

# Solver Paints

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PRODUCT INFORMATION

SS-106

## BLISTERING OF PAINT FILMS

Blistering is not an uncommon painting defect and since the "Timber Look" and dark colours, eg, Dark Browns, Reds, Greens, etc., have become popular so the incidence of blistering has increased. A blister may be defined as a flexible film under pressure and in the case of paint it is simply an intact film surrounding some gas or fluid. To form a blister two things are required - a good elastic film and something to cause pressure at the back of it.

The main cause of blistering on timber (or other surfaces) is the moisture which is always present - normally 10-14%. When this moisture is drawn to the surface by warmth, it becomes trapped under the paint film and if the temperature is high enough, pressure is built up between the substrate and the paint film and a blister results.

Two other factors have a very big bearing on this phenomena:

1. The colour of the paint, and
2. The quality of the coat next to the substrate.

In the first case, white or pastel colours reflect heat and dark colours absorb heat, so with browns or dark colours in the direct rays of the sun the surface temperature can rise 30°C higher than that of a surface painted white. This naturally causes the locked gasses or vapour to expand at a faster rate and to a greater degree, causing a greater build up in pressure and consequently more chance of blistering.

In the second case, it has often been found that within a very short time of repainting, large blisters have occurred on the new surface, lifting the old paint back to the bare substrate. As paint ages it hardens, becomes less flexible and loses optimum adhesion. With the build up in pressures, as already described, the breakdown occurs at the plane of least adhesion and this is usually back at the original substrate. Also, the lower the adhesion of the old paint, the lower is the pressure required to produce a blister. The only remedy is to remove the old paint completely and repaint with a suitable primer for the substrate involved to give proper adhesion, before applying the finishing system.

Another type of blistering can occur when rain falls on water based finishes within a few hours of application. In these cases the paint has dried enough so that it is not washed off by the rain, but has not had time to develop it's full water resistance. These water-filled blisters will appear rapidly when rainfall occurs and can look quite unsightly. However, if they are left untouched until the weather improves they will disappear, usually without any loss of appearance to the finished job. Exposure history has also shown that films that have suffered this problem and have been allowed to dry back show no loss of long term durability.

## CHANGES SINCE LAST ISSUE:



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