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Réparation de l'atelier Volume

PRO/DCE

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	Date	Indice

Date : 23/01/15

Echelle :

**Descente de charges et efforts
dans le plancher bas
Note de calcul**

NdC1

objet de la note

Definir la capacite de charge micro piece.
precise pour reprendre la structure de l'atelier
volume.

Terrasse

Dalle = 16 400 daN/m^2

Dalle de 16 + skydome + relevé
pour le skydome $1,96 \times 5,2$ (celui du centre)

Poids du skydome $\approx 500 \text{ daN}$

Relevés $1560 + 198 + 430 = 2188$

2688 daN soit

$$2688 / 1,96 \times 5,2 = 270 \text{ daN/m}^2$$

Nous prendrons 400 daN/m^2 y compris claudette

Sur charge Neige accumulation

$P_w = 2,0$ $P_s = 0$

Region 1A $P_n = 35 \text{ daN/m}^2$

charge $2+1 = 3 \times 35 = 105 \text{ daN/m}^2$

Vent \leftarrow Entretien \leftarrow Neige

Nous prendrons 105 daN/m^2

Murs PP 20 et beton + enduit = 500 daN/m^2

PP 15 + beton + enduit 375 daN/m^2

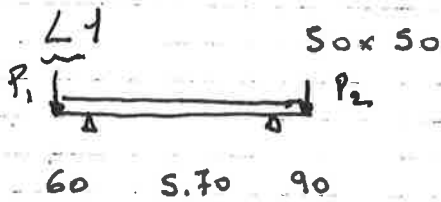
Plancher bas du Rdc

ce plancher : transmettra les charges de la superstructure -aux micro pieux

Dalle $e = 15$	375 da N/m^2
Surcharge	400 da N/m^2
Revetement Sol "fulur"	100

$475 + 400 \text{ da N/m}^2$

Projet voir page 4



$g = 1 \times 475 + 375 + 2100 + 1260$
 $q = 1 + 400 = 400 \text{ da N/m}^2$

$g = 4210$

$q = 400$

$P_1 = 7200 + 600$

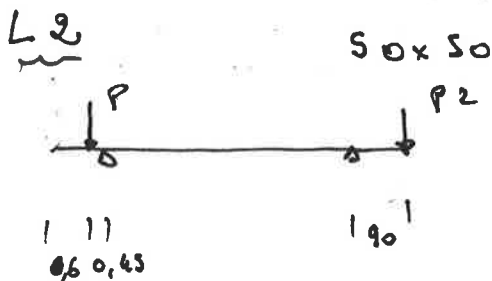
$P_2 = 4800 + 0,4$

$\left. \begin{matrix} - 7500 & - 8900 \\ & 18000 \end{matrix} \right\} M_{ELU}$

$T_{Max} = 18200$

$\left(\begin{matrix} 23,6 \\ (21,5 + 2,1) \end{matrix} \right) \quad \left(\begin{matrix} 22,74 \\ (20,7 + 2,0) \end{matrix} \right) \quad R_{ELS}$

$N_{bu} = 0,125$
 $\underline{\underline{OK}}$
 $\sigma = 0,8 \text{ MPa}$
 $\underline{\underline{OK}}$



$g = 1,85 \times 475 + 375 = 1255$

$q = 1,85 \times 400 = 740$

$P_1 = 4400 + 0,7$

$P_2 = \left\{ \begin{matrix} 1,85 \times 4800 = 8880 \\ 1,85 \times 350 = 650 \end{matrix} \right.$

