

## Index of groups, nets and lattices

Numerals in roman type refer to pages, those in italics to diagrams. An asterisk indicates a list, with or without diagrams. For the uncoloured point groups the corresponding 'group' notation is shown in brackets.

### TWO DIMENSIONS

#### Point groups (illustrated by finite patterns)

Uncoloured, 11–12, 106–7

	15.01*, 15.03*	
2	Title page, 2.02	[C <sub>2</sub> ]
3	1.04	[C <sub>3</sub> ]
4	2.01, 12.16(8)	[C <sub>4</sub> ]
8	12.16 (3)	[C <sub>8</sub> ]
1 <i>m</i>	vi, 2.03, 12.16(2)	[D <sub>1</sub> or C <sub>2</sub> ]
2 <i>mm</i>	2.07, 12.16(1)	[D <sub>2</sub> ]
3 <i>m</i>	2.07	[D <sub>3</sub> ]
4 <i>mm</i>	2.07	[D <sub>4</sub> ]
5 <i>m</i>	2.06	[D <sub>5</sub> ]
6 <i>mm</i>	12.16 (4)	[D <sub>6</sub> ]
continuous, 53, 191	∞ <i>m</i> 9.02	[D <sub>∞</sub> ]

Dichromatic, 59–61, 61\*, 195, 196–7, 198\*

	11.06
4'	27.01(a)
6'	12.16 (5) (10)
2 <i>mm</i> 1'	11.03(c)
2 <i>m</i> ' <i>m</i> '	11.01(b) (c) (d)
2' <i>m</i> ' <i>m</i>	12.16 (7)
4' <i>m</i> ' <i>m</i>	12.16 (9)
6' <i>m</i> ' <i>m</i> '	12.16 (6)

Polychromatic, 69, 195, 206–7

4 <sup>(4)</sup>	11.19(a)
6 <sup>(3)</sup>	27.01(b)
8 <sup>(4)</sup>	11.19(b)

#### Line groups (frieze patterns)

Uncoloured, 13–15, 108–9

	16.05*
<i>r</i> 1	3.01, 3.08
<i>r</i> 2	3.08, 12.16 (14)
<i>r</i> 1 <i>m</i>	3.08, 12.16 (13)
<i>r</i> 11 <i>m</i>	3.08, 12.16 (11)
<i>r</i> 11 <i>g</i>	3.08
<i>r</i> 2 <i>mm</i>	3.08
<i>r</i> 2 <i>mg</i>	3.08, 12.11, 12.16 (12) (15)
continuous, 53, 191	<i>r</i> <sub>0</sub> 1 <i>m</i> 9.03
	<i>r</i> <sub>0</sub> 2 <i>mm</i> 9.03

Dichromatic, 63, 79, 208

27.07  
 $r'2$  12.16 (16)  
 $r2'$  11.08  
 $r'11m$  12.16 (19)  
 $r1m'$  11.09  
 $r11g'$  11.08  
 $r'2mm$  12.16 (17)  
 $r2'mm'$  11.08  
 $r2'm'm$  11.08  
 $r2m'g'$  12.16 (20)  
 $r2'mg'$  11.08, 12.16 (18)  
 $r2'm'g$  11.09

