# 32 MPa with 4.6 kg/m³ Blended Polyfibre

## Generic EPD – Sydney Region

## NEW SOUTH WALES - SYDNEY

### Environmental Product Declaration

**In Accordance with Environdec c-PCR-003 Concrete, concrete elements (EN 16757:2023), ISO 14025 and EN15804:A2**

**Programme Operator: EPD International AB**

**Regional Programme: EPD Australasia**

An EPD should provide current information and may be updated or depublished if conditions change. To find the latest version of the EPD and to confirm its validity, see www.environdec.com.

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Heidelberg Materials

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Heidelberg Materials

# Heidelberg Materials Australia

# Who is Heidelberg Materials?

Heidelberg Materials is one of the world's largest building materials companies focused on producing materials to build our future.

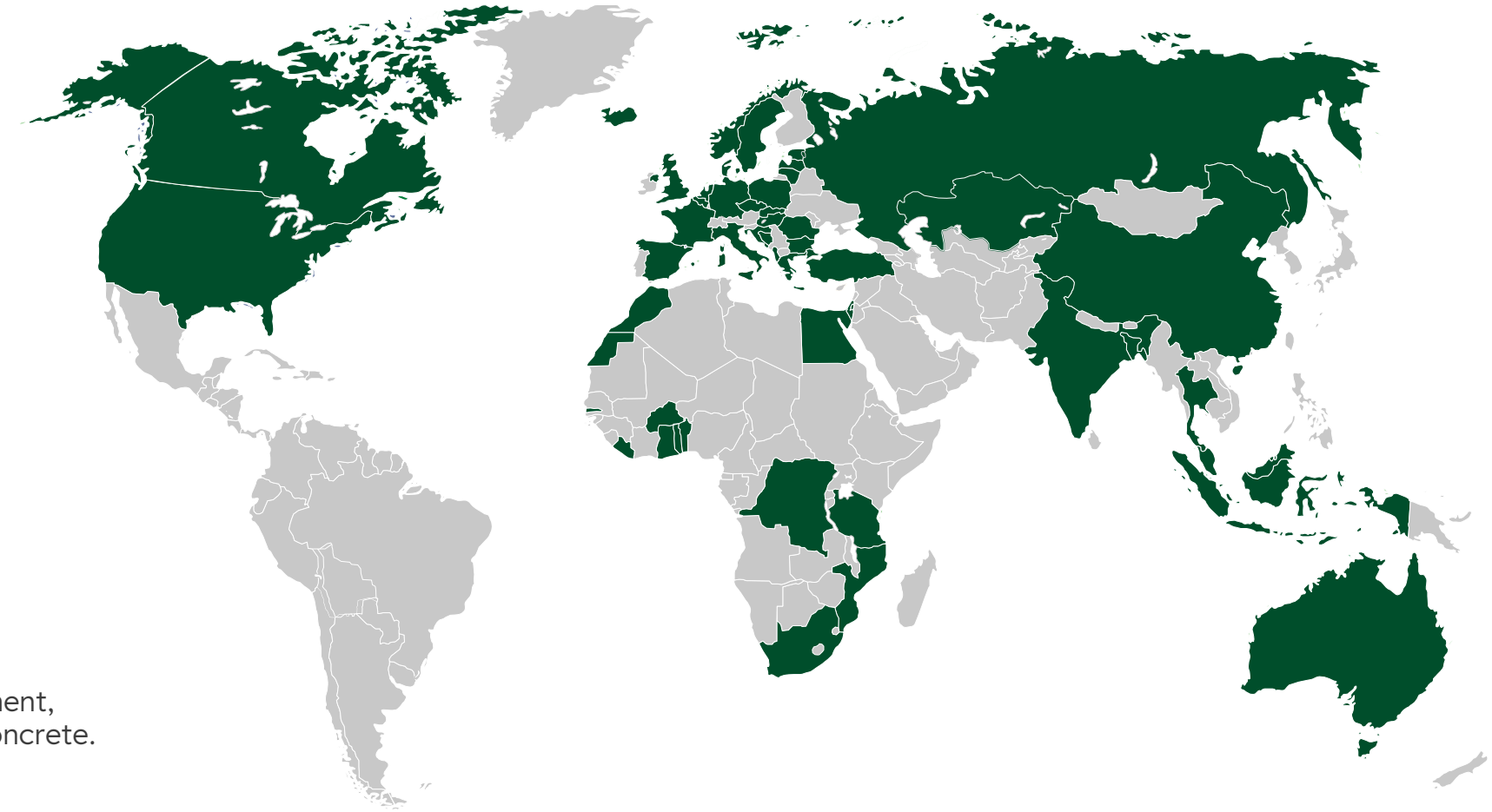
50 countries

51,000 employees

3,000 locations

Leading market positions in cement, aggregates and ready-mixed concrete.

Revenue in 2023 – 21.2 Billion Euro



# Global expertise, Local experience

With more than 4,000 employees across 300 sites, we have an extensive production and logistics network across Australia.

We think global and act local - we benefit from global research and development enhanced by national collaboration to offer a comprehensive range of high-quality concrete, aggregates, road base, sand and asphalt products. We also produce a wide range of sustainable and recycled construction materials for civil construction and infrastructure projects.

We are driven by excellence and high performance and together we will shape Australia’s construction materials industry building a legacy for generations to come.

# Our sustainability charter

The Heidelberg Materials Australia group of companies are leaders in the heavy construction materials industry.  However, we never take it for granted. We help to build the infrastructure of communities by working with them and being a part of them. While we are known for our "we'll make it happen" attitude, we are conscious of our socio-economic and environmental impacts.

One of our strategic goals is to drive operational excellence and innovation, which means we are always looking for new ways of working to help preserve and protect our planet's natural resources.

Heidelberg Materials sustainability commitments 2030 serve as a guiding principle for our sustainability strategy.

The strategy is comprised of four strategic pillars and supports initiatives that focus on $CO_2$ Emissions, Sustainable Products, Biodiversity, Water and Corporate Social Responsibility.

