

23 - 36 H

ARRAS

CCI

Escalier façade  
arrière

# ARRAS-CCI

## Charges permanentes

▷ Plancher de type carrelé :  $0,12 \text{ kPa}$ .

▷ Escalier :  $500 \text{ kg}$  (hypothèse)  $\rightarrow$  surface par escalier :  $4,98 \text{ m}^2$

$\hookrightarrow 1 \text{ kN/m}^2/\text{escalier}$ .

▷ Cloisons + isolations =  $0,54 \text{ kN/m}^2$

## Charges exploitation

▷ Circulation :  $2,5 \text{ kPa}$ .

## charge climatique

Neige

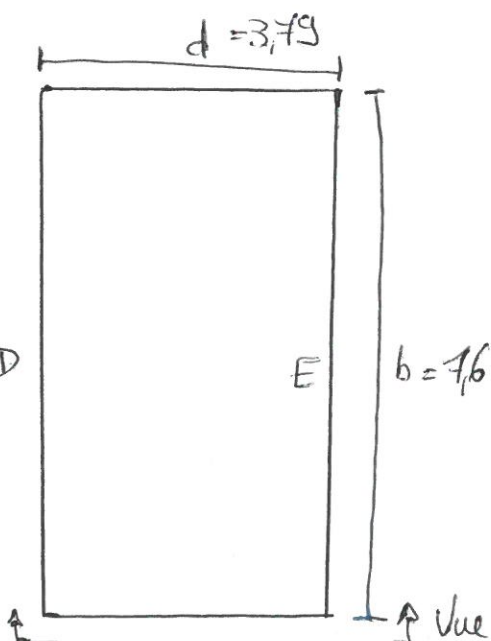
$$S_k = 0,36 \text{ kPa}$$

Vent

$q_p = 0,526 \text{ kPa}$  (voir détail dans escalier métallique ①).

