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153465683@qq.com

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&RQMQR

* HQUDC3URYLMRQV

7HUPVDQG6\PERQV

7HUPV

6\PERQV

%DMF5HTXLUPHQW

/RDGV

/RDGV&QWLLFDMRQ

&KUDFAMJWF9DOXRI/RDGV

6XE-QW&RHILFHQWRI/RDGV

&RPELQDMRQRI/RDGV(IIHFW

6WKFMDQ HMLJQ

* HQUDC5HTXLUPHQW

)RXQGDNRQ%HDUIQJ&DSDFLW&DQXDMRQ

&DQXDMRQRI6KRUIQJ6FDIRQ

&DQXDMRQRI2SHUDNRQ6FDIRQ

&DQXDMRQRI&RPSRQH-QW

&RQWKFMRQ5HTXLUPHQW

* HQUDC5HTXLUPHQW

6KRUIQJ6FDIRQ

2SHUDNRQ6FDIRQ

,QWDMRQDQG'LDWHPED

3UHSUDNRQIRU&RQWKFMRQ

&RQWKFMRQ6FKHPH

*URXQGDQG)RXQGDNRQ

,QWDMRQDQG'LDWHPEDRI6KRUIQJ6FDIRQ

,QWDMRQDQG'LDWHPEDRI2SHUDNRQ6FDIRQ

,QSHFMRQDQGSFHSMDQH

6DHW0DQJHPHQVDQG0DQMDQH

\$SSHQ3[\$ &D6XDMQJ &RH1LFHQWRI : LQG/ RDG

\$SSHQ3[% ' HMLQ3DUP HMLV

\$SSHQ3[& 6WELDM &RH1LFHQWIRU\$ [LD&RP SUHMRQ0 HP EHUV

\$SSHQ3[' &RQWKPWRQ\$ FHSDQH5 HFRUG6KHHWIRU6FDIRQ

([SDDMRQRI : RGLQJ LQ7KH6SHLLFDMRQ

/ LWRI 4 XRMG6VDDGUBV

\$GGWRQ ([SDDMRQRI 3URYLMRQV

1.0.1 0 3D

1.0.2 0 3D

1.0.3 0 3D

1.0.4 0 3D

$e \in B^\#$

2.1.1

GLN OPEN

0 3DJUDGHWVHQJVKVMH

WEXDUMFD | RCG

0 3D

2.1.2

VKRUIQJ VFDI RCG

0 3D

2.1.3

PSHUMPROVFD | ROG

0 3D

2.1.4

EDM FROD

2.1.5

WDOGDLG

2.1.6

ØGHU

2.1.7

GLDJRQDOEUDFH

2.1.8

EDMUND

2.1.9

KH-DGND-FN

- 2.1.10 FRQQ-FWQJ SDWM
- 2.1.11 WQGDUGFRQQ-FWQJ FRQDU
- 2.1.12 WQGDUGFRQQ-FWQJ SLQ
- 2.1.13 GLNØFNQRGH
- 2.1.14 ØGJHURUGDJRQDOEDFHQG
- 2.1.15 ZHGH
- 2.1.16 WMLU
- 2.1.17 VGHEUDFNHW
- 2.1.18 VMHOG-FN
- 2.1.19 DQFKRUIQJ
- 2.1.20 GRXEDHFKDQQHVMHCE-EP
- 2.1.21 QVWKHJKW
- 2.1.22 KHJKWØ VKRUIQJ VEDIRØG

