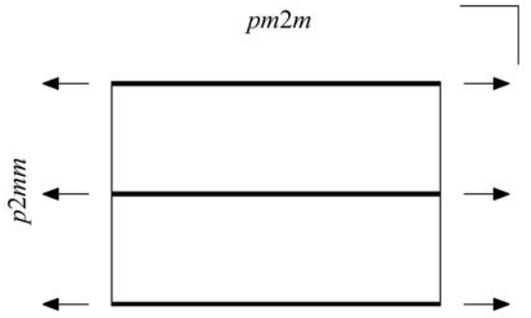
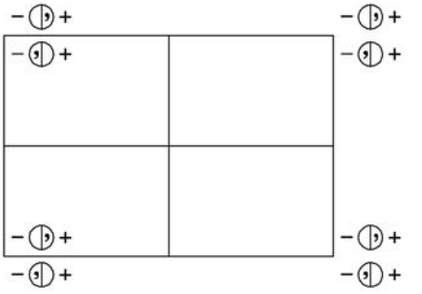
International Tables for Crystallography (2006). Vol. E, Layer group 27, pp. 276–277.

$pm2m$ $m2m$ Orthorhombic/Rectangular

No. 27 $pm2m$

Patterson symmetry $pmmm$





Origin on $m2m$

Asymmetric unit $0 \le x \le \frac{1}{2}; \quad 0 \le y \le 1; \quad 0 \le z$

Symmetry operations

(1) 1 (2) 2 $0,y,0$ (3) m $0,y,z$ (4) m $x,y,0$

Generators selected (1); $t(1,0,0)$; $t(0,1,0)$; (2); (3)

Positions

Multiplicity, Wyckoff letter, Site symmetry			Coordinates				Reflection conditions
4	f	1	(1) x,y,z	(2) $\bar{x},y,\bar{z}$	(3) $\bar{x},y,z$	(4) $x,y,\bar{z}$	General: no conditions
							Special: no extra conditions
2	e	$..m$	$x,y,0$	$\bar{x},y,0$			
2	d	$m..$	$\frac{1}{2},y,z$	$\frac{1}{2},y,\bar{z}$			
2	c	$m..$	$0,y,z$	$0,y,\bar{z}$			
1	b	$m2m$	$\frac{1}{2},y,0$				
1	a	$m2m$	$0,y,0$				

Symmetry of special projections

Along [001] $p1m1$
$\mathbf{a}' = \mathbf{a}$ $\mathbf{b}' = \mathbf{b}$
Origin at $0,0,z$

Along [100] $\not{p}11m$
$\mathbf{a}' = \mathbf{b}$
Origin at $x,0,0$

Along [010] $\not{p}2mm$
$\mathbf{a}' = \mathbf{a}$
Origin at $0,y,0$

Maximal non-isotypic subgroups

I [2] $pm11$ (11) 1; 3
[2] $p1211$ ($p2111$, 8) 1; 2
[2] $p11m$ (4) 1; 4

IIa none

IIb [2] $cm2e$ ($\mathbf{a}' = 2\mathbf{a}, \mathbf{b}' = 2\mathbf{b}$) (36); [2] $cm2m$ ($\mathbf{a}' = 2\mathbf{a}, \mathbf{b}' = 2\mathbf{b}$) (35); [2] $pm2a$ ($\mathbf{a}' = 2\mathbf{a}$) (31); [2] $pb2b$ ($\mathbf{b}' = 2\mathbf{b}$) (30); [2] $pb2_1m$ ($\mathbf{b}' = 2\mathbf{b}$) (29); [2] $pm2_1b$ ($\mathbf{b}' = 2\mathbf{b}$) (28)

Maximal isotypic subgroups of lowest index

IIc [2] $pm2m$ ($\mathbf{a}' = 2\mathbf{a}$) (27); [2] $pm2m$ ($\mathbf{b}' = 2\mathbf{b}$) (27)

Minimal non-isotypic supergroups

I [2] $pmmm$ (37); [2] $pmam$ (40); [3] $p\bar{6}m2$ (78); [3] $p\bar{6}2m$ (79)

II [2] $cm2m$ (35)