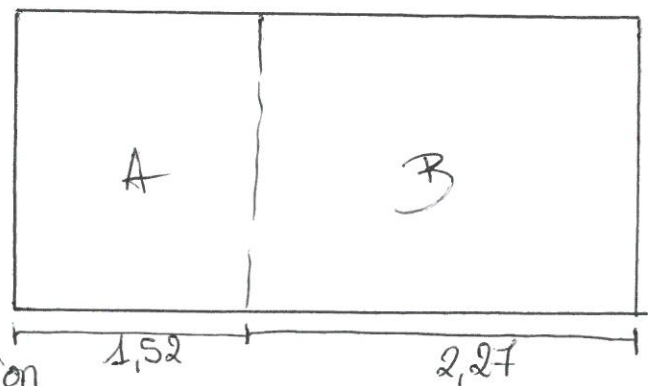
## Calcul du coefficient de pression

Cas 1



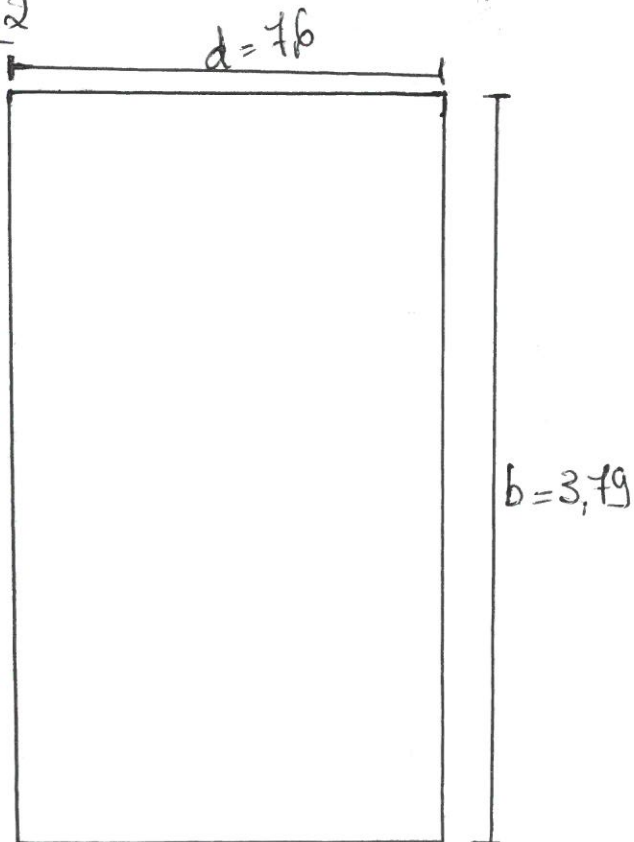
$$e = \min(7,6; 2 \times 13)$$

$$e \geq d$$



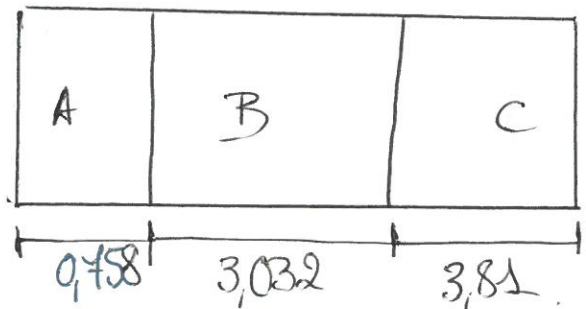
	A	B	D	E
$n/d$	-1,2	-0,8	+0,8	-0,7
$q_{pem}$	-0,96		"	"
$q_{qp}$	-0,5		+0,421	-0,37
$q_{piqp}$	-0,225		+0,189	-0,167
$v^+$	-0,725		0,61	0,537
$v^-$	-0,275		0,23	0,203

Cas 2



$$e = \min(\underline{3,79}; 26)$$

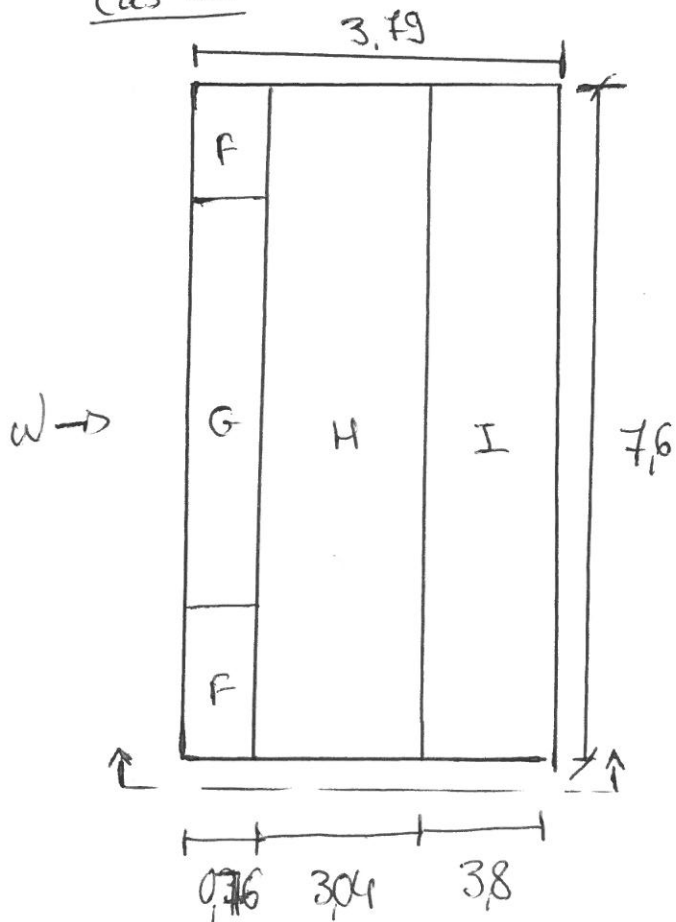
$$\underline{e} < d$$



	A	B	C	D	E
$h/d$	-1,2	-0,8	-0,5	+0,8	-0,7
$C_{pe,m}$	-0,689			"	"
$C_p, q_p$	-0,363			0,42	-0,36
$C_{pi}, q_p$	-0,163			0,189	-0,162
$\psi^+$	-0,526			0,69	-0,537
$\psi^-$	-0,275			0,23	-0,20