1 X

1 X X

$$F_5 \quad \text{---}$$

$$M_5 \quad \text{---}$$

$$M_7 \quad \text{---}$$

$$M_z \quad \text{---}$$

$$M_{zN} \quad \text{---}$$

$$N \quad \text{---}$$

$$N \quad \text{---}$$

$$N_N \quad \text{---}$$

$$N_l \quad \text{---}$$

$$N_{IZ} \quad \text{---}$$

$$\begin{array}{|l} N_{*N} \end{array} \quad \text{---}$$

$$\begin{array}{|l} N_{4N} \end{array} \quad \text{---}$$

$$P_N \quad \text{---}$$

$$R \quad \text{---}$$

$$S \quad \text{---}$$

$$w \quad \text{---}$$

$$w_N \quad \text{---}$$

1 X X

$$E \quad \text{---}$$

$$f \quad \text{---}$$

$$f_{\square} \quad \text{---}$$

$$Q_{\text{E}} \quad \text{---}$$

$$R_{\text{F}} \quad \text{---}$$

$$\P (\quad \text{---}$$

$$\hat{\mathbb{X}}\mathbb{X}$$

$$A \quad \text{---}$$

$$A_{\text{J}} \quad \text{---}$$

$$A_{\text{C}} \quad \text{---}$$

$$a \quad \text{---}$$

$$H_l \quad \text{---}$$

$$h \quad \text{---}$$

$$h \, (\quad \text{---}$$

$$I \quad \text{---}$$

$$i \quad \text{---}$$

$$L_l \quad \text{---}$$

$$l \quad \text{---}$$

$$l_{\text{D}} \quad \text{---}$$

$$W \quad \text{---}$$

$$\hat{\mathbb{X}}\mathbb{X}$$

$$k \quad \text{---}$$

$$\phi \quad \text{---}$$

$$E_{\mp}$$

$$j \quad \text{---}$$

J --

J_* --

J_4 --

J_5 --

κ --

$\mathcal{C}$ --

F --

$P_{\vee}$ --

$P_{\mathbb{J}}$ --

$\mathcal{N}$ --

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3.0.2 NJ

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3.0.3

3.0.4

3.0.4

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			NŁ P NŁ P NŁ	

3.0.5 J

3.0.5 J

J		

$$9-E^3 < 2\pm$$

4.1.1

4.1.2

G

G

G

4.1.3

4.1.4

Q

Q

Q

4.1.5

Q

Q

$$9-E^3 = \ddot{u} \; r$$

4.2.1

G

G

4.2.1

kN/m²

G

NL P

G

NL P

4.2.2

G

G

NL P

G

NL P

G

NL P

G

NL P

4.2.3

Q

NL P

Q

Q

$w_N \quad P_j \quad P_v$

$w_N \quad \text{---}$

NL P

$P_j \quad \text{---}$

\$

$P_v \quad \text{---}$

$w \quad \text{---}$

NL P

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n

NL P

4.2.4

4.2.4		P_v	
		ϕ	ϕ
		$P_{v\bar{v}}$	
$P_{v\bar{v}}$		* %	

ϕ ϕ A_Q/A_z A_{ζ} A_z

4.2.5

Q

4.2.5	kN/m ²
	NL P

2

3

$9 \cdot 10^{-3} < N \leq 31$

4.3.1

4.3.1

		J_*	J_4

$$9\text{-}E^3 \sim \hat{E}4\acute{u}>$$

4.4.1

4.4.2

4.4.3

$$JS \text{ d} \frac{R}{J_5}$$

$$J \text{ ---}$$

$$S \text{ ---}$$

$$R \text{ ---}$$

$$J_5 \text{ ---}$$

4.4.4

4.4.4

	<i>G G G Q Q</i>	<i>G G G G Q Q</i>
	<i>G G G Q Q</i> <i>G G G Q Q</i>	
	<i>G G G Q</i>	<i>G G G G Q</i>
		<i>Q</i> NL

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5.1.1

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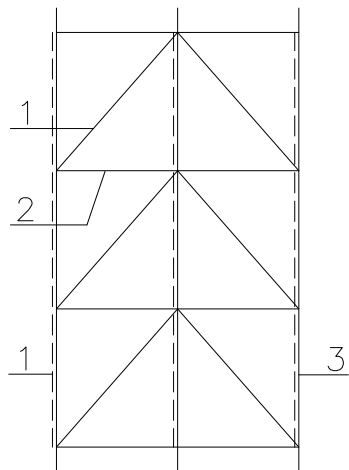
* %