continuous, 208

$r_02'mm'$  27.15

Polychromatic, 79\*, 11.17

*Nets*, 16, 111–13, 17.12\*

Dichromatic, 11.11\*

Polychromatic, 68

*Plane groups (wallpaper patterns)*

Uncoloured, 16–25, 24\*, 76–7, 114–18

4.34\* (except  $p3$ ), 4.36\*, 18.05\*  
 $p1$  4.04  
 $p2$  4.03, 17.13  
 $p3$  4.29, 12.16 (24)  
 $p4$  4.25, 13.08(a) (b)  
 $p6$  4.29, 12.01, 12.16 (22), 13.07 ( $3^4.6$ ), 13.08 (6.3.1)  
 $p1m, p11m$  4.07  
 $c1m, c11m$  4.18  
 $p1g, p11g$  4.14  
 $p2mm$  4.08, 13.07 ( $3^3.4^2$ ), 17.13  
 $c2mm$  4.18, 12.16 (21), 17.13  
 $p2gm, p2mg$  4.15, 12.13, 12.16 (26)  
 $p2gg$  4.15, 12.16 (32)  
 $p3m1$  4.29  
 $p31m$  4.29, 13.03, 13.08(c)  
 $p4mm$  4.24, 12.16(23), 13.06, 13.07 ( $4.8^2$ ), 17.13  
 $p4gm$  4.26, 12.02, 12.14, 12.16 (29), 13.01, 13.05, 13.07 ( $3^2.4.3.4$ )  
 $p6mm$  4.29, 13.07 (four examples), 17.13

continuous, 53, 192

$p_01m, p_011m$  9.04, 26.06  
 $p_02mm$  9.04, 26.06  
 $p_\infty\infty m$  9.04

Dichromatic, 63–6, 77–8, 79\*, 198–202

27.09\*  
 $p'2$  11.13, 12.16 (27)  
 $p'_n4$  12.16 (30)  
 $p6'$  12.16 (31)  
 $c'1m, c'11m$  11.12, 12.16 (25) (38), 13.13  
 $p'_b2mm$  11.12  
 $p'_n2mm$  11.12, 11.13  
 $c'2mm$  11.12  
 $p2'mm'$  11.12  
 $c2'mm'$  11.12  
 $c2m'm'$  11.12, 12.16 (40)  
 $p'_b2gm$  11.12  
 $p2g'm'$  11.12  
 $p2'g'm$  11.12  
 $p2'gm'$  11.12  
 $p2g'g'$  12.16 (28)

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	$p'_n 4mm$	11.13	
	$p4'g'm$	13.11	
	$p4'gm'$	13.11	
	$p4g'm'$	13.11	
	$p6'mm'$	11.13	
continuous, 208			
	$p_0'11m$	27.17	
	$p_0'2mm$	27.17	
	$p_0'2'm'm$	27.17	
Polychromatic, 67, 68–70, 78, 79*, 207–9			
		11.20*, 27.13*	
	$p_n^{(2)}4^{(4)}$	12.16 (35)	
	$p6^{(3)}$	12.16 (34), 13.04	
	$c^{(3)}1m$	12.16 (39)	
	$c2g^{(4)}g^{(4)}$	12.16 (41)	
	$p^{(3)}3m$	12.16 (37)	
	$p4^{(4)}mg^{(4)}$	12.16 (36), 13.12	
	$p4^{(4)}gg^{(4)}$	13.12	
continuous, 208			
<b>THREE DIMENSIONS</b>			
<i>Point groups (finite patterns)</i>			
Uncoloured, 26–35, 123–31, 131*			
		5.25*	
Series	1, 2, 3, 4, ...		$[C_1, C_2, C_3, C_4, \dots]$
		5.02*	
4	5.04		
Series	1m, 2mm, 3m, 4mm, ...		$[D_1, D_2, D_3, D_4, \dots]$
		5.02*, 5.03	
1m	1.03		
Series	$m2m, \frac{2}{m} \frac{2}{m} \frac{2}{m}, \frac{3}{m} 2m, \frac{4}{m} \frac{2}{m} \frac{2}{m}, \dots$		$[D_2, D_2 \times C_2, D_6, D_4 \times C_2, \dots]$
		5.05*, 5.06, 13.16(a)	
Series	12, 222, 32, 422, ...		$[D_1, D_2, D_3, D_4, \dots]$
		5.08*, 13.16(b)	
32	13.18(b)		
422	5.09		
Series	$\bar{1}, \bar{2}, \bar{3}, \bar{4}, \bar{5}, \bar{6}, \dots$		$[C_2, C_2, C_6, C_4, C_{10}, C_6, \dots]$
		5.10*	
$\bar{1}$	1.06		
$\bar{4}$	0.02, 5.01(c)		
$\bar{5}$	5.13		
Series	$\bar{1} \frac{2}{m}, \bar{2} m 2, \bar{3} \frac{2}{m}, \bar{4} m 2, \dots$		$[D_2, D_2, D_6, D_4, D_{10}, D_6, \dots]$
		5.11*, 5.12, 13.16(c)	
Series	$m, 2/m, 3/m, 4/m, \dots$		$[C_2, D_2, C_6, C_4 \times C_2, C_{10}, C_6 \times C_2, \dots]$
		5.05*	
4/m	5.07		
23	5.16, 13.17(c), 20.04		$[A_4]$
$\frac{2}{m} \bar{3}$	5.21, 13.17(b), 13.18(a)		$[A_4 \times C_2]$
432	5.20, 13.17(a), 20.05		$[S_4]$
$\bar{4} 3m$	5.15		$[S_4]$
$\frac{4}{m} \bar{3} \frac{2}{m}$	5.17, 5.18, 5.19		$[S_4 \times C_2]$
532	20.06		$[A_5]$
$\bar{5} \bar{3} \frac{2}{m}$	5.22, 20.08		$[A_5 \times C_2]$
continuous, 53, 192			
Dichromatic, 202–3, 203*			
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	$\frac{\infty}{m}, 2'm$	27.18	$[D_\infty \times C_2]$

