

SIOF S.p.A. - Concrete Colour Chart

Shade variations can be obtained with different concentrations of pigment in cement

	0%	1%	3%	5%	
Brown 9418 white cement gray cement					Brown 9418 white cement gray cement
Green 812 white cement gray cement					Green 812 white cement gray cement
Black 9313c white cement gray cement					Black 9313c white cement gray cement

Concrete pigmentation

Iron oxides are water-insoluble pigments with a good alkali fastness and excellent light fastness. Considering these characteristics and their low price, they are considered the best pigments for concrete pigmentation. The quantity of pigment used varies usually from 3% to 5% of the weight of the cement since inerts do not take part in the pigmentation. A maximum limit of 7% can be reached if a more intense colour is required without affecting the mechanical resistance of the finished product. In order to obtain the best final colouring it is preferable to mix the components in the following sequence: first of all inerts, then pigments and finally cement and water.

VARIATION OF COLOUR SHADE IN TIME

When preparing coloured concrete it is extremely important to pay attention to the water/cement ratio of the mixture, ratio that affects the shade of colour. A brighter coloured finished product is obtained increasing the quantity of water but at the same time the mechanical resistance and weather fastness is reduced. However in time the superficial layer of the finished products is subject to wear down which enhances the colour of the inert, consequently there is a change in the shade of colour independently from the pigments used.

EFFLORESCENCE

It is a physical-chemical phenomenon produced by the calcium hydrate which is in the cement and is water-soluble. It can occur during the drying process but also later when humidity occurs. In fact the calcium hydrate tends to migrate towards the surface of the finished product and, reacting with the carbon dioxide in the air, forms white patches of calcium carbonate which are more visible in darker colours. Iron oxides are insoluble in water and do not affect the above mentioned phenomenon, which can be reduced with the use of specific additives. The quality of the pigment, the right dosage of the components, the valid production technology and the use of additives are the basis of the best result in time of a coloured concrete finished product.



pig 14 05/12



Pigments ...since 1923 CONCRETE COLOUR CHART

www.siof.it



Stabilimento e Sede Legale:
Via Garibaldi, 62
15068 Pozzolo Formigaro (AL) - Italy
Tel. +39 0143 417781 - Fax +39 0143 418224
www.siof.it E-mail: siof@siof.it

Stabilimento e Sede Amministrativa:
Via Pisano, 53/A - 37131 Verona - Italy
Tel. +39 045 8402373
Fax +39 045 8402439

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	0%	1%	3%	5%	
Yellow 9469c white cement gray cement					Yellow 9469c white cement gray cement
Yellow 1040 white cement gray cement					Yellow 1040 white cement gray cement
Orange 9445c white cement gray cement					Orange 9445c white cement gray cement
Red 1017 white cement gray cement					Red 1017 white cement gray cement
Red 1021 white cement gray cement					Red 1021 white cement gray cement

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	0%	1%	3%	5%	
Red 9450c white cement gray cement					Red 9450c white cement gray cement
Red 9460c white cement gray cement					Red 9460c white cement gray cement
Red 9480c white cement gray cement					Red 9480c white cement gray cement
Brown 9413 white cement gray cement					Brown 9413 white cement gray cement
Brown 9416c white cement gray cement					Brown 9416c white cement gray cement

The technical data and the reproduced shades are the results of our experience, but cannot be guaranteed and are not binding. In fact, the use of the pigments by the user and the final result depend on various factors which are beyond our control and therefore are under the exclusive responsibility of the user who will have to check the suitability to the prefixed purpose.