

LESSONS FROM HISTORIC BUILDINGS

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Abstract: This paper presents information from condition assessments made on four buildings of around 100 years age or more. Two of them are located in the Colombo Fort and needing refurbishment, while the other two continue to be in use. The life of a building depends mainly on its chief structural materials and the environment it is placed in. The variation of material properties over the years also influences service life, as do various specific design and detailing considerations. The micro environment also plays an important role, with markedly different degrees of deterioration in wet areas compared to dry ones; sheltered areas compared to unsheltered ones; and external areas compared to internal ones. Masonry and timber elements perform well, as do structural steel sections that receive regular maintenance. Where reinforced concrete buildings are concerned, chloride and carbonation induced corrosion are the main sources of deterioration, with chlorides being by far the more aggressive agent of deterioration. Examples are given for obtaining data from such buildings and estimating their service life, considering both types of deterioration.