

LCP

CONCRETE

Concrite is committed to a lower carbon future. Concrite aims to achieve this by reducing the embodied carbon in the production process of the concrete and raw materials and by offering Lower Carbon Concrete (LCC) products to our clients. Concrite has three LCC product ranges, LC, LCP and LCHP which will cover all concrete applications from residential foot paths to high rise commercial towers.

Most of the embodied carbon in concrete is from the portland cement. To reduce the embodied carbon, some of the portland cement is replaced with supplementary cementitious materials (SCM) such as fly ash and granulated slag. All three LCC products have low portland cement contents and high SCM contents but LCP and LCHP have been designed to also have superior engineering properties.

LC, LCP and LCHP contain reclaimed water and manufactured sand which when combined with their low portland cement content will help projects achieve a Green Star* or ISCA rating**.

This data sheet relates to LCP but data sheets on LC and LCHP are also available.

LCP is a sustainable concrete compliant with AS 1379 (Specification and supply of concrete) with following benefits.

Lower Carbon

- LCP has a low portland cement content and is suitable for projects seeking to maximise the number of green star points from concrete.
- LCP has a lower carbon content and is suitable for projects seeking registration with the Green Building Council of Australia or the Infrastructure Sustainability Council of Australia (ISCA).

Typical applications:

- Civil works
- Commercial
- Infrastructure
- Industrial slabs
- Marine environment
- Post tensioned slabs



Superior Engineering properties

- LCP achieves good early-age strength and is suitable for most post tensioned applications.
- LCP achieves up to 25 percent reduction in shrinkage when compared to conventional sustainable concrete mixes. The low shrinkage of LCP will allow for more engineering options such as the design of larger slabs with fewer joints.

Superior Durability

- LCP provides improved durability, through greater protection to steel reinforcement against chloride induced corrosion.
- LCP has improved sulphate and acid resistance properties.
- LCP mitigates the potential expansion due to alkali aggregate reactivity.

Properties

- AS 1379 compliance – Fully compliant
- Minimum portland cement reduction (cf GBCA base case) - 45%
- Early age strength – Suitable for post tensioned applications (22 MPa at 4&5 days, 25 MPa at 5 days)
- Drying shrinkage @ 56 days – nominal 550 microstrain (40 MPa/20mm)