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5.1.2

5.1.3



5.1.4

5.1.5

5.1.5

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	<i>l</i> PP

l

5.1.6

5.1.7

5.1.8

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5.1.9

5.1.9

		N1
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=		

f 0 μE³ ÑA×1í

5.2.1

$$P_N \text{ " } f_c$$

$$P_N \Big| \frac{N_N}{A_J}$$

$$P_N \text{ ---}$$

N3D

$$N_N \text{ ---}$$

N1

$$A_{\mathfrak{J}} \text{ --- } \mathbf{P}$$

$$f_{\square} \text{ --- } \mathbf{NBD}$$

$$* \%$$

5.2.2

$$\mathbf{e} \, \mathfrak{C} \, \mathfrak{i} \, \mathbf{A} \mathfrak{x} \mathfrak{l} \mathfrak{i}$$

5.3.1

$$N \quad \mathcal{J}_* \, \Big| \, N_{*\mathbf{N}} \quad \mathcal{J}_4 \, \Big| \, N_{4\mathbf{N}}$$

$$N \quad \mathcal{J}_* \, \Big| \, N_{*\mathbf{N}} \quad \mathfrak{u} \, \mathcal{J}_4 \, \Big| \, N_{4\mathbf{N}}$$

$$\mathcal{J}_* \text{ --- }$$

$$\mathcal{J}_4 \text{ --- }$$

$$N \text{ --- } \mathbf{N} \mathfrak{l}$$

$$\Big| \, N_{*\mathbf{N}} \text{ --- } \mathbf{N} \mathfrak{l}$$

$$\Big| \, N_{4\mathbf{N}} \text{ --- } \mathbf{N} \mathfrak{l}$$

5.3.2

$$l \quad E_+ \mathfrak{K}$$

$$l \quad E_+ \mathfrak{J} \mathfrak{c} \quad ka$$

$$l \text{ --- }$$

$$a \text{ --- } \mathbf{P}$$

$$h \text{ --- } \mathbf{P}$$

$h \text{ (} \text{---}$ P
 $k \text{ ---}$ h P P h P
 $j \text{ ---}$ $h \text{ (} \text{ P P } h \text{ ($
P
 $E_{\mp} \text{ ---}$
 $k \text{ ---}$