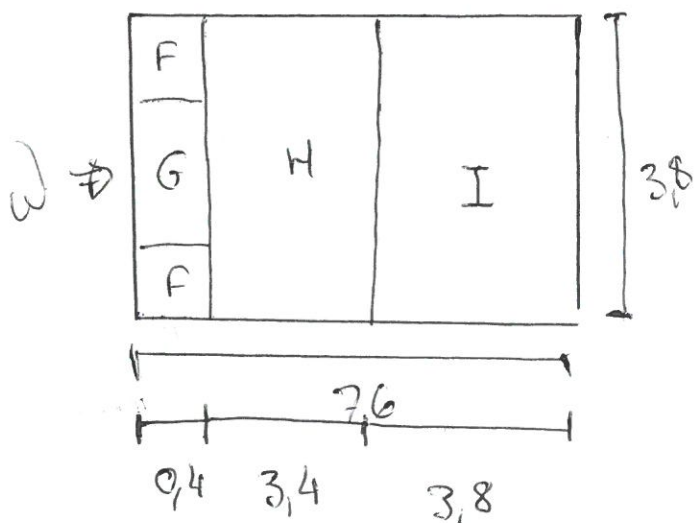
Toiture terrasse

Cas 1



	F	G	H	I
$C_{pe}$	-1,6	-1,1	-0,7	+0,2
$C_{pe m q_p}$	- 0,349			
$C_{pi q_p}$	- 0,157			
$V^+$	0,506			
$V^-$	0,192			

Cas 2



$$e = 3,8 \text{ m}$$

	F	G	H	I
$C_{pe}$	-1,6	-1,1	-0,7	+0,2
$C_{pm}, q_p$	-0,284			
$C_{pi}, q_p$	-0,128			
$V^+$	-0,412			
$V^-$	-0,156			

