

$p6mm$

No. 17

$p6mm$

Generators selected (1);  $t(1,0)$ ;  $t(0,1)$ ; (2); (4); (7)

**General position**

Multiplicity,  
Wyckoff letter,  
Site symmetry

Coordinates

12	$f$	1	(1) $x, y$	(2) $\bar{y}, x-y$	(3) $\bar{x}+y, \bar{x}$
			(4) $\bar{x}, \bar{y}$	(5) $y, \bar{x}+y$	(6) $x-y, x$
			(7) $\bar{y}, \bar{x}$	(8) $\bar{x}+y, y$	(9) $x, x-y$
			(10) $y, x$	(11) $x-y, \bar{y}$	(12) $\bar{x}, \bar{x}+y$

**I Maximal translationengleiche subgroups**

[2] $p611$ (16, $p6$ )	1; 2; 3; 4; 5; 6	
[2] $p31m$ (15)	1; 2; 3; 10; 11; 12	
[2] $p3m1$ (14)	1; 2; 3; 7; 8; 9	
{ [3] $p2mm$ (9, $c2mm$ )	1; 4; 7; 10	$\mathbf{a-b, a+b}$
[3] $p2mm$ (9, $c2mm$ )	1; 4; 8; 11	$\mathbf{a+2b, -a}$
[3] $p2mm$ (9, $c2mm$ )	1; 4; 9; 12	$\mathbf{2a+b, b}$

**II Maximal klassengleiche subgroups**

• **Enlarged unit cell**

[3] $\mathbf{a}' = 3\mathbf{a}, \mathbf{b}' = 3\mathbf{b}$			
{ $h6mm$ (17, $p6mm$ )	$\langle 2; 4; 7 \rangle$	$\mathbf{a-b, a+2b}$	
$h6mm$ (17, $p6mm$ )	$\langle 2+(1,-1); 4+(2,0); 7+(1,1) \rangle$	$\mathbf{a-b, a+2b}$	1,0
$h6mm$ (17, $p6mm$ )	$\langle 2+(2,-2); 4+(4,0); 7+(2,2) \rangle$	$\mathbf{a-b, a+2b}$	2,0
[4] $\mathbf{a}' = 2\mathbf{a}, \mathbf{b}' = 2\mathbf{b}$			
{ $p6mm$ (17)	$\langle 2; 4; 7 \rangle$	$\mathbf{2a, 2b}$	
$p6mm$ (17)	$\langle 2+(1,-1); 4+(2,0); 7+(1,1) \rangle$	$\mathbf{2a, 2b}$	1,0
$p6mm$ (17)	$\langle 2+(1,2); 4+(0,2); 7+(1,1) \rangle$	$\mathbf{2a, 2b}$	0,1
$p6mm$ (17)	$\langle 2+(2,1); (4; 7)+(2,2) \rangle$	$\mathbf{2a, 2b}$	1,1

• **Series of maximal isomorphic subgroups**

$[p^2] \mathbf{a}' = p\mathbf{a}, \mathbf{b}' = p\mathbf{b}$			
$p6mm$ (17)	$\langle 2+(u+v, -u+2v); 4+(2u, 2v); 7+(u+v, u+v) \rangle$	$\mathbf{pa, pb}$	$u, v$
	$p > 1; p \neq 3; 0 \leq u < p; 0 \leq v < p$		
	$p^2$ conjugate subgroups for the prime $p$		

**I Minimal translationengleiche supergroups**

none

**II Minimal non-isomorphic klassengleiche supergroups**

none