$$\begin{array}{r} -4690 \\ +3570 \end{array}$$

$$-12800$$

} M_{ELU}

$$T_{max} = 15500$$

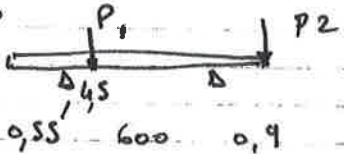
$$OK < L1$$

$$11,75 \\ (8,1 + 3,65)$$

$$18,0 \\ (14,5 + 3,5)$$

R_{ELS}

L3



$$q = 2,55 \times 4,75 + 3,75 = 1585$$

$$q = 2,55 \times 4,00 = 1020$$

$$P_1 = 8700 + 1100$$

$$P_2 \left\{ \begin{array}{l} 2,55 \times 4,800 = 12240 \\ 2,55 \times 350 = 890 \end{array} \right.$$

$$-5560 \quad -17600$$

$$+10900$$

} M_{ELU}

$$T_{max\ ELU} = 21200$$

$$q = 0,95$$

OK

$$15,5$$

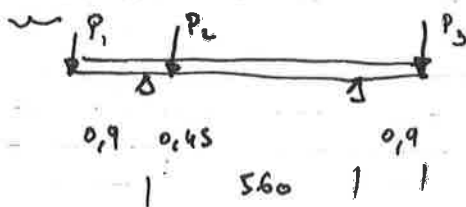
$$25,8$$

R_{ELS}

$$(11,2 + 4,3)$$

$$(20,8 + 5,0)$$

L4



$$q = 1585$$

$$q = 1020$$

$$P_2 = 8700 + 1100$$

$$P_1 \left\{ \begin{array}{l} 2,85 \times 2,900 + 1,42 \times 1 + \frac{1,3}{2,1} = 10533 \\ 430 + 1,62 \times 100 = 595 \end{array} \right.$$

$$P_3 = 12240 + 890$$

$$-15100$$

$$-17600$$

$$+3840$$

} M_{ELU}

$$T_{max\ FLU} = 22500$$

$$q = 1$$

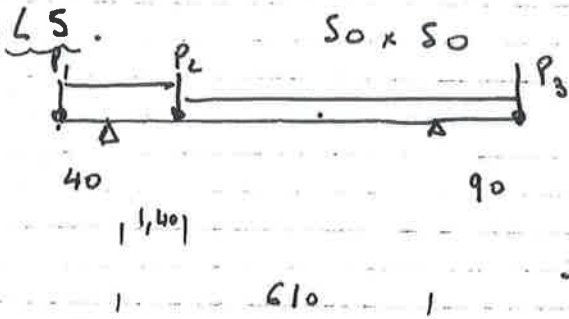
OK

$$29,7$$

$$24,0$$

R_{ELS}

$$(24,2 + 5,5) \quad (19,1 + 4,9)$$



$$q_1 = 1585$$

$$q_2 = 1020$$

$$q_2 = 3,05 \times 475 + 375 = 1220$$

$$q_2 = 3,05 \times 400 = 1220$$

$$P_1 = 7540 + 390$$

$$P_2 \begin{cases} 4400 + 4400 = 8800 \\ 1100 \end{cases}$$

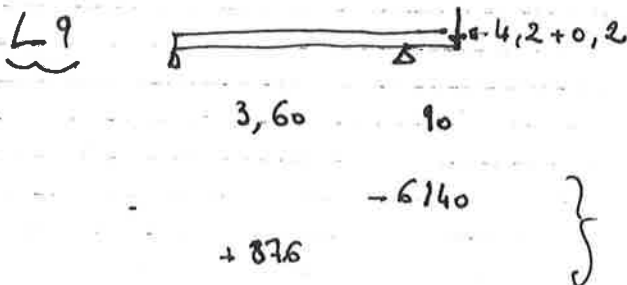
$$P_3 = 12240 + 890$$

$$\left. \begin{array}{l} -4650 \\ -17600 \\ +20400 \end{array} \right\} M_{ELU}$$

