

# Colourmix & Concrete Performance

Colourmix colours have been formulated for use in concrete. The following information relates to Colourmix colours when used in otherwise normal class concrete and used at our recommended addition rates. The information below is intended as a guide. The results and conclusions are based on tests conducted in a controlled laboratory environment using a typical Colourmix pigment sample.



## Test Parameters

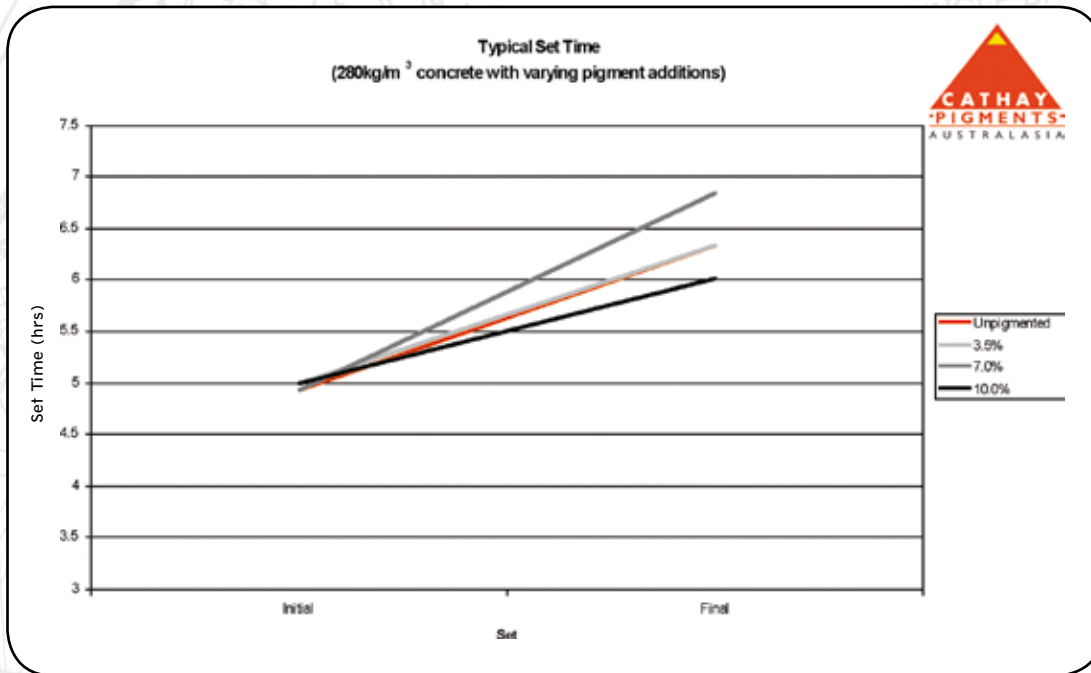
A concrete of characteristic strength 25MPa was assessed for a number of physical properties. Constant slump was maintained and a cement content of 280kg/m<sup>3</sup> was selected for all test and control specimens. Concrete test specimens with pigment loadings of 3.5%, 7.0% and 10.0% were compared to an unpigmented concrete control specimen.

A maximum pigment loading of 10% by weight on the cement was tested although this exceeds our typical recommended addition rates of 3.5 and 7%. A loading rate of 10% is generally regarded as the maximum that can be added to concrete (European Standard EN12878) without affecting the concrete's physical characteristics.

The pigment tested was a blend of red, yellow, black and white oxides. The results below were obtained from tests carried out by an independent NATA-registered laboratory.



