Abstract

Metal cladding functions as a building envelope protecting the occupants from the weather elements. Under Singapore’s harsh environmental conditions, the building façade is subjected to constant weathering forces such as sunlight and rain, resulting in gradual degradation. However, this research has found out that many of the metal cladding defects are pre-mature and occur even before the cladding become operational and thus can be prevented.

Based on the in-depth analysis of the defects’ causes and extensive work studies carried out on metal cladding processes, the research was able to develop guidelines for design, fabrication, installation and maintenance stages of metal cladding to reduce the occurrence of defects. The research also highlighted the importance of proper documentation in aiding to reduce defects occurrence and recommended various important responsibilities and roles to be taken by the different parties involved in each stage to minimize premature defects.

The defects of metal cladding under tropical conditions covered by this research include scratches and abrasions, dentures and deflections, staining, colour inconsistency and discolouration, corrosion, misalignment of joints, sealant defects and loss of weather tightness due to poor jointing design.

Key words: metal cladding, defects, good practices