To realise these sustainability goals, individual plans will be developed for our operations, addressing their unique sustainability challenges. We will also build sustainability targets into everyone's roles, recruit sustainability champions and invest in resources and projects that support our sustainability plans. Our plans and commitments align directly with each of our core values: Care, Collaboration and Ownership.

Committing to these goals as a team is an important part of being a truly sustainable business.

I look forward to working together to realise better outcomes for our people, our communities and our planet.

Phil Schacht
Chief Executive
Heidelberg Materials Australia

**"Driven by excellence and high performance, together we will shape Australia's construction materials industry, building a legacy for generations to come"**

# Life Cycle and Process

# Product EPD Process

**Declared Unit is 1m³ of Concrete**

- The process is used to produce an accurate estimation at all stages of the product life cycle from cradle to grave. Estimation at each stage is based on actual data which is a combination of both current and prior year average consumption per declared unit.

**Life Cycle Assessment Tool**

- For the purposes of creating this Environmental Product Declaration (EPD), the Global Cement & Concrete Association (GCCA) concrete EPD tool v. 5.0 (short: GCCA tool) has been employed.

**EPDs are created under either of 2 streams:**

- Generic Stream - The class of product modelled is used for a particular geographical region using averaged data across operations.
- Project-specific stream – Models the manufacture of specific products required for a particular project being delivered from specific plant(s) using weighted average data where relevant and possible. Reports created after the completion of a project offer the highest accuracy, including all mix variations for each delivery.

**The main data categories include:**

- The average bill of materials (BOM) for the concrete mix selected in the range of concrete plants specified including their average raw material travel distance, or the calculated BOM based on actual delivered materials incl. travel distances (average or specific) for the producing plants.
- The average fuel, water and energy consumption per declared unit between those plants;
- Plant production waste based on a nationally calculated figure;
- Recarbonation of concrete is determined through pre-defined values within GCCA tool for the type of construction project (-6.85kg $CO_2$ eq./ m³ at Stage B, -2.31 kg $CO_2$ eq./ m³ at Stage C3, and -5.89 kg $CO_2$ eq./ m³ at Stage C4), where known; and,
- End of life recycling is based upon industry data.
- This EPD Process is certified using GCCA international modelling of energy use and environmental impact to obtain a suitable estimation for products manufactured.
- Pre-defined cement and clinker data provided by the GCCA tool are used only where no better (supplier/source specific) information is available.

