

Climate Positive Design

Pathfinder cheat sheet • Issue A • 22/10/2020

Outlined here are the Pathfinder materials in Green and the closest Australian equivalents noted below in black. It will be periodically updated.

PAVING

Loose Aggregate paving

loose gravel paving material such as Pea gravel or Decomposed granite gravel paving.

Aggregate base compacted

Dense Graded Base (DGB)

Compacted Roadbase

Compacted Crusher dust

Concrete pedestrian - Cement substitutes

Lower carbon Concrete, such as a polymer concrete. Assumed to be 20Mpa. Refer to Q&A about how to specify lower carbon concrete. Currently the pathfinder app has an error on this element as it is reflecting the same footprint as normal concrete. Suggest you make a custom element using manufacturers EPD for embodied carbon +15% loading to make it comparable with other pathfinder values..

Based on the EPiC database, a lower carbon 20MPa concrete including 15% loading is in the order of 290KgCO₂e/m³

Add - reinforcing and sub base as separate elements

Concrete previous

No fines concrete that allows water to percolate through. Has a high embodied carbon content 625KgCO₂e/m³ reflecting perhaps additional cement binder.

Concrete Pedestrian

Pedestrian grade 20MPa concrete. Note embodied carbon in concrete is dependent upon the concrete strength. 30 and 40 MPa concrete all have higher carbon due to greater cement content.

Add - reinforcing and sub base as separate elements

Concrete subslab

This element has a high embodied carbon content. This reflects a high strength concrete such as 40 to 50MPa

Reinforcing. US nomenclature

Each reinforcing size number represents 1/8" in diameter, e.g., a #3 bar is 3/8" diameter and a #8 bar is 1" diameter.

Australian equivalents shown below.

#4rebar is @ 24"OC

12.7mm @ 600mm Centres

N12 - 600

#3rebar @18" OC

9.5mm @ 475mm CC

N9.5 – 475

#4rebar @18" OC

12mm @ 475mm CC

N12 – 475

#4rebar @16" OC

12mm @ 406mm CC

N12 – 400

Steel reinforcement – welded wire mesh.

In the US this is usually 4-inch-by-4-inch up to 8-inch-by-8-inch. Assumed to be 8"x8"

Australian equivalent

SL82 mesh = square mesh 8mm x200mm spacing

WALLS

Concrete site wall and Concrete structural wall

Further information being sought here from app developer on why both of these elements have a lower embodied carbon (312KgCO₂e/m³) than pedestrian concrete.

SUBSURFACE ELEMENTS

Drain Rock – Class 2 Permeable

This is a graded aggregate that has a mix of fines so it can be compacted for use as a subbase. There is no gap graded Australian equivalent like a nominal 20mm stone aggregate or similar in the app. Suggest a custom element.