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SERVICE LIFE PREDICTION OF TIMBER CLADDING

Developments in standards and specifications

Ed Suttie

This Information Paper reviews service life prediction for timber and the work within the pan-European WoodExter project. Service life prediction of buildings is discussed in the context of ISO 15686[1], the international standard for service life prediction. The factor method from that standard is applied in principle to timber cladding as a product and the findings are presented alongside a review of exterior timber cladding in the context of the codes, standards and regulations that influence specification.

Timber cladding is a growing commercial opportunity for wood, becoming more frequently specified on public and private buildings (Figure 1). It is also a high-value end use, which can take advantage of all the factors that influence the service life of the product.

The WoodExter project is developing a model for predicting the service life of exterior timber cladding, to enable better selection of material for the required service life and to provide information for professionals wanting to understand and use timber cladding.

Figure 1: Timber cladding is being used on an increasing number of private and public buildings in the UK

INTRODUCTION

The increased use of wood in UK construction as an environmentally friendly and renewable material depends on the provision of information on its durability and service life. Traditionally, the design of durable wooden components and structures has been based on experience and adherence to good building practice, sometimes formalised as prescriptive rules. There is now a move towards specifying the performance of components or structure in quantitative terms.

The development of performance-based design methods for durability requires that models are available to predict performance in a quantitative and probabilistic format. The relationship between performance during testing and in service needs to be quantified in statistical terms and the resulting predictive models need to be calibrated to provide a realistic measure of service life, including a defined acceptable risk of nonconformity.

What is service life prediction?

Service life prediction or planning is a process for ensuring that, as far as possible, the service life of a building will