

PROJECT TITLE :

	Company		Client	
	Author		File Name	

midas Gen - RC-Slab Flexural Design [NSR-10] Gen 2025

[[[*]]] SLAB DESIGN MAXIMUM RESULT DATA : DOMAIN 1-[1], Dir 1.

Thk	Elem	POS	AsReq	AsUse	Mu (LCB)	fMn	Rat	CHK
200.00	233	BOT	0.1468	0.5161	1500.70 (1)	23145.3	0.065	OK
	161	TOP	0.2054	0.5161	3405.06 (1)	23145.3	0.147	OK

<< BOTTOM >>

-. Information of Parameters.

Elem No. : 233
 Node No. : 27
 Thickness : 200.0000 mm.
 Materials : $f_c = 27.5790$ MPa.
 $F_y = 413.6856$ MPa.
 Covering : $d_B = 75.0000$ mm.
 $d_T = 75.0000$ mm.
 LCB No. : 1

-. Information of Strength Reduction Factor.

$\phi_{ic} = 0.650$
 $\phi_{it} = 0.900$
 $\epsilon_t = 0.03200$
 $\epsilon_{ty} = 0.00207$
 $\epsilon_{tu} = 0.00500$
 $\epsilon_t > \epsilon_{tu}$; Tension-controlled
 $\phi_i = \phi_{it} = 0.900$

-. Information of Design.

$b = 1.0000$ mm. (by Code Unit Length).
 $d = 125.0000$ mm.

-. Information of Moments and Result.

Rein. Bar : #4 @250
 $As_{req} = 0.1468$ mm²/mm. (146.7890 mm²/m.)
 $As_{use} = 0.5161$ mm²/mm. (516.1280 mm²/m.)
 $M_n = As_{use} * F_y * [d - As_{use} * F_y / (1.7 * f_c * b)] = 25716.9770$ N-mm./mm.
 $\phi_i M_n = \phi_i * M_n = 23145.2793$ N-mm./mm.
 $\mu = 1500.7031$ N-mm./mm.
 $RatM = \mu / \phi_i M_n = 0.065 < 1.0 \rightarrow O.K !$

<< TOP >>

-. Information of Parameters.

Elem No. : 161
 Node No. : 25
 Thickness : 200.0000 mm.
 Materials : $f_c = 27.5790$ MPa.
 $F_y = 413.6856$ MPa.
 Covering : $d_B = 75.0000$ mm.
 $d_T = 75.0000$ mm.
 LCB No. : 1

-. Information of Strength Reduction Factor.

$\phi_{ic} = 0.650$
 $\phi_{it} = 0.900$
 $\epsilon_t = 0.03200$
 $\epsilon_{ty} = 0.00207$
 $\epsilon_{tu} = 0.00500$
 $\epsilon_t > \epsilon_{tu}$; Tension-controlled
 $\phi_i = \phi_{it} = 0.900$

-. Information of Design.

$b = 1.0000$ mm. (by Code Unit Length).
 $d = 125.0000$ mm.

-. Information of Moments and Result.

Rein. Bar : #4 @250
 $As_{req} = 0.2054$ mm²/mm. (205.3608 mm²/m.)
 $As_{use} = 0.5161$ mm²/mm. (516.1280 mm²/m.)

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Mn      = As_use*Fy*[d-As_use*Fy/(1.7*fc*b)] =   25716.9770  N-mm./mm.
phiMn   = phi * Mn      =   23145.2793  N-mm./mm.
Mu      =          =   3405.0614  N-mm./mm.
RatM    = Mu / phiMn =   0.147 < 1.0  --->  O.K !

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[[[*]]]  SLAB DESIGN MAXIMUM RESULT DATA : DOMAIN 2-[1], Dir 1.
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Thk	Elem	POS	AsReq	AsUse	Mu (LCB)	fMn	Rat	CHK
300.00	597	BOT	0.4500	0.5161	13727.9(1)	42361.6	0.324	OK
	550	TOP	0.4500	0.5161	8148.97(1)	42361.6	0.192	OK

<< BOTTOM >>

-. Information of Parameters.

```

Elem No. : 597
Node No. : 683
Thickness : 300.0000 mm.
Materials : fc =   27.5790 MPa.
           Fy =   413.6856 MPa.
Covering  : dB =   75.0000 mm.
           dT =   75.0000 mm.
LCB No.   :    1

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-. Information of Strength Reduction Factor.

```

phic =   0.650
phit =   0.900
et    = 0.05999
ety   = 0.00207
etu   = 0.00500
et > etu ; Tension-controlled
phi   = phit =   0.900

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-. Information of Design.

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b      =   1.0000 mm. (by Code Unit Length).
d      = 225.0000 mm.

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-. Information of Moments and Result.

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Rein. Bar : #4 @250
As_req =   0.4500 mm^2/mm. (   450.0000 mm^2/m.)
As_use =   0.5161 mm^2/mm. (   516.1280 mm^2/m.)
Mn      = As_use*Fy*[d-As_use*Fy/(1.7*fc*b)] =   47068.4474  N-mm./mm.
phiMn   = phi * Mn      =   42361.6026  N-mm./mm.
Mu      =          =   13727.9495  N-mm./mm.
RatM    = Mu / phiMn =   0.324 < 1.0  --->  O.K !

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midas Gen - RC-Slab Flexural Design [NSR-10] Gen 2025
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-. Information of Parameters.

Elem No. : 550
Node No. : 732
Thickness : 300.0000 mm.
Materials : fc = 27.5790 MPa.
Fy = 413.6856 MPa.
Covering : dB = 75.0000 mm.
dT = 75.0000 mm.
LCB No. : 1

-. Information of Strength Reduction Factor.

phic = 0.650
phit = 0.900
et = 0.05999
ety = 0.00207
etu = 0.00500
et > etu ; Tension-controlled
phi = phit = 0.900

-. Information of Design.

b = 1.0000 mm. (by Code Unit Length).
d = 225.0000 mm.

-. Information of Moments and Result.

Rein. Bar : #4 @250
As_req = 0.4500 mm²/mm. (450.0000 mm²/m.)
As_use = 0.5161 mm²/mm. (516.1280 mm²/m.)
Mn = As_use * Fy * [d - As_use * Fy / (1.7 * fc * b)] = 47068.4474 N-mm./mm.
phiMn = phi * Mn = 42361.6026 N-mm./mm.
Mu = 8148.9685 N-mm./mm.
RatM = Mu / phiMn = 0.192 < 1.0 ---> O.K !