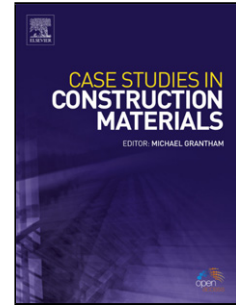


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# Colour alterations of historic concrete surfaces during the Dutch Interwar Period

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**Abstract:** In the 1920s, the improved concrete technology and growing acceptance of concrete as an aesthetical material resulted in an increased application of coloured concrete. This includes the use of organic and inorganic pigments, ground natural stone, consciously chosen coarse aggregates, and also a new technique: metallisation. This rare, yet internationally applied, technique was patented in the Netherlands in 1917 and allowed a colour change of the hardened concrete by applying metal salts on its surface.

In conservation practice, there are misconceptions with respect to the period of application of exposed concrete and, in particular, of coloured concrete. The application of exposed concrete during the Interwar period (1918-1930s) is often not considered during inspections; this impacts the quality of value assessments, diagnosis of damage causes and choice of conservation strategies.

Besides limited knowledge of the varieties of coloured concrete, the fact that many historic concrete buildings have since been plastered or painted impedes its correct identification. This poses a challenge, as the deviating properties of historic concrete, both due to production methods and use of unproved constituents, can affect the durability of concrete. This paper focuses on the characteristics which can be encountered during visual inspections, an early and influential phase within the conservation process.

**Keywords:** Historic concrete; historic precast concrete; conservation; surface finishes; metallisation; pigments;

## 1 Introduction

In conservation practice, misconceptions exist with respect to the period of application of exposed and in particular of coloured concrete; its use prior to the 1940s/1950s is often not considered during inspections [1]. Instead, these types of concrete are mistaken for natural stone or a more recently applied plaster is considered to be the original surface finish. This impacts the quality of value assessments, diagnosis of damage causes and choice of conservation strategies.

The appearance of monuments, including their surface, influences strongly their heritage values and social acceptance. Concrete heritage still faces prejudices on whether it is entitled to be preserved [2]. Recognition of the spectrum of historic concrete surfaces would positively influence the appreciation of historic concrete buildings. In addition, a correct characterisation of the historic

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