**Assumptions & Limitations**

- This is a generic EPD.
- All modelling assumptions adopted from the GCCA Tool.
- The geographical scope involves NEW SOUTH WALES - SYDNEY.
- Raw material (inbound) transport distances is the previous year's travel distance average weighted according to deliveries across operations.
- For generic EPDs travel for diesel truck from concrete production site to customer site was set to 20 km default. Longer or shorter travel distances will have minor effects on the overall CO2 values. Concrete plants in the study include: Artarmon, Brookvale, Campbelltown, Caringbah, Pendle Hill, Prestons, Thornleigh, Greenacre, Banksmeadow, Camellia, Pyrmont, Wetherill Park, Riverstone, and Mulgrave. Truck type of >32 tonne was assumed to be fully utilized travelling to construction site with empty returns.
- Travel distance for fuel from depots to operations was set to 36 km.
- Concrete mixes are assumed to use an equal amount of site fuel and energy and responsible for an equal amount of waste flows.
- Production is assumed to be equal across all plants included in the study for the calculation of the bill of materials.
- Water usage in operations is averaged over the entire state.
- Grid purchased electricity mixes is based on the specific state's energy mix from OpenNEM. For this project, energy mix was sourced from coal and peat (64%), gas (2%), solar (21%), wind (8%), hydro (5%), and biomass (<1%). The electricity emission (GWP-GHG) is 0.79 kg CO2e/kWh.
- Travel for materials sources internationally included from shipping origin.
- Reference Service Life (RSL) is set to 50 years as per default. It's based on the lowest exposure class A1 & A2 (AS 3600:2018 "Concrete Structures") in relatively benign environments.

# Product EPD Process

| Bill of Materials | Low Level [%] | High Level [%] |
|---|---|---|
| Cement | 4 | 25 |
| Supplementary Cementitious Materials | 2 | 14 |
| Aggregates | 61 | 82 |
| Water | 7 | 9 |
| Admixtures | 0 | <1 |
| Reinforcements | <1 | 2 |

The materials (by mass%) contained in Generic EPD - Sydney Region mixes are summarized in the table above.

**Hazard information related to concrete placement**

GHS classifications

- Skin Corrosion Category 1
- Serious Eye Damage –Category 1
- Skin Sensitisation Category 1
- Specific Target Organ Toxicity (Repeated Exposure) Category 2

Hazard Statement(s)

- H302 –Harmful if swallowed
- P280 –Wear protective gloves/clothing/eye protection.
- H314 –Causes severe skin burns and eye damage
- H317 –May cause an allergic skin reaction
- H318 – Causes serious eye damage
- H373 –May cause damage to lungs by inhalation (dust from dried product)

**By-Products, Recycled Materials & Allocations**

Co-products would be allocated via economic allocations and then normalized based on BOM. The following materials are the product of waste streams of other industrial processes:

Fly ash

- A by-product of coal-fired power stations, fly ash is considered to carry no environmental impact for the purposes of this EPD, hence an economic allocation of $0 has been applied to fly ash. The only burdens are of transport to manufacturing sites.

Ground Granulated Blast Furnace Slag (GGBFS)

- Blast furnace slag is a by-product of steel production that is dried and ground for use in concrete production. To duly allocate the environmental impacts, economic allocation has been employed.

Silica fume

- As a by-product of silicon production, silica fume is considered to carry no environmental burden for the purposes of this EPD.

Recycled concrete aggregate

- A component of the boarder category of construction and demolition waste, environmental impacts are allocated on the basis of reprocessing the material following delivery to the recycling facility.

