
Index

- adjacency symbol, 192, 193
adjacent tiles, 172, 180, 182
all-over pattern, 14
asymmetric region, 19

border, 14
Brillouin zones, 171

centre of rotation, 8, 16, 17, 18
centred cell, 31
circular segment, 24
combinatorial equivalence, 183, 186, 187
congruent, 8, 131
corners, 179, 182
crystallographic group, 14
cyclic finite design symmetry groups, 11, 12

design elements, 19
design unit, 19
dihedral finite design symmetry groups, 13, 14
Dirichlet tilting/domain, 171, 178
discrete pattern, 133, 134
ditranslational design, 14, 15, 17, 18, 25, 26, 29
ditranslational discrete pattern types, 149, 154, 156
ditranslational isohedral tiling types, 203, 205, 208
domain of influence, 171
double cell, 31

edges, 172, 179, 182
enantiomorphic, 211

finite design symmetry groups, 11, 19
finite discrete pattern types, 145
finite isohedral tiling types, 197, 201
flow diagram for ditranslational design
 symmetry group classification, 31
flow diagram for monotranslational design
 symmetry group classification, 37
frieze group, 14
fundamental domain, 19
fundamental region, 19, 23, 24, 25

generating functions, 25
generating region, 19
generating symmetries, 25
generators, 25
glide-reflectional symmetry, 8, 9
group diagram, 16, 20, 21

Hauy's theorem, 19
homeomorphism, 183

identity symmetry, 8, 9
incidence symbol, 189
induced motif groups, 137, 140
induced tile groups, 177, 178
inverse symmetry, 8, 9
isohedral tiling, 172, 175

k-isohedral, 176, 177

lattice, 14, 17
lattice unit, 16
Laves tilings, 211, 220
line segment, 179, 182

marked isohedral tilings, 196, 198, 200, 204
minimal set of generators, 26
monohedral tiling, 175
monomotif pattern, 131, 132
monotranslational design, 14, 15, 17, 18, 24, 25, 28, 29, 30, 31
monotranslational discrete pattern types, 149, 150, 152
monotranslational isohedral tiling types, 197, 202
motif-transitive subgroups, 142, 144

n-dimensional plane group, 14
n-fold rotation, 8, 16, 17
neighbours, 180, 182
net, 14, 17
network pattern, 14
non-trivial discrete pattern, 135, 136
normal tiling, 171, 172

one-dimensional design, 14
one-sided band, 14
order of rotation, 8, 10, 11

parallelogram, 16, 17
periodic border design, 14
periodic group, 14
periodic planar design, 14
plane group, 14
plane pattern, 14
plesiohedron, 171
point groups, 14
primitive cell, 28, 29
primitive pattern, 135, 138

- reflectional symmetry, 8, 9
- regular tiling, 211
- rhombus, 16, 17
- rosette designs, 14
- rotational symmetry, 8, 9
- strip, 14
- symmetry group, 9
- symmetry operation, 8, 9
- tile symbol, 189, 191
- tile transitive, 175
- topology of tilings, 180
- topological equivalence, 183, 184, 185
- topological type, 183
- transitivity classes, 176
- translation unit, 17, 22
- translational symmetry, 8, 9
- two-dimensional design, 14
- unit cell, 15, 17, 18
- valency, 180, 182, 186
- vertices, 179, 182
- Voronoi cells/regions, 171
- wallpaper group, 14
- Wigner-Seitz cells, 171
- x-ray diffraction, 2