Vent sur poteau

□ I 0,2  
| 0,2

$$C_f = C_{f,0} \cdot \psi_r \cdot \psi_x$$

$\parallel$       $\parallel$   
 $2,1$       $1$

$d < 15m$

$$\lambda = \min\left(\frac{d}{b}; 70\right) = 65 \rightarrow \psi_x = 0,9$$

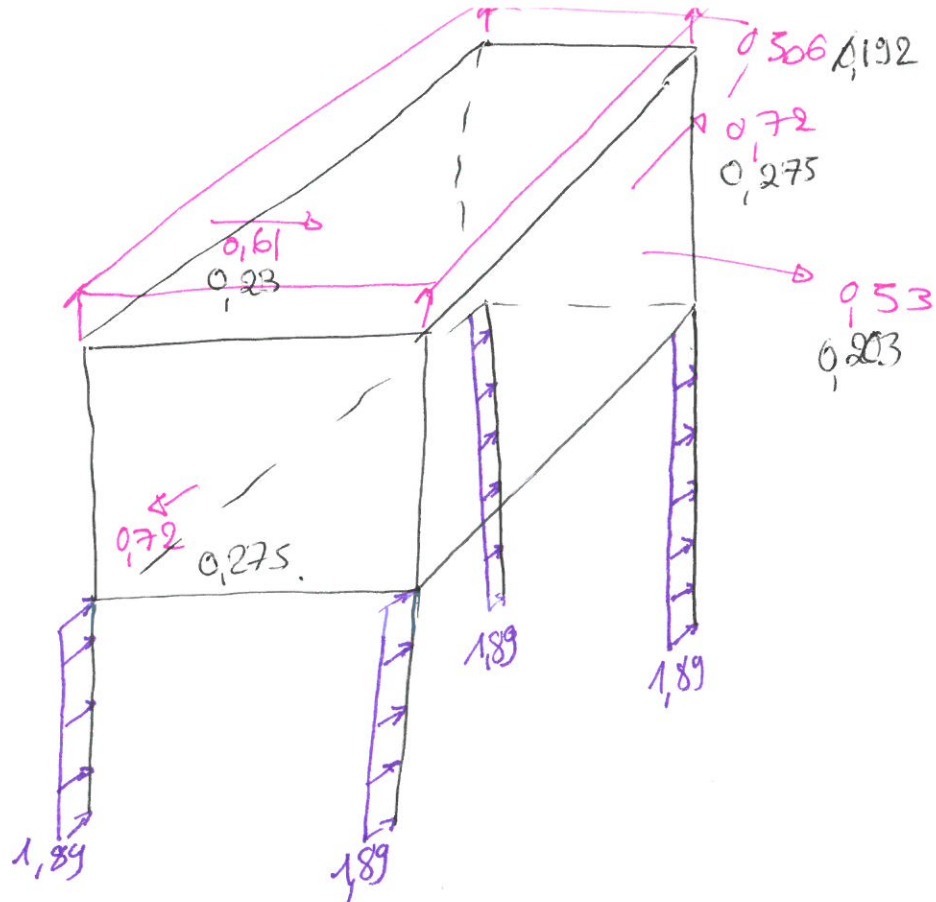
$\parallel$   
65