5.3.2

H P	H	H	H	H
$E_{\mp}$				

5.3.3

$$\frac{N}{M} \text{ " } f$$

$$\frac{N}{M} \frac{M_z}{W} \text{ " } f$$

$$M_z \text{ ---} \quad \mathbb{N} \text{ P}$$

$$f \text{ ---} \quad 1 \text{ PP}$$

$$\% \quad \%$$

$$h \text{ ---} \quad O \text{ l } /i$$

$$\&$$

$$W \text{ ---} \quad \text{PP} \quad \% \quad \%$$

$$A \text{ ---} \quad \text{PP} \quad \% \quad \%$$

5.3.4

$$M_5 \text{ t } JM_7$$

$$M_5 \text{ --- } \mathbb{N} \text{ P}$$

$$M_7 \text{ --- } \mathbb{N} \text{ P}$$

$$J \text{ ---}$$

$$, \text{ P } \dot{\text{A}} \text{A} \dot{\text{I}}$$

5.4.1

$$N \quad J \mid N_{*N} \quad J_4 \mid N_{4N}$$

$$\mid N_{*N} \text{ --- } \mathbb{N}$$

$$\mid N_{4N} \text{ --- } \mathbb{N}$$

$$l \quad \mathbb{R}$$

$$h \text{ --- } \text{P}$$

$$F \text{ ---}$$

5.4.1

5.4.2

$$N_l \text{ " } M_f$$

$$A \text{ --- PP}$$

$$N \text{ --- \&}$$

$$N_l \text{ " } R_F$$

$$R_F \text{ --- N1 N1}$$

5.4.4

$$N_{lZ} \text{ } w_{N_l} L H_l$$

$$w_N \text{ --- N1 P}$$

$$L_l \text{ --- P}$$

$$H_l \text{ --- P}$$

$$^{\circ} Gf, A \times I$$

5.5.1

$$F_5 \text{ } dQ_E$$

$$F_5 \text{ --- N1}$$

$$Q_E \text{ --- N1}$$

5.5.2

6 8b?ú Ð

6.1.1

6.1.2

6.1.3

P

6.1.4

6.1.5

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NŁ

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NŁ

P

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6.2.1

6.2.2

P

6.2.2-1

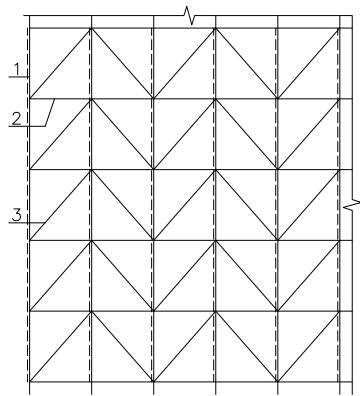
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N NŁ	H P			
	H	H	H	H
N				
N				
N				

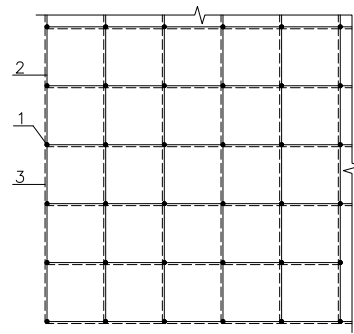
6.2.2-2

Z

N NŁ	H P			
	H	H	H	H
N				
N				
N				

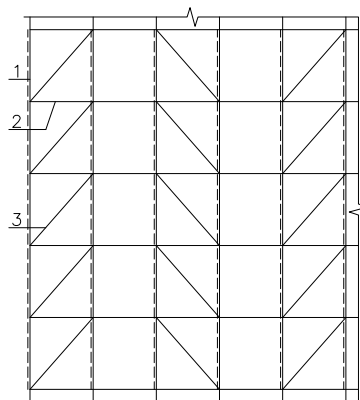


D



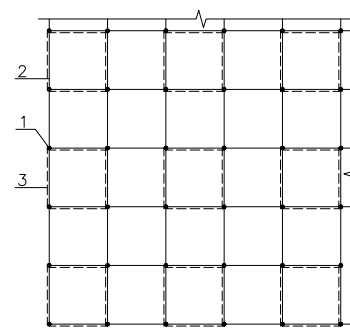
E

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D

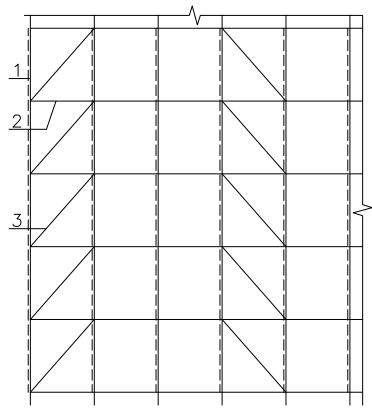
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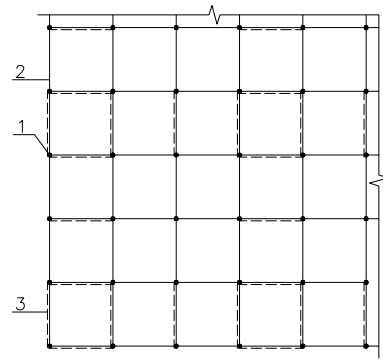
E