## Set Time Results



**Fact:** Colourmix does not adversely affect the initial or final set time of concrete.

Cathay Pigments (Australasia) Pty Ltd

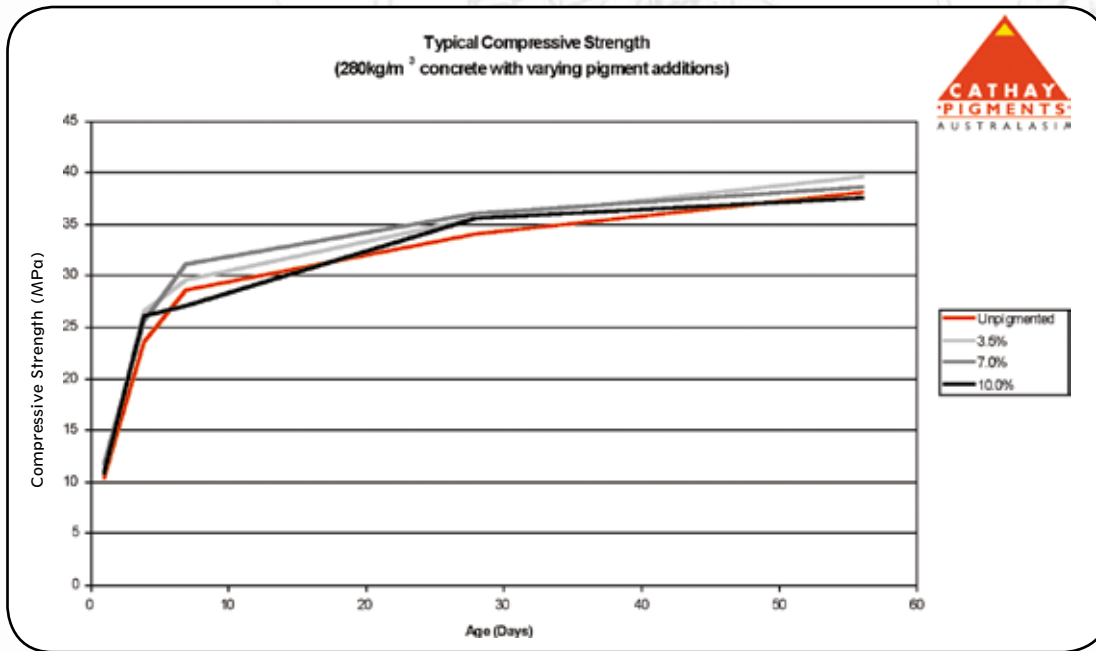
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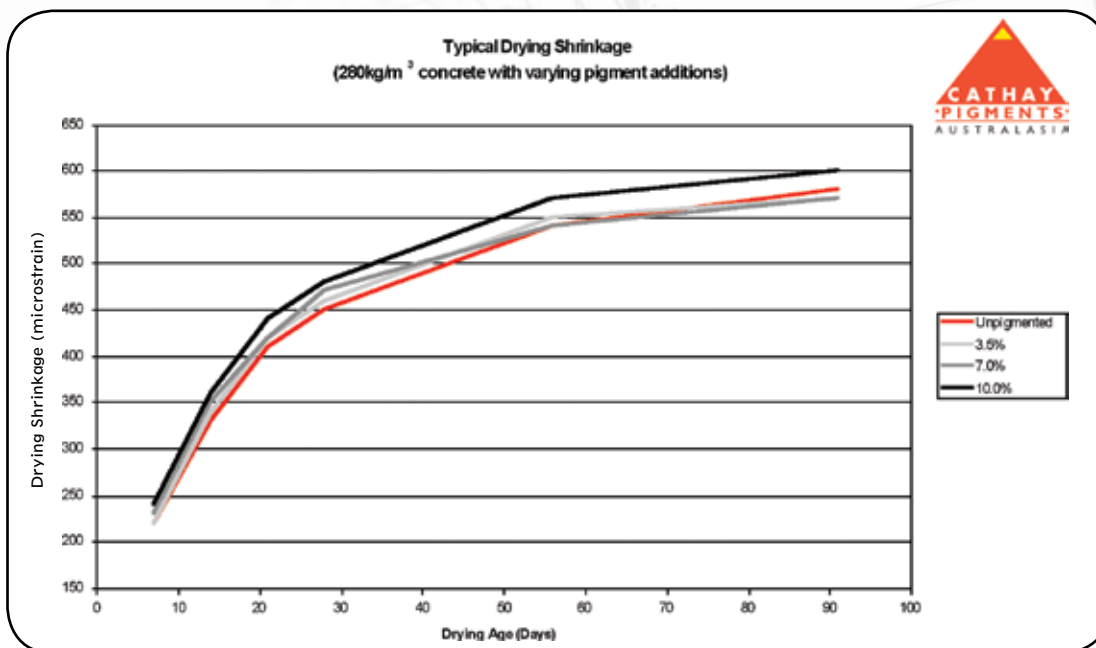
## Strength Results



**Fact:** Colourmix does not adversely affect the strength development of concrete.



## Drying Shrinkage Results



**Fact:** Colourmix does not adversely affect the drying shrinkage of concrete.

It is essential to prevent rapid moisture loss from the surface of new concrete so the use of evaporation retardants such as, for example, aliphatic alcohol is recommended in conjunction with employing good curing techniques for the concrete.



## Compatibility

**Fact:** Colourmix pigments are compatible with all of the ingredients in common usage in the production of pre-mixed concrete including sands, aggregates, all cement types and cement blends (incorporating fly ash, slag, silica fume etc), common admixtures, steel fibres and of course water.



## Durability & Abrasion Resistance

**Fact:** Colourmix colours do not reduce the coloured concrete's resistance to the effects of natural weathering or mechanical degradation. The physical durability of concrete and abrasion resistance are not considered to be influenced by pigment addition.