

結構構件詳細計算式□□

案名: 臺中市沙鹿區鹿陽國民小學第二期校舍新建工程--圖號: 2F (代表樓層:2F->2F)

PNA21-01-樓層: 2F, 梯代號: ST1, 位置序號: 2 [X2:-181,Y3:+60], 梯寬: 150 cm, 級高: 14.62, 級深: 26, 踏步數: 13, 梯長: 387.7716 cm

梯斜版長: $387.77 = \text{開根號}(14.62^2 + 26^2) * [\text{階數}]13$

#5		上端線筋-雙層雙向型	#5 上端線筋-雙層雙向型= $(387.77 + [\text{握持長度}L_d]46^2) * [\text{排數}]$ $(\text{Int}(150/10)+1)/100 = 76.76 \text{ M}$	76.76
#5		上端點筋-雙層雙向型	#5 上端點筋-雙層雙向型= $[\text{單側接牆}](150 + [\text{延伸} + \text{彎鉤}L_{dh} + A1])(16 + 21.9)^2 * [\text{排數}]$ $(\text{Int}((387.7716/15)+1)/100 = 48.84 \text{ M}$	48.84
#5		下端線筋-雙層雙向型	$(387.77 + [\text{握持長度}L_d]46^2) * [\text{排數}]$ $(\text{Int}(150/10)+1)/100$	76.76
#5		下端點筋-雙層雙向型	$[\text{單側接牆}](150 + [\text{延伸} + \text{彎鉤}L_{dh} + A1])(16 + 21.9)^2 * [\text{排數}]$ $(\text{Int}((387.7716/15)+1)/100 = 48.84 \text{ M}$	48.84

模版計算:

模版(底模) = $387.77 * 150 / 10000 = 5.82 \text{ M2}$
 模版(立模) = $150 * 14.62 * 13 / 10000 = 2.85 \text{ M2}$
 模版(側邊-封單邊) = $387.77 * 25 * 1 / 10000 = 0.97 \text{ M2}$
 模版(踏步側邊-封單邊) = $(14.62 * 26 / 2) * 13 * 1 / 10000 = 0.25 \text{ M2}$
 模版_小計 = $5.82 + 2.85 + 0.97 + 0.25 + 0.00 = 9.88 \text{ M2}$

RC計算:

RC(斜版) = $387.7716 * 150 * 25 / 1000000 = 1.454 \text{ M3}$
 RC(階梯) = $(14.62 * 26 / 2) * 150 * 13 / 1000000 = 0.371 \text{ M3}$
 RC_小計 = $1.454 + 0.371 + 0.000 = 1.825 \text{ M3}$

-----計算結果小計-----

鋼筋計算結果:

#5=251.211 M ($251.211 \text{ M} * 1.560 / 1000 = 0.3919 \text{ T}$)

鋼筋小計 = 0.3919 T

模版小計(普)= 9.88 M2

混凝土小計 = 1.825 M3

PNA21-01-樓層: 2F, 梯代號: ST1, 位置序號: 1 [X2:-207,Y3:-120], 梯寬: 150 cm, 級高: 14.62, 級深: 26, 踏步數: 13, 梯長: 387.7716 cm

梯斜版長: $387.77 = \text{開根號}(14.62^2 + 26^2) * [\text{階數}]13$

#5		上端線筋-雙層雙向型	#5 上端線筋-雙層雙向型= $(387.77 + [\text{握持長度}L_d]46^2) * [\text{排數}]$ $(\text{Int}(150/10)+1)/100 = 76.76 \text{ M}$	76.76
#5		上端點筋-雙層雙向型	#5 上端點筋-雙層雙向型= $[\text{單側接牆}](150 + [\text{延伸} + \text{彎鉤}L_{dh} + A1])(16 + 21.9)^2 * [\text{排數}]$ $(\text{Int}((387.7716/15)+1)/100 = 48.84 \text{ M}$	48.84
#5		下端線筋-雙層雙向型	$(387.77 + [\text{握持長度}L_d]46^2) * [\text{排數}]$ $(\text{Int}(150/10)+1)/100$	76.76
#5		下端點筋-雙層雙向型	$[\text{單側接牆}](150 + [\text{延伸} + \text{彎鉤}L_{dh} + A1])(16 + 21.9)^2 * [\text{排數}]$ $(\text{Int}((387.7716/15)+1)/100 = 48.84 \text{ M}$	48.84

模版計算:

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 模版(立模) = $150 * 14.62 * 13 / 10000 = 2.85 \text{ M2}$
 模版(側邊-封單邊) = $387.77 * 25 * 1 / 10000 = 0.97 \text{ M2}$
 模版(踏步側邊-封單邊) = $(14.62 * 26 / 2) * 13 * 1 / 10000 = 0.25 \text{ M2}$
 模版_小計 = $5.82 + 2.85 + 0.97 + 0.25 + 0.00 = 9.88 \text{ M2}$