2 2

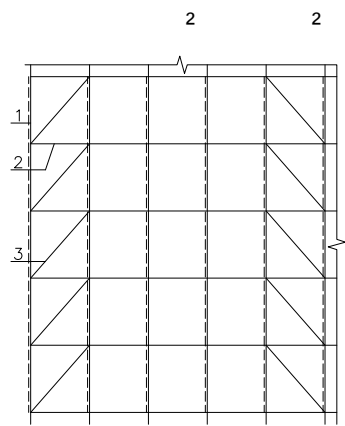
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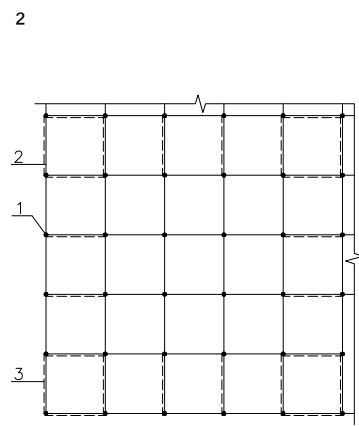
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6.2.3

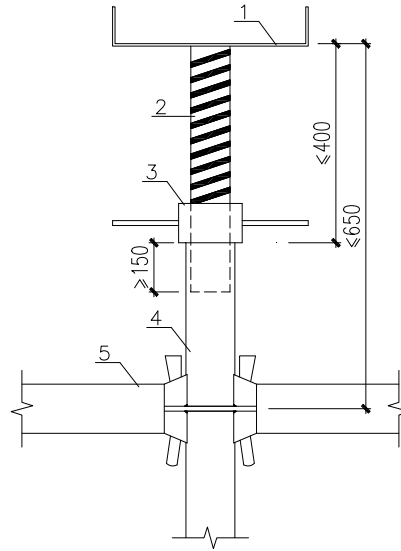
P

6.2.4

PP

PP

PP



6.2.5

PP

PP

PP

6.2.6

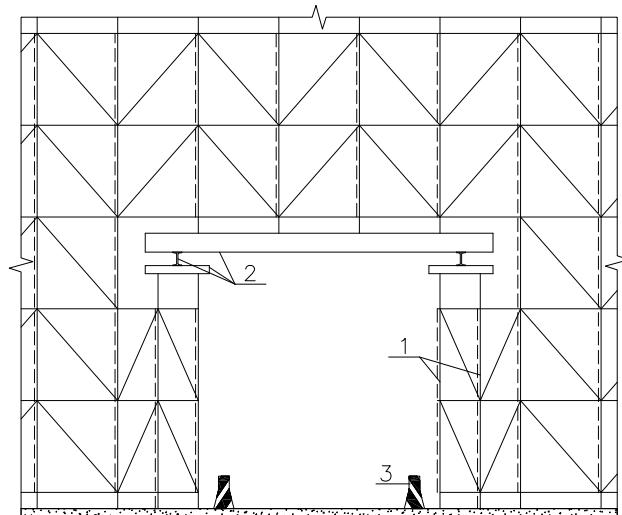
P

6.2.7

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6.2.8

6.2.9



' P ì

6.3.1

6.3.2

P

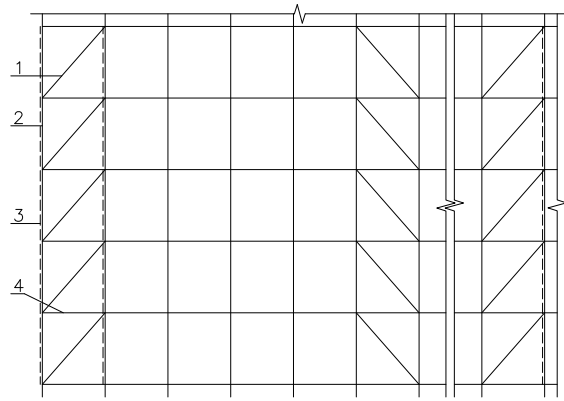
P

6.3.3

6.3.4

6.3.5

P



6.3.6

P

6.3.7

$$\acute{o} \quad \ddot{u} =$$

7.1.1

7.1.2

7.1.3

7.1.4

7.1.5

$$\acute{o} \quad \ddot{i} \sim$$

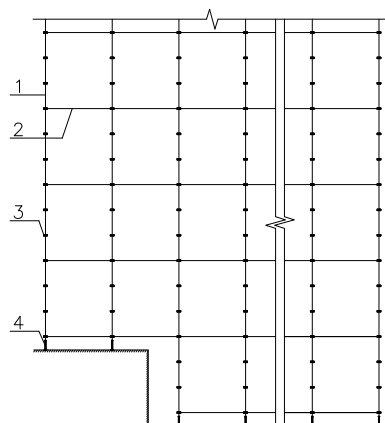
7.2.1

f 0 D 0.v

7.3.1

7.3.2

7.3.3



e Ç ì ç>ûD üLš

7.4.1

7.4.2

7.4.3

7.4.4

7.4.5

7.4.6

PP

7.4.7

PP

7.4.8

7.4.9

7.4.10

PP

7.4.11

7.4.12

' P ì Ć>ûD üLš

7.5.1

P

7.5.2

7.5.3

P

P

7.5.4

