The Seventeen Wallpaper Groups

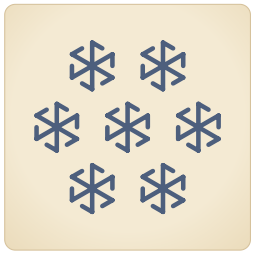
one motif — a stroke pointing north with a hook at its tip — repeated by each group's symmetries

YES — *Has reflection?* — NO

least rotation 360° / 6



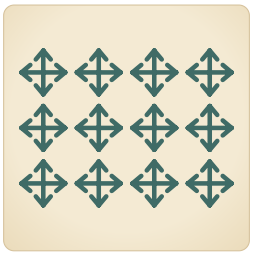
*632 *(p6m)*



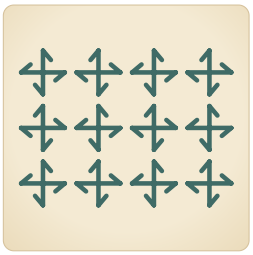
632 *(p6)*

least rotation 360° / 4

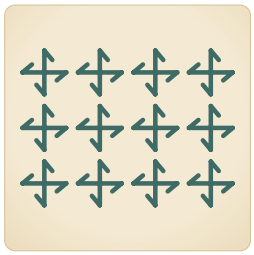
YES — *Has mirrors at 45°?* — NO



*442 *(p4m)*



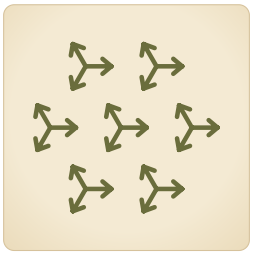
4*2 *(p4g)*



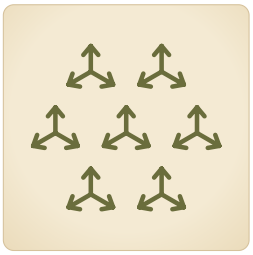
442 *(p4)*

least rotation 360° / 3

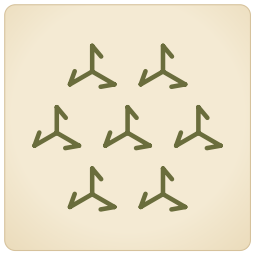
YES — *Has rotocentre off mirrors?* — NO



3*3 *(p31m)*



*333 *(p3m1)*

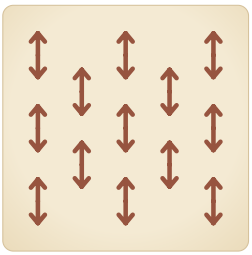


333 *(p3)*

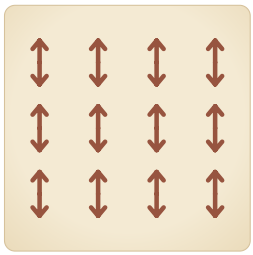
least rotation 360° / 2

YES — *Has perpendicular reflections?* — NO

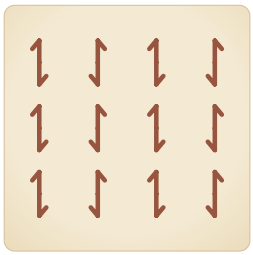
YES — *Has rotocentre off mirrors?* — NO



2*22 *(cmm)*

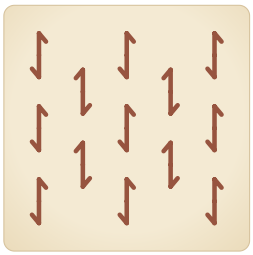


*2222 *(pmm)*

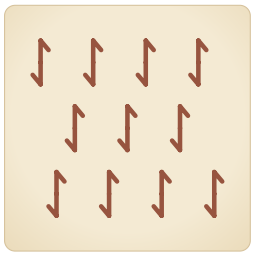


22* *(pmg)*

YES — *Has glide reflection?* — NO



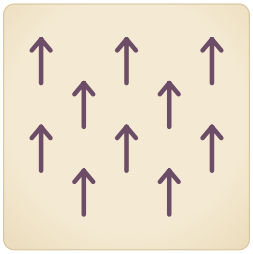
22× *(pgg)*



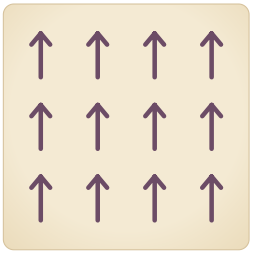
2222 *(p2)*

least rotation none

YES — *Has glide axis off mirrors?* — NO

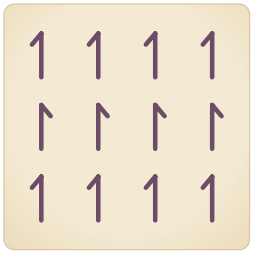


*× *(cm)*

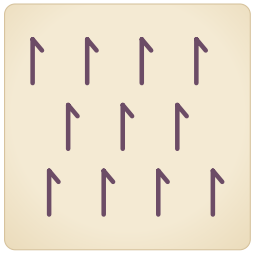


** *(pm)*

YES — *Has glide reflection?* — NO



×× *(pg)*



o *(p1)*

Labels give Conway's orbifold signature, with the international name in brackets. Motif style after A. Speiser, 1937.
Layout after the guide to recognising wallpaper groups by Patrick, Wallpaper group diagrams, Wikimedia Commons.

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