$$C_f = 1,89$$

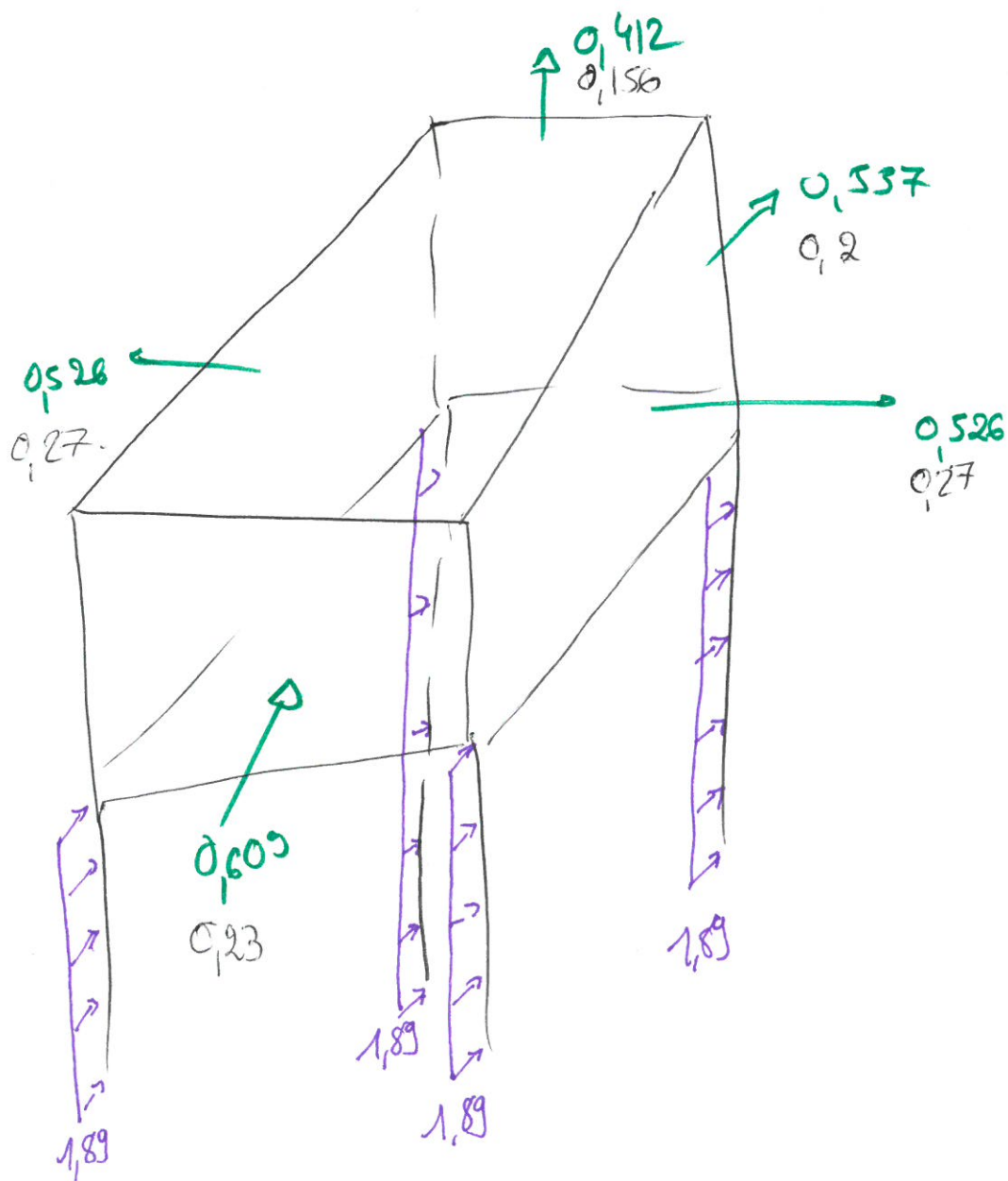
Cas 1

$V^+$

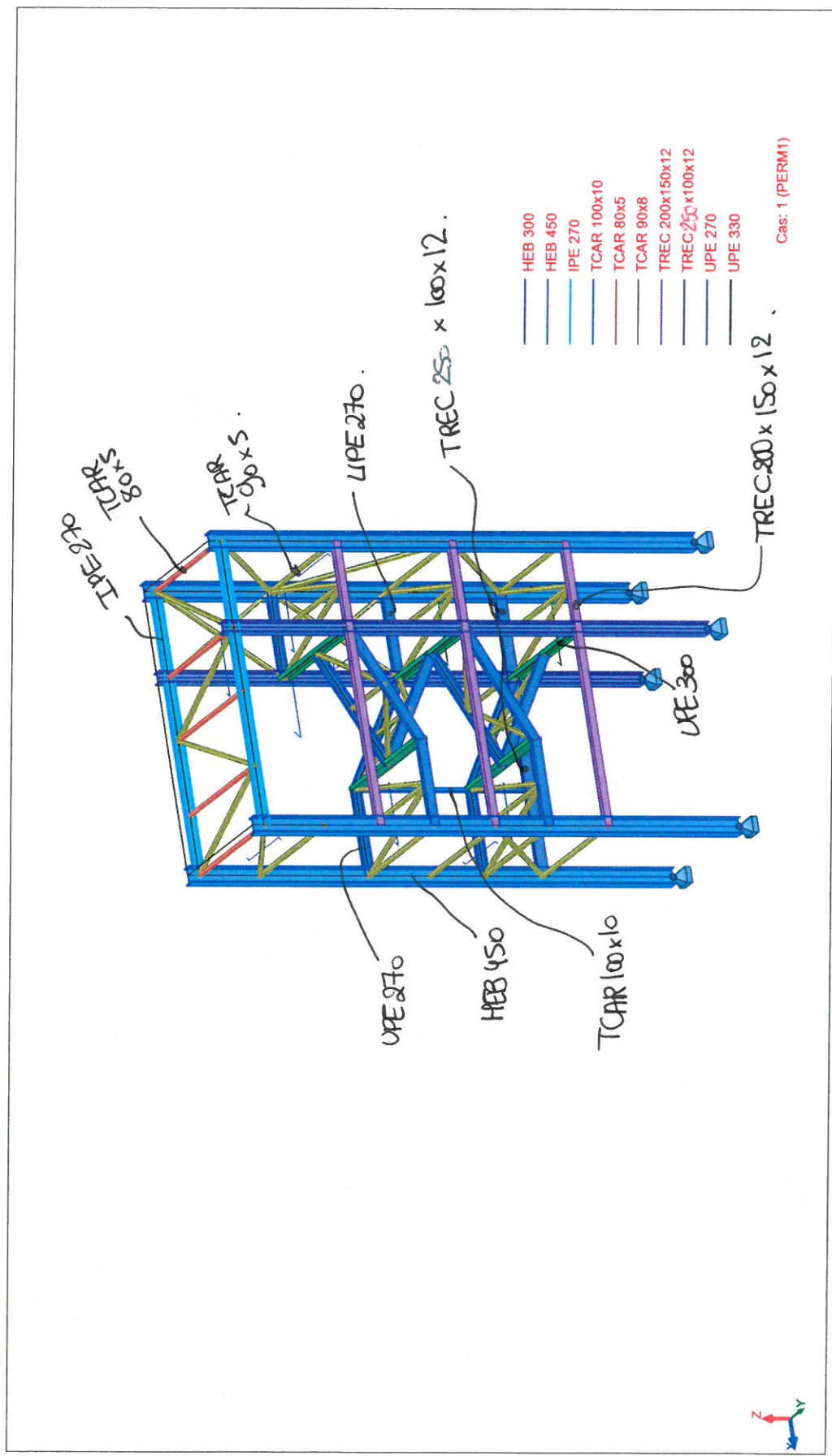
$V^-$



Cas 2

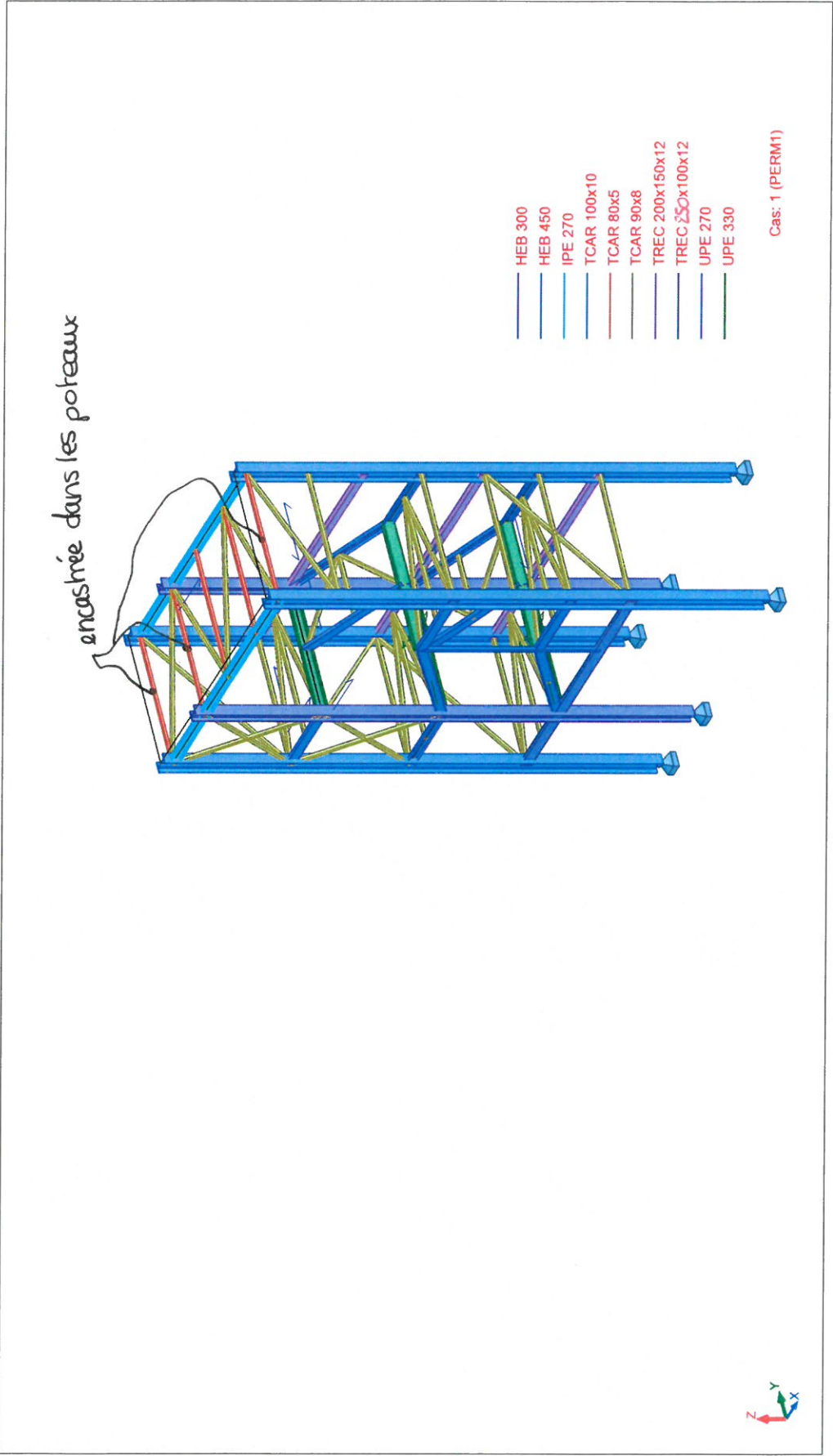