-* -

7.5.5

PP

7.5.6

7.5.7

7.5.8

7.5.9

7.5.10

7.5.11

7.5.12

8.0.1

8.0.2

P

P

8.0.3

8.0.4

P

8.0.5

8.0.6

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8.0.7

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9.0.1

9.0.2

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9.0.5

9.0.6

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9.0.11

9.0.12

9.0.13

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A.0.1

\$

P_z

P_z	A	%	&	D

\$

P P_z	A	%	&	D

A.0.2

%

B.0.1

B.0.1		N/mm	
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		u	

B.0.2

B.0.2					
<i>l</i>	<i>t</i>	<i>A</i>	<i>I</i>	<i>W</i>	<i>i</i>
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C.0.1 SS1350P

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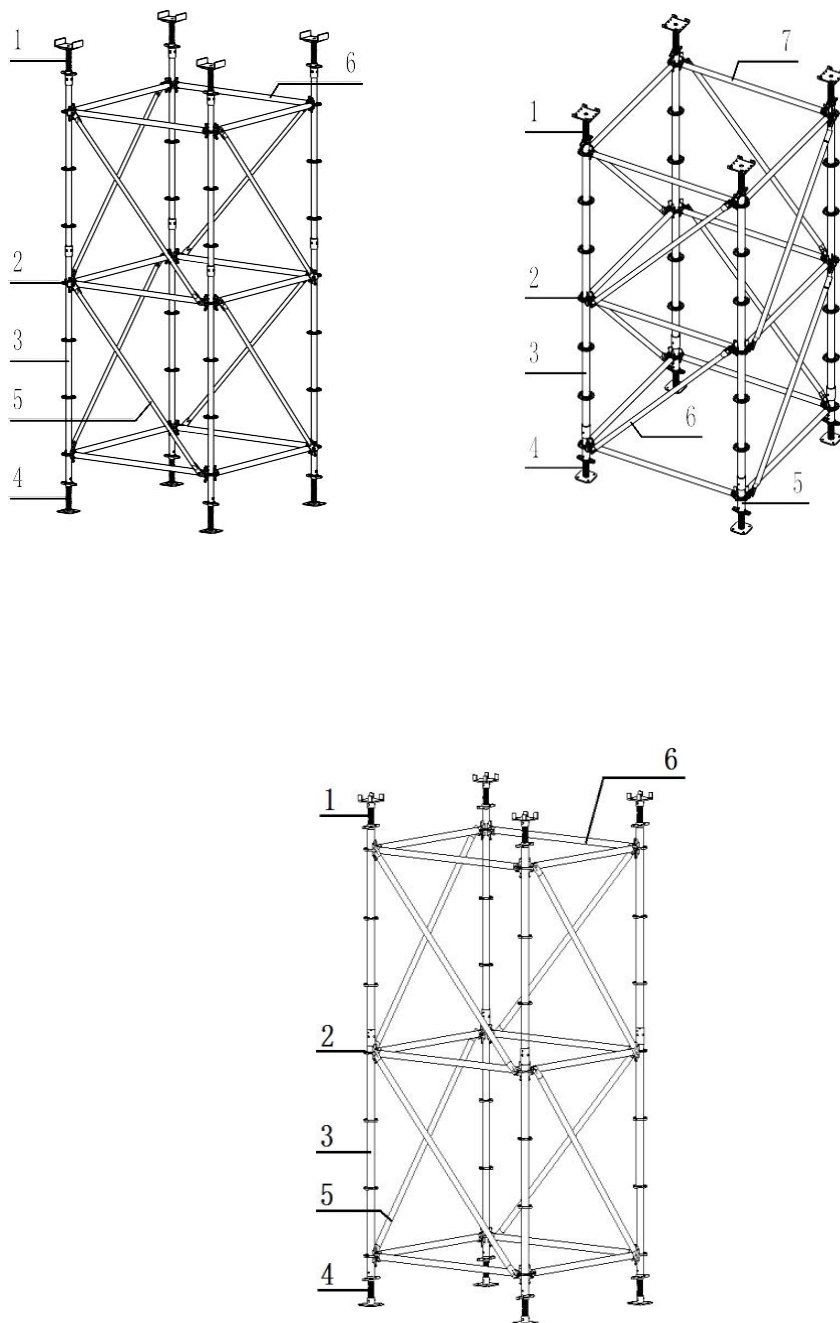
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1.0.1

