

Against the dying of the light. Enamel deterioration in Catalan art nouveau stained glass.

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Among the features that build the identity of Catalan art nouveau stained glass there is the use of enamel. In many examples these paints have suffered some degree of decay ranging from minor pitting to almost full disappearance of the material. Understanding why this is the case may help in adopting better conservation strategies and to be able to be more precise in the evaluation of the conservation of the paint.

The present article shows the results of chemical analysis of enamel samples from Catalan stained glass windows. Sampling embraces the most renowned studios of the time, Amigó, Rigalt Granell, Bordalba, Dietrich, Boixeres i Codorniu, Maumejean. A previous study presented on the last CVMA forum (Cambridge 2017) focused on the composition and thermal properties of original ancient raw paint from the studio Rigalt i Granell. This work tackles this relevant topic, with a broad number of samples, powerful analytical means and the possibility to contrast original raw material with the real historical samples. The glass and enamel were analysed by DSC, SEM imaging, X-ray diffraction and LA-ICP-MS

The results obtained so far set a wide data field which are relevant in understanding the mechanisms of decay and how the studios used and applied the paint. Stained glass produced on this period has features that go far beyond style and taste. One of the most characteristic is that most of the material used, glass and enamel specially, were not locally produced and was used by studios that developed their own way of using them. To obtain enamel stability does not only depend on its chemical composition but in a number of parameters such as the base glass used, the temperature of the kiln, whether it is mixed with other enamels or not or the external atmospheric conditions.