Manufactured Sand

- A by-product of processing coarse aggregate. This manufactured sand is a direct replacement for natural sand and prevents the need to extract natural resources.

**Packaging**

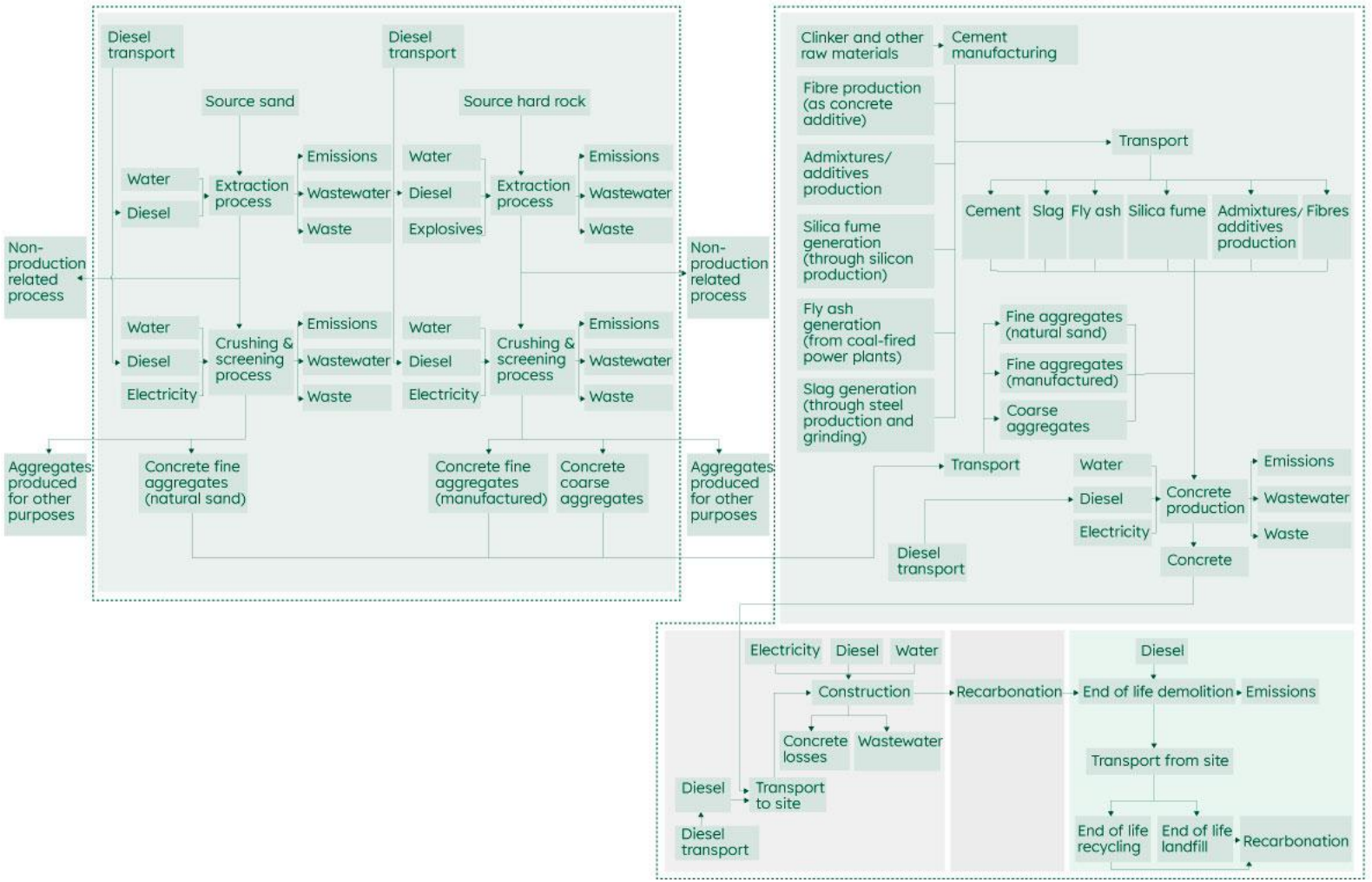
- This concrete is not produced with any packaging, instead delivered directly to site immediately following production.