1.0.2

eB#

2.1.1



3.0.1

3.0.2

3.0.3

3.0.4 3.0.5

$$9-E^3 < 2\pm$$

4.1.1 4.1.4

$$9-E^3 = \ddot{u} \, r$$

4.2.1

4.2.2

4.2.3

4.2.4

$$P_{stw}$$

/

$$9-E^3 < N^{\sqrt{31}}!$$

4.3.1

$$9-E^3 \sim \hat{E}^4 u >$$

4.4.4

68b?úĐ

5.1.2 5.1.3

5.1.4

5.1.5

5.1.6

5.1.9

-* 7

f 0 μE^3 ÑA¼Í

5.2.1

5.2.2

e Ç ì A¼Í

5.3.1 5.3.3

5.3.4

' P ì AϫÍ

5.4.1 5.4.2

P_{cr}

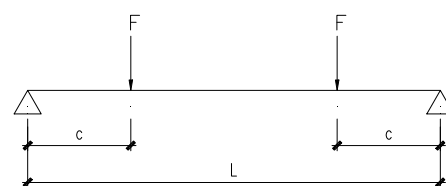
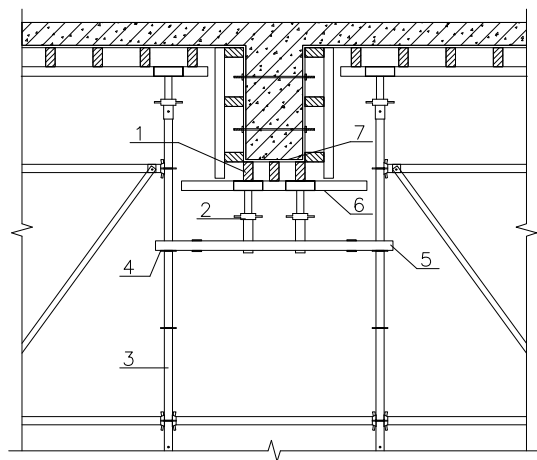
F

5.4.3

5.4.4

° Gf, AϫÍ

5.5.1



5.5.2

68b?úĐ

6.1.1~6.1.5

e Ç ì

6.2.1

6.2.2 6.2.3

6.2.4

6.2.8

' P ì

6.3.7

ó ü =

7.1.1

7.1.2

ó ï ~

7.2.1

f 0 D 0.v

7.3.2

e Ç ì ç>ûD üLš

7.4.1~7.4.3

7.4.4

7.4.5

7.4.11 7.4.12

' P ì ç>ûD üLš

7.5.11

8.0.2 8.0.3

8.0.4 8.0.5

8.0.6

9.0.6

9.0.7

9.0.8

9.0.9