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*Line groups (rod patterns)*

Uncoloured, 36–40, 132–6, 133\*

	21.01*
$r8_6$	6.11
$rm$	6.03(a)
$r2mm$	6.01(a)
$r2_1mg$	6.01(b)
$rm2g$	6.03(b)
$r_{\frac{4}{m}}^{\frac{4}{m}} \frac{2}{m} \frac{2}{m}$	6.05
$r_{\frac{12}{m}}^{\frac{12}{m}} \frac{2}{m} \frac{2}{m}$	6.10
$r_0m2m$	9.05
$r_0^{\frac{2}{m} \frac{2}{m} \frac{2}{m}}$	9.05
$r_{\infty}^{\frac{2}{m} \frac{2}{m}}$	9.06
$r_{\infty}^{\frac{2}{m} \frac{2}{m}}$	9.06
$r_{\infty}^{\frac{2}{m} \frac{2}{m}}$	26.08
$r_{\infty}^{\frac{2}{m}}$	9.07
$r_{\infty}^{\frac{2}{m}}$	9.07

continuous, 54, 193

Dichromatic

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$r_0m^{6'}$	27.20
$r_0^{\frac{6'}{m} \frac{2}{m} \frac{2}{m}}$	27.20
$r_{\infty}^{\frac{6'}{m}}$	27.19
$r_{\infty}^{\frac{6'}{m}}$	27.19

*Plane groups (layer patterns)*

Uncoloured, 41–5, 137–45\*

$c222$	7.04
$pm2m$	7.05(b)
$p_{\frac{2}{m} \frac{2}{m} \frac{2}{m}}$	7.03
$p_{\frac{2}{m} \frac{2}{m} \frac{2}{m}}$	7.09
$c_{\frac{2}{m} \frac{2}{m} \frac{2}{m}}$	7.08
$p\frac{3}{m}$	7.12
$p4mm$	7.05(a), 7.07
$p_{\frac{4}{m} \frac{2}{m} \frac{2}{m}}$	7.10(b)
$p_{\frac{4}{m} \frac{2}{m} \frac{2}{m}}$	7.11
$p\frac{4}{m} 2m$	7.10(a)

continuous, 54, 193–4

	26.09*
$p_0^{\frac{2}{m} \frac{2}{m} \frac{2}{m}}$	9.08(a)
$p_0^{\frac{1}{m} \frac{2}{m}}$	9.08(b)

*Lattices*

Uncoloured, 46–9, 146–52, 23.14\*

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*Space groups*

Uncoloured, 46–51, 153–90, 190\*

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$P_{\frac{4}{m} \frac{2}{m} \frac{2}{m}}^4$	8.12
$I_{\frac{4}{m} \frac{2}{m} \frac{2}{m}}^4$	8.01
$P_{\frac{4}{m} \frac{2}{m} \frac{2}{m}}^4$	8.13
$P_{\frac{6}{m} \frac{2}{m} \frac{2}{m}}^6$ and $R\frac{3}{m}$	8.14

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## General index

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