# Product Lifecycle Stages

| | Product Stage | | | Construction Stage | | Use Stage | | | | | | | End of Life Stage | | | | Benefits & loads for the next product system |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Raw Material Supply | Transport | Manufacturing | Transport | Construction/installation process | Use | Maintenance incl. transport | Repair incl. transport | Replacement incl. transport | Refurbishment incl. transport | Operational Energy Use | Operational Water Use | De-construction & demolition | Transport | Re-use recycling | Final Disposal | Reuse, Recovery Recycling |
| **Module** | A1 | A2 | A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 | D |
| **Modules declared** | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| **Geography** | GLO | GLO | AU | AU | AU | AU | AU | AU | AU | AU | AU | AU | AU | AU | AU | AU | AU |
| **Specific data** | >90% | | | | | | | | | | | | | | | | |
| **Variation products** | <10% | | | | | | | | | | | | | | | | |
| **Variation sites** | <10% | | | | | | | | | | | | | | | | |

- All stages of the product lifecycle have been considered for this EPD – cradle to grave. By its nature, there are some stages of the lifecycle that are not applicable to the concrete product.
- The scenario applied for the use stage assumes that under normal use, no maintenance repair or replacement of the product during its service life is required. As a result, the values are displayed as zero.
- Those stages that, due to practicality, cannot be assessed accurately draw on default values of the underlying GCCA tool.
- For Project-specific EPDs, allocation is determined by the supplying plants with estimates as to the likely volume to be delivered from each. Where existing and sufficient data exists, historical data will be used to make this determination.

# Product Lifecycle Stages




- The lifecycle model and system boundary is the same for both Generic and Project-specific concrete EPDs, as detailed in the graphic.
- All stages of the lifecycle, from quarry to recycling are covered by the EPD.

**Cut-off rules**

The cut-off threshold for the LCA study was flows contributing less than 1% for any individual input included in the LCA. No flows were deliberately excluded due to this threshold, however particularly minor impacts (e. g. packaging of chemical admixtures) were not considered. Cut off will occur only when data, or reliable estimates, are not practical to source. The contribution of capital goods (production equipment and infrastructure) and personnel are non-attributable and excluded for the system boundary.

# Product Data Sources

| LCA Stage | Item | Source | Timing | Data Source | Data Quality | | |
|---|---|---|---|---|---|---|---|
| | | | | | Geographical | Technical | Time |
| **Product Description** | Product description and density | ERP report Bill of Materials and material specific data | Upon EPD creation | Primary | Very good | Very good | Very good |
| **A1-3 Materials** | Raw Materials | ERP report BOM and Mix design compilation used in conjunction with material template<br><br>Note. Upstream process for raw materials utilise data from ecoinvent 3.10. Specific cement EPD data by the cement manufacturer was used if available. Published cement EPDs were used to create concrete EPDs.<br><br>In the rare case that specific cement data was not possible, region-specific default cement and clinker values (default values provided by the GCCA tool) would have been used. This would be reflected in "Specific data." | Upon EPD creation | Secondary | Very good | Good | Very good |
| **A1-3 Materials** | Inbound travel (raw materials) | ERP report 2. Inbound Travel drawing from actual deliveries from sources to operations.<br><br>Where delivery data not available, travel calculated based on Google Maps.<br><br>Train travel (only for operations around Melbourne) calculated by actual Google Maps distance. | Full prior year data, average per delivery<br><br>Actual travel distances between source and operation. | Primary | Very good | Good | Very good |
| **A1-3 Materials** | Allocation Factor (for secondary co products): | Slag: AusLCI<br><br>Fly Ash & Silica fume: no allocation as they are industrial by-products. | Upon EPD creation | Secondary | Very good | Good | Very good |
| **1-3 Manufacturing** | Plant Energy and Fuel Consumption | ERP Report 3. Concrete Energy Use