

Problems with Concrete - Laitance

1.3.7

What is Laitance?

Water is an essential part of the concrete mix; good curing of concrete depends on complete hydration of the cement portion of the concrete mix. **Excess water**, however, will cause **laitance**.

Laitance is the **weak, milky** or **powdery layer** of cement dust, lime and sand fines that may appear on the surface of concrete. These fines rise to the surface of concrete that was over-watered, or allowed to dry prematurely in the absence of curing membranes or other good curing practices. It may also form as a consequence of over-trowelling.

Good concrete curing involves slowing down the evaporation of water from the fresh, wet concrete, to allow sufficient time for complete hydration to take place, and thus allow the concrete to achieve its maximum strength.

Good concrete curing practice involves covering the newly trowelled or formed concrete with wet hessian, wet sand or a curing membrane (such as a liquid applied wax emulsion), or, at the very least, a plastic sheet weighed down at the edges to prevent displacement by gusts of wind.

Why Remove Laitance?

The life of a coating is dependant on adhesion to **sound** concrete. If a coating is applied to the loose, friable laitance, then impact from trolleys, forklifts, etc. will cause the laitance layer to delaminate, along with the coating.

Can Laitance Be Painted Over?

The short answer is **no!** Any existing laitance will provide a poor, friable base for coatings, preventing effective adhesion from occurring.

Laitance can be removed using diamond grinding, shot blasting or other mechanical methods, and the resultant sound concrete surface can be painted with confidence.

For more information on removing laitance and preparing a floor surface for applying a coating, please refer to the following Dulux[®] Protective Coatings Tech Notes:

1.3.3 Concrete Floors – Diamond Grinding

1.3.4 Concrete Floors – Shot Blasting



Laitance on concrete



Laitance & roughness on concrete



For specifications and advice, please contact the Dulux Protective Coatings Technical Consultant in your state.