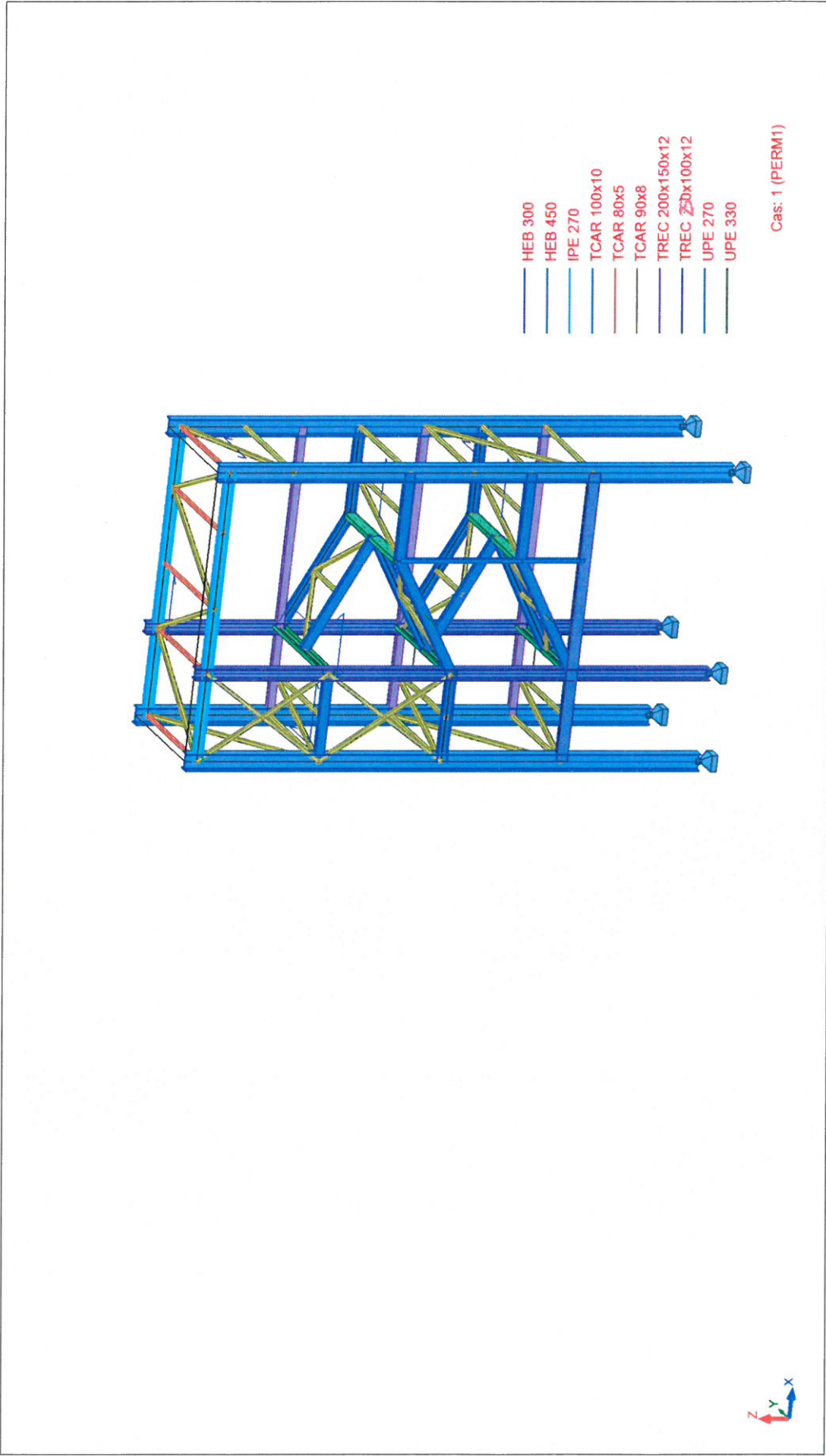




Vue - Cas: 1 (PERM1)



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