

DIMENSIONS  
595x595mm

WEIGHT  
3.7kg

COLOUR TEMPERATURE  
4000K

COLOUR RENDERING  
95Ra, R9>80

DIRECT OUTPUT  
2600-5000lm

LED LIFETIME  
L95 @50,000h

DRIVER LIFETIME  
100,000h

## WEIGHT AND COMPOSITION BY MATERIAL

Material	Weight (g)	Weight (%)	GWP (kgCO2e)
NZ ALUMINIUM	434.4	11.5	3.02
GLOBAL ALUMINIUM	1508.4	39.8	19.76
COPPER	23.2	0.6	0.09
PLASTICS	834.9	22.0	3.26
STEEL	22.3	0.6	0.07
ELECTRONIC COMPONENTS	478.4	12.6	16.59
CARD	486.0	12.8	0.90

Note: LED driver has been excluded. Driver EPD provided on request.

## RESULTS

TM65 Calculation		
ASSESSMENT PARAMETER		GLOBAL WARMING POTENTIAL (GWP)
UNIT	-	[kg CO2 eq]
PRODUCTION	A1–A4	58.9
REPAIR	B3	0.915
END-OF-LIFE	C2–C4	0.589
<b>TOTAL (x1.3 BUFFER)</b>	<b>A1–C4</b>	<b>60.4</b>

## TM65ANZ SUMMARY

TM65ANZ is an engineering standard published by the Chartered Institution of Building Services Engineers (CIBSE). It provides a clear and concise framework to estimate the embodied carbon of a product when environmental product declarations (EPD's) are not available. In order to appropriately use a TM65ANZ calculation it is important to understand the scope of the method.

Originally created in the United Kingdom, TM65ANZ is a branch of the TM65 standard for Australasian application. It provides additional assumptions that can be made to make the calculation process easier.

### WHAT TM65ANZ IS

- A method for estimating the embodied carbon of building services equipment
- A first step to promoting transparency in the industry
- A reporting methodology
- A set of rules that allows the production of comparable metrics
- A simple, replicable methodology

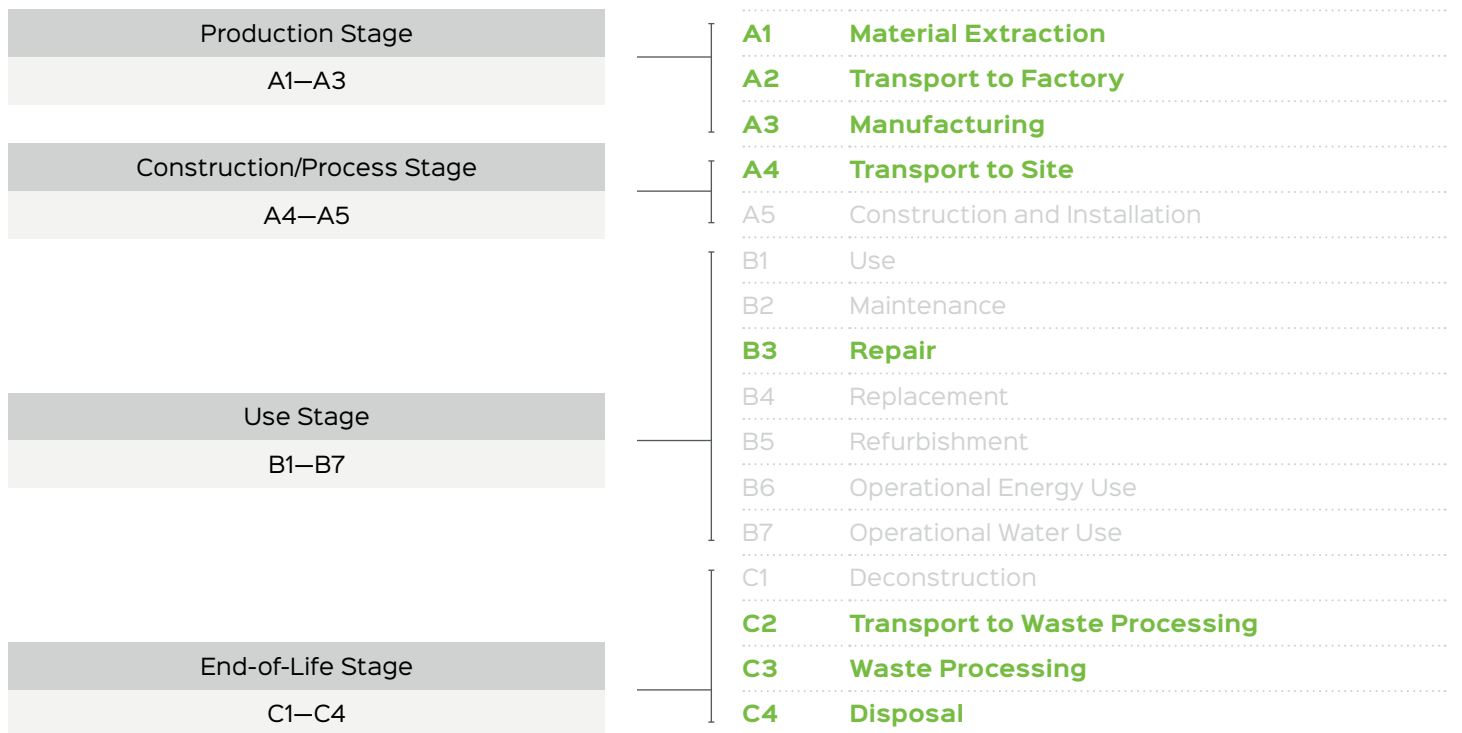
### WHAT TM65ANZ IS NOT

- A detailed and holistic assessment of a product's environmental impacts
- An environmental product declaration (EPD)
- A peer-reviewed certification
- An exhaustive assessment of a product's materials
- A detailed life cycle assessment of building services at a system level

## CALCULATION PROCESS

The calculation process is broken up into four main sections. Depending on the availability of information on the product, different levels of the TM65ANZ process can be undertaken including a 'basic' and 'mid-level' calculation. For this report a 'mid-level' calculation was done.

## STAGES OF CALCULATION



All sections written in green text are included in a mid-level calculation

## ASSUMPTIONS

The calculation for 'Transport to Site' was made based on land freight from Christchurch to Auckland.