

Aem2

No. 39

Aem2
C_{2v}¹⁵

 Former space-group symbol *Abm2*
Generators selected (1); $t(1, 0, 0)$; $t(0, 1, 0)$; $t(0, 0, 1)$; $t(0, \frac{1}{2}, \frac{1}{2})$; (2); (3)

General position

 Multiplicity,
Wyckoff letter,
Site symmetry

Coordinates

 $(0, 0, 0) + (0, \frac{1}{2}, \frac{1}{2}) +$

 8 *d* 1

 (1) x, y, z (2) \bar{x}, \bar{y}, z (3) $x, \bar{y} + \frac{1}{2}, z$ (4) $\bar{x}, y + \frac{1}{2}, z$
I Maximal translationengleiche subgroups

[2] <i>A1m1</i> (8, <i>C1m1</i>)	(1; 3)+	c, b, -a - c	0, 1/4, 0
[2] <i>Ae11</i> (7, <i>P1c1</i>)	(1; 4)+	$1/2(-\mathbf{b} + \mathbf{c}), \mathbf{a}, \mathbf{b}$	
[2] <i>A112</i> (5)	(1; 2)+		

II Maximal klassengleiche subgroups

• Loss of centring translations

[2] <i>Pbc2₁</i> (29, <i>Pca2₁</i>)	1; 4; (2; 3) + $(0, \frac{1}{2}, \frac{1}{2})$	-b, a, c	0, 1/4, 0
[2] <i>Pbm2</i> (28, <i>Pma2</i>)	1; 2; 3; 4	-b, a, c	
[2] <i>Pcc2</i> (27)	1; 2; (3; 4) + $(0, \frac{1}{2}, \frac{1}{2})$		
[2] <i>Pcm2₁</i> (26, <i>Pmc2₁</i>)	1; 3; (2; 4) + $(0, \frac{1}{2}, \frac{1}{2})$	-b, a, c	0, 1/4, 0

• Enlarged unit cell

[2] a' = 2a			
<i>Ibm2</i> (46, <i>Ima2</i>)	$\langle 2; 3 \rangle$	-b, 2a, c	
<i>Ibm2</i> (46, <i>Ima2</i>)	$\langle 3; 2 + (1, 0, 0) \rangle$	-b, 2a, c	1/2, 0, 0
<i>Iba2</i> (45)	$\langle 2; 3 + (1, 0, 0) \rangle$	2a, b, c	
<i>Iba2</i> (45)	$\langle (2; 3) + (1, 0, 0) \rangle$	2a, b, c	1/2, 0, 0
<i>Aea2</i> (41)	$\langle 2; 3 + (1, 0, 0) \rangle$	2a, b, c	
<i>Aea2</i> (41)	$\langle (2; 3) + (1, 0, 0) \rangle$	2a, b, c	1/2, 0, 0
<i>Aem2</i> (39)	$\langle 2; 3 \rangle$	2a, b, c	
<i>Aem2</i> (39)	$\langle 3; 2 + (1, 0, 0) \rangle$	2a, b, c	1/2, 0, 0
[3] a' = 3a			
<i>Aem2</i> (39)	$\langle 2; 3 \rangle$	3a, b, c	
<i>Aem2</i> (39)	$\langle 3; 2 + (2, 0, 0) \rangle$	3a, b, c	1, 0, 0
<i>Aem2</i> (39)	$\langle 3; 2 + (4, 0, 0) \rangle$	3a, b, c	2, 0, 0
[3] b' = 3b			
<i>Aem2</i> (39)	$\langle 2; 3 + (0, 1, 0) \rangle$	a, 3b, c	
<i>Aem2</i> (39)	$\langle 2 + (0, 2, 0); 3 + (0, 3, 0) \rangle$	a, 3b, c	0, 1, 0
<i>Aem2</i> (39)	$\langle 2 + (0, 4, 0); 3 + (0, 5, 0) \rangle$	a, 3b, c	0, 2, 0
[3] c' = 3c			
<i>Aem2</i> (39)	$\langle 2; 3 \rangle$	a, b, 3c	

• Series of maximal isomorphic subgroups

[<i>p</i>] a' = pa			
<i>Aem2</i> (39)	$\langle 3; 2 + (2u, 0, 0) \rangle$	pa, b, c	<i>u</i> , 0, 0
	$p > 2; 0 \leq u < p$		
	<i>p</i> conjugate subgroups for the prime <i>p</i>		
[<i>p</i>] b' = pb			
<i>Aem2</i> (39)	$\langle 2 + (0, 2u, 0); 3 + (0, \frac{p}{2} - \frac{1}{2} + 2u, 0) \rangle$	a, pb, c	0, <i>u</i> , 0
	$p > 2; 0 \leq u < p$		
	<i>p</i> conjugate subgroups for the prime <i>p</i>		
[<i>p</i>] c' = pc			
<i>Aem2</i> (39)	$\langle 2; 3 \rangle$	a, b, pc	
	$p > 2$		
	no conjugate subgroups		

I Minimal translationengleiche supergroups

 [2] *Cmce* (64); [2] *Cmme* (67)

II Minimal non-isomorphic klassengleiche supergroups

• Additional centring translations

 [2] *Fmm2* (42)

• Decreased unit cell

 [2] $\mathbf{b}' = \frac{1}{2}\mathbf{b}$, $\mathbf{c}' = \frac{1}{2}\mathbf{c}$ *Pmm2* (25)