 1 in.	0 - 15	-	#3 bars 18 in. OCEW	15 ft	25 ft & under loads	24 in.	2 #5 bars bottom ^(2 & 3)	-	-

COMMON FOR ALL SLABS	MIN. SLAB THICKNESS	MIN. BEAM WIDTH
	4 in.	10 in.

Refer to Texas Risk Management Manual for details and remainder of foundation requirements

⁽¹⁾ or one tendon and two #4 bars

⁽²⁾ All exterior corners and interior beams which dead end into exterior beams shall have corner bars

⁽³⁾ Reentrant corners and other geometric irregularities (such as fireplaces and bay windows) with more than 18 inches of offset shall be stiffened by 2 #3 bars a min. of 3 feet in length placed diagonally in the slab at the reentrant corners.

All exterior and interior beams are to be continuous or overlap a parallel beam with adequate length and proximity so as to be effectively continuous.

Slabs IV & IV-C are not approved for the Special Investigative Area.

For Ym > 3 inches use "Non-Standard" foundation system like Drilled Piers with Suspended Wood Floor, or Soil Treatment.

Assumes Shape Factor ≤ 24 (ratio of square of foundation perimeter to foundation area).

Minimum tendon size is 0.5-inch diameter, Grade 270, 7 wire.

PT = Post Tensioned Tendon Slab; Conv = Conventional Reinforced Rebar Slab

All rebar is Grade 60.

SIA = Special Investigative Area (aka High Risk Area).

"A" = gross concrete cross-section area in sq. in.

Ym = max. unrestrained differential soil movement in inches as per PTI Edition 3
PI = Eff. Plasticity Index of soil as determined by BRAB which indicates the potential for the soil to shrink and swell.

Expansive Soils defined by IRC as PI > 15, (-)200 Sieve > 10%, (-)5 micrometers > 10%, Expansion Index > 20.