CLAIMS

1. A panel for use in building construction, the panel comprising a plasterboard having two opposed faces, a polymer-based lamina being provided on one of the faces of the plasterboard,

the polymer-based lamina being characterised in that it is thinner than the plasterboard and in that it is provided by a material for which the work done under uniaxial tensile stress to achieve a tensile strain of up to 0.12 is greater than 2.1 MJ/m^3.

2. A panel according to claim 1, wherein the polymer-based lamina is characterised in that it is provided by a material for which the work done under uniaxial tensile stress to achieve a tensile strain of up to 0.12 is greater than 2.9 MJ/m^3, preferably greater than 3.8 MJ/m^3.

3. A panel according to claim 1, wherein the polymer-based lamina is either a monolithic polymer or a composite having a polymer matrix.

4. A panel according to claim 2, wherein the polymer-based lamina is provided by a fibre-reinforced polymer.

5. A panel according to any one of the preceding claims, wherein the polymer-based lamina comprises principally a thermoplastic polymer.

6. A panel according to any one of claims 1-3, wherein the polymer-based lamina comprises principally a thermosetting polymer.

7. A panel according to claim 6, wherein the fibres and the matrix of the fibre-reinforced polymer are provided by the same polymer.

8. A panel according to any one of the preceding claims, wherein the polymer-based lamina is solid and non-porous.

9. A panel according to any one of the preceding claims, wherein the thickness of the polymer-based lamina is less than 20% of the thickness of the plasterboard.

10. A panel according to any one of the preceding claims, wherein the thickness of the polymer-based lamina is less than 5mm.

11. A panel according to claim 1, wherein the polymer-based lamina is selected from the group comprising: polyvinylchloride, polycarbonate, nylon, acetal, self-reinforced polypropylene, fibreglass and Bakelite.

12. A panel for use in building construction, the panel comprising a plasterboard having two opposed faces, a fibreglass sheet being provided on one of the faces of the plasterboard,

wherein the fibreglass sheet comprises a non-woven mat that is impregnated with resin, the Young's Modulus of the fibreglass sheet being in the range 4500-8000 MPa.

13. A panel for use in building construction, the panel comprising a plasterboard having two opposed faces, a polymer-based lamina being provided on one of the faces of the plasterboard,

wherein the polymer-based lamina is characterised in that its principal constituent by weight is a thermoplastic material having a Vickers indentation hardness greater than 0.06 GPa.

14. A partition comprising at least one panel according to any one of the preceding claims, the panel being mounted onto a support structure, wherein the side of the panel on which the polymer-based lamina is provided faces towards the support structure.

CLAIMS

1. A panel for use in building construction, the panel comprising a plasterboard having two opposed faces, a polymer-based lamina being provided on one of the faces of the plasterboard, the polymer-based lamina being characterised in that it is thinner than the plasterboard and in that it is provided by a material for which the work done under uniaxial tensile stress to achieve a tensile strain of up to 0.12 is greater than 2.1 MJ/m^3.

2. A panel according to Claim 1, in which the polymer-based lamina is characterised in that it is provided by a material for which the work done under uniaxial tensile stress to achieve a tensile strain of up to 0.12 is greater than 2.9 MJ/m^3, preferably greater than 3.8 MJ/m^3.

3. A panel according to Claim 1, in which the polymer-based lamina is either a monolithic polymer or a composite having a polymer matrix.

4. A panel according to Claim 2, in which the polymer-based lamina is provided by a fibre-reinforced polymer.

5. A panel according to any preceding claim, in which the polymer-based lamina comprises principally a thermoplastic polymer.

6. A panel according to any of Claims 1, 2 or 3, in which the polymer-based lamina comprises principally a thermosetting polymer.

7. A panel according to Claim 6, in which the polymer-based lamina is provided by a fibre-reinforced polymer, said polymer-based lamina comprising fibres and a matrix, and further in which the fibres and the matrix of the fibre-reinforced polymer are provided by the same polymer.

8. A panel according to any preceding claim, in which the polymer-based lamina is solid and non-porous.

9. A panel according to any preceding claim, in which the thickness of the polymer-based lamina is less than 20% of the thickness of the plasterboard.

10. A panel according to any preceding claim, in which the thickness of the polymer-based lamina is less than 5mm.

11. A panel according to Claim 1, in which the polymer-based lamina is selected from the group comprising: polyvinylchloride, polycarbonate, nylon, acetal, self-reinforced polypropylene, fibreglass and Bakelite.

12. A panel for use in building construction, the panel comprising a plasterboard having two opposed faces, a fibreglass sheet being provided on one of the faces of the plasterboard, in which the fibreglass sheet comprises a non-woven mat that is impregnated with resin, the Young's Modulus of the fibreglass sheet being in the range 4500-8000 MPa.

13. A panel for use in building construction, the panel comprising a plasterboard having two opposed faces, a polymer-based lamina being provided on one of the faces of the plasterboard, in which the polymer-based lamina is characterised in that its principal constituent by weight is a thermoplastic material having a Vickers indentation hardness greater than 0.06 GPa.

14. A partition comprising at least one panel according to any preceding claim, the panel being mounted onto a support structure, in which the side of the panel on which the polymer-based lamina is provided faces towards the support structure.