RC計算:

RC(斜版) = $387.7716 * 150 * 25 / 1000000 = 1.454 \text{ M3}$
 RC(階梯) = $(14.62 * 26 / 2) * 150 * 13 / 1000000 = 0.371 \text{ M3}$
 RC_小計 = $1.454 + 0.371 + 0.000 = 1.825 \text{ M3}$

-----計算結果小計-----

鋼筋計算結果:

#5=251.211 M (251.211 M*1.560/1000= 0.3919 T)
鋼筋小計 = 0.3919 T
模版小計(普)= 9.88 M2
混凝土小計 = 1.825 M3

PNA21-01-樓層: 2F, 梯代號: ST2, 位置序號: 6 [X8:-165,Y10:-97], 梯寬: 175 cm, 級高: 15.2, 級深: 26, 踏步數: 12, 梯長: 361.4052 cm

梯斜版長: 361.41=開根號(15.2*15.2+26*26)*[階數]12

#5		上端線筋-雙層雙向型	#5 上端線筋-雙層雙向型= (361.41+[握持長度Ld]46*2)*[排數] (Int(175/12)+1)/100= 68.01 M	68.01
#5		上端點筋-雙層雙向型	#5 上端點筋-雙層雙向型= [單側接牆](175+[延伸+彎鉤Ldh+A1])(16+21.9)*1)*[排數] (Int((361.4052/15)+1)/100= 53.21 M	53.21
#5		下端線筋-雙層雙向型	(361.41+[握持長度Ld]46*2)*[排數] (Int(175/12)+1)/100	68.01
#5		下端點筋-雙層雙向型	[單側接牆](175+[延伸+彎鉤Ldh+A1])(16+21.9)*1)* [排數] (Int((361.4052/15)+1)/100= 53.21 M	53.21

模版計算:

模版(底模) = 361.41*175/10000= 6.32 M2
模版(立模) = 175*15.2*12/10000= 3.19 M2
模版(側邊-封單邊)= 361.41*20*1/10000= 0.72 M2
模版(踏步側邊-封單邊) = (15.2*26/2)*12*1/10000= 0.24 M2
模版_小計 = 6.32+3.19+0.72+0.24+0.00= 10.48 M2

RC計算:

RC(斜版) = 361.4052*175*20/1000000= 1.265 M3
RC(階梯) = (15.2*26/2)*175*12/1000000= 0.415 M3
RC_小計 = 1.265+0.415+0.000= 1.680 M3

-----計算結果小計-----

鋼筋計算結果:

#5=242.449 M (242.449 M*1.560/1000= 0.3782 T)
鋼筋小計 = 0.3782 T
模版小計(普)= 10.48 M2
混凝土小計 = 1.680 M3

PNA21-01-樓層: 2F, 梯代號: ST2, 位置序號: 5 [X7:-223,Y10:-19], 梯寬: 175 cm, 級高: 15.2, 級深: 26, 踏步數: 13, 梯長: 391.5224 cm

梯斜版長: 391.52=開根號(15.2*15.2+26*26)*[階數]13

#5		上端線筋-雙層雙向型	#5 上端線筋-雙層雙向型= (391.52+[握持長度Ld]46*2)*[排數] (Int(175/12)+1)/100= 72.53 M	72.53
#5		上端點筋-雙層雙向型	#5 上端點筋-雙層雙向型= [單側接牆](175+[延伸+彎鉤Ldh+A1])(16+21.9)*1)*[排數] (Int((391.5224/15)+1)/100= 57.47 M	57.47
#5		下端線筋-雙層雙向型	(391.52+[握持長度Ld]46*2)*[排數] (Int(175/12)+1)/100	72.53
#5		下端點筋-雙層雙向型	[單側接牆](175+[延伸+彎鉤Ldh+A1])(16+21.9)*1)* [排數] (Int((391.5224/15)+1)/100= 57.47 M	57.47

模版計算:

模版(底模) = 391.52*175/10000= 6.85 M2
模版(立模) = 175*15.2*13/10000= 3.46 M2
模版(側邊-封單邊)= 391.52*20*1/10000= 0.78 M2
模版(踏步側邊-封單邊) = (15.2*26/2)*13*1/10000= 0.26 M2
模版_小計 = 6.85+3.46+0.78+0.26+0.00= 11.35 M2

RC計算:

RC(斜版) = 391.5224*175*20/1000000= 1.370 M3
RC(階梯) = (15.2*26/2)*175*13/1000000= 0.450 M3
RC_小計 = 1.370+0.450+0.000= 1.820 M3

