

Substrate Fastening Popping



Home owners are often both alarmed and disappointed to see fastener heads popping up in their new plasterboard walls and ceilings. The lumps appearing in the surface can be both extensive and ugly.



Fastening popping is actually commonly encountered not only in plasterboard but also in timber decking, a variety of wall cladding substrates and long run roofing. "Squeaky Floors" are likely to be a result of fastener popping. This annoying problem has been around as long as we have built with timber framing.

It is highly unlikely to be caused by a painting workmanship failure, the paint coating or anything else the painting contractor may or may not have done in the painting process of the substrate. As long as the plasterboard has been installed according to the manufacturers recommendations any popping is more than likely related to timber shrinkage.

The maximum moisture content of timber framing at the time of lining must not exceed 18%. A building inspector will help check this by testing a few areas. It can be very difficult to get down to this level of moisture content due to New Zealand's cool wet winters. After a building is enclosed timber framing will find its equilibrium moisture content around 10 – 12% in summer and 13-16% in winter. When moisture content alters by +/- 3% the cross-sectional dimension of the timber framing may vary +/- 1 mm. When timber shrinks the fastener pops out of the surface of the plasterboard or leaves a bulge in the compound.

Popping that occurs after at least one months heating cycle are a good indication that timber shrinkage is the cause.

The Ministry of Business and Innovation published a guide to tolerances in 2015 and made mention of the following in relation to popped fasteners:

ACCEPTABLE: - Popping of fixings, where the outlines of fixings are visible under the finish that occur over a period of time after hand over that does not break the surface and is not visible from a normal viewing position.

NOT ACCEPTABLE: - Popping that is visible from normal viewing position in level 4 and 5 finishes at handover and popping that breaks the surface

Should fastening popping be noted to new plasterboard surfaces the home owner should take this up with the building contractor as this is not a painting workmanship fault.

**All preparation and painting works should be carried out in accordance with
AS/NZS 2311:2017 Guide to the painting of buildings**

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