$$T_{max} = 21.200$$

$$\left. \begin{array}{l} 24,0 \\ 27,4 \end{array} \right\} R_{ELS}$$

$$(-18,8 + 5,2) \quad (22 + 5,4)$$



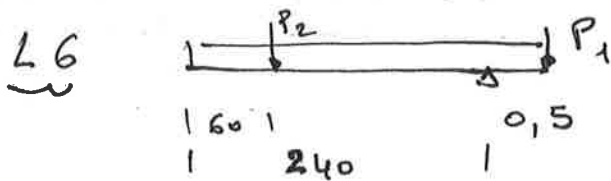
$$q = 625 + 500 = 1125$$

$$q = 0,5 \times 500 = 250$$

$$T_{max} = 7670$$

$$\left. \begin{array}{l} 2,5 \\ 9,4 \end{array} \right\} R_{ELS}$$

$$(2,0 + 0,5) \quad (9,4 + 1,0)$$



$$q = 475 \times 0,8 + 375 = 755$$

$$q = 0,8 \times 400 = 320$$

$$P_1 \begin{cases} 2000 + 4700 = 6700 \\ 500 + 350 = 850 \end{cases}$$

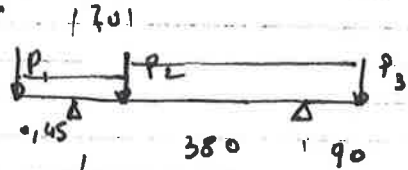
$$P_2 = 1500 + 100$$

$$\left. \begin{array}{l} -5350 \\ +624 \end{array} \right\} M_{ELU}$$

$$T_{max} = 11,1$$

2,49 11,4 R_{ELS}
(2,0 + 0,49) (9,8 + 1,6)

L7



$P_1 = 2 \times 4400 + 700 = 9500$
 $2 \times 400 \quad 800$

$P_2 = 2000 + 490$

$P_3 = 2,08 \times 4800 + 2,08 \times 350 = 9984 + 728$

$g_1 = 2,08 \times 475 + 375 + 1,80 \times 1,28$
 $= 3667$

$q_1 = 2,08 \times 400 = 832$

$g_2 = 1,52 \times 475 + 375 = 1097$

$q_2 = 1,52 \times 400 = 608$

-6550

-5600

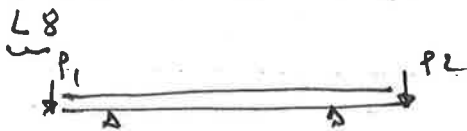
M_{ELU}

T_{max ELU} = 20900

+2400

OK

18,4 25,5 R_{ELS}
(16,5 + 1,9) (23,2 + 2,3)



1401

160

1451

$g = 3,06 \times 475 + 375 = 4830$

$q = 3,06 \times 400 = 1224$

2,25 + 3 marches

$P_1 = \begin{cases} (2 + 2 \times 1,25) \times 1200 = 5400 \\ 4,5 \times 150 = 675 \end{cases}$

$P_2 = \begin{cases} 3700 \times 3,5 = 12950 \\ 200 \times 3,5 = 700 \end{cases}$

-3670

-8780

M_{ELU}

T_{max} = 20500

t_{ps} < 0

OK

9,75 20,0 R_{ELS}
(7,6 + 2,15) (17,6 + 2,4)

Descente de charges

DATE: vendredi 23 janvier 2015

AFFAIRE : Réparation de l'atelier Volume

EMETTEUR : Gérard CORDIVAL -

PIEU	G	Q	G+Q
1	21.5	2.1	23.6
2	20.7	2.0	22.7
3	8.1	3.7	11.8
4	14.5	3.5	18.0
5	11.2	4.3	15.5
6	20.8	5.0	25.8
7	24.2	5.5	29.7
8	19.1	4.9	24.0
9	18.8	5.2	24.0
10	22.0	5.4	27.4
11	16.5	1.9	18.4
12	23.2	2.3	25.5
13	7.6	2.2	9.8
14	17.6	2.4	20.0
15	9.8	1.6	11.4
16	8.4	1.0	9.4

Unité tonne