-----計算結果小計-----

鋼筋計算結果:

#5=259.998 M (259.998 M*1.560/1000= 0.4056 T)
 鋼筋小計 = 0.4056 T
 模版小計(普)= 11.35 M2
 混凝土小計 = 1.820 M3

PNA21-01-樓層: 2F, 梯代號: ST1, 位置序號: 4 [X7:+119,Y19:+163], 梯寬: 187.5 cm, 級高: 15.2, 級深: 26, 踏步數: 12, 梯長: 361.4052 cm
 梯斜版長: 361.41=開根號(15.2*15.2+26*26)*[階數]12

#5		上端線筋-雙層雙向型	#5 上端線筋-雙層雙向型= (361.41+[握持長度Ld]46*2)*[排數] (Int(187.5/10)+1)/100= 86.15 M	86.15
#5		上端點筋-雙層雙向型	#5 上端點筋-雙層雙向型= [單側接牆](187.5+[延伸+彎鉤Ldh+A1])(16+21.9)*1)*[排數] (Int((361.4052/15)+1)/100= 56.34 M	56.34
#5		下端線筋-雙層雙向型	(361.41+[握持長度Ld]46*2)*[排數] (Int(187.5/10)+1)/100	86.15
#5		下端點筋-雙層雙向型	[單側接牆](187.5+[延伸+彎鉤Ldh+A1])(16+21.9)*1)* [排數] (Int((361.4052/15)+1)/100= 56.34 M	56.34

模版計算:

模版(底模) = 361.41*187.5/10000= 6.78 M2
 模版(立模) = 187.5*15.2*12/10000= 3.42 M2
 模版(側邊-封單邊)= 361.41*25*1/10000= 0.90 M2
 模版(踏步側邊-封單邊) = (15.2*26/2)*12*1/10000= 0.24 M2
 模版_小計 = 6.78+3.42+0.90+0.24+0.00= 11.34 M2

RC計算:

RC(斜版) = 361.4052*187.5*25/1000000= 1.694 M3
 RC(階梯) = (15.2*26/2)*187.5*12/1000000= 0.445 M3
 RC_小計 = 1.694+0.445+0.000= 2.139 M3

-----計算結果小計-----

鋼筋計算結果:

#5=284.971 M (284.971 M*1.560/1000= 0.4446 T)
 鋼筋小計 = 0.4446 T
 模版小計(普)= 11.34 M2
 混凝土小計 = 2.139 M3

PNA21-01-樓層: 2F, 梯代號: ST1, 位置序號: 3 [X6:-194,Y19:+202], 梯寬: 187.5 cm, 級高: 15.2, 級深: 26, 踏步數: 13, 梯長: 391.5224 cm
 梯斜版長: 391.52=開根號(15.2*15.2+26*26)*[階數]13

#5		上端線筋-雙層雙向型	#5 上端線筋-雙層雙向型= (391.52+[握持長度Ld]46*2)*[排數] (Int(187.5/10)+1)/100= 91.87 M	91.87
#5		上端點筋-雙層雙向型	#5 上端點筋-雙層雙向型= [單側接牆](187.5+[延伸+彎鉤Ldh+A1])(16+21.9)*1)*[排數] (Int((391.5224/15)+1)/100= 60.85 M	60.85
#5		下端線筋-雙層雙向型	(391.52+[握持長度Ld]46*2)*[排數] (Int(187.5/10)+1)/100	91.87
#5		下端點筋-雙層雙向型	[單側接牆](187.5+[延伸+彎鉤Ldh+A1])(16+21.9)*1)* [排數] (Int((391.5224/15)+1)/100= 60.85 M	60.85

模版計算:

模版(底模) = 391.52*187.5/10000= 7.34 M2
 模版(立模) = 187.5*15.2*13/10000= 3.71 M2
 模版(側邊-封單邊)= 391.52*25*1/10000= 0.98 M2
 模版(踏步側邊-封單邊) = (15.2*26/2)*13*1/10000= 0.26 M2
 模版_小計 = 7.34+3.71+0.98+0.26+0.00= 12.28 M2

RC計算:

RC(斜版) = 391.5224*187.5*25/1000000= 1.835 M3
 RC(階梯) = (15.2*26/2)*187.5*13/1000000= 0.482 M3
 RC_小計 = 1.835+0.482+0.000= 2.317 M3

-----計算結果小計-----

鋼筋計算結果:

#5=305.430 M ($305.430 \text{ M} \times 1.560 / 1000 = 0.4765 \text{ T}$)

鋼筋小計 = 0.4765 T

模版小計(普)= 12.28 M2

混凝土小計 = 2.317 M3
