

THE SUSTAINABILITY MEDAL – Winner



PORT PHILLIP ESTATE WINERY

LOCATION: Melbourne, Victoria
ENTRANT: Arup Pty Ltd

The Port Phillip Estate Winery is almost entirely clad using a low cementitious stabilised rammed earth, commonly called SRE. SRE imports a basic quarried road base and bagged cement which is then transformed on site into massive panels. In this regard SRE is more of a manufacturing process than a construction process. We are often described as a "mobile factory".

The base materials for the Port Phillip Estate low cementitious walls elements were 90% crushed sandstone, 10% off white Portland grade cement, aqueous based silane/siloxane waterproofing admixtures and water enough to create an optimum density blend for purposes of compaction. The sandstone was sourced from the Aidan Graham Quarries at Langwarrin, 30km from site, and delivered on a regular basis. The cement was sourced from a distributor in Melbourne.

Traditional concrete basement and floors were constructed using traditional forms – stiff clays meant that retaining systems were cast against the natural earth's angle of repose, resulting in a relatively cheap form of construction. All concrete was delivered by truck and pumped into place on site. Concrete on site includes traditional Portland Cement Composition.

This exciting project utilises low cementitious rammed earth construction to define structural and cladding elements, and traditional concrete elements below ground to provide structural rigidity to basements/retained earth areas and robust wearing surfaces to industrial and architectural spaces. Concrete and low cementitious rammed earth also provides excellent thermal mass, thereby reducing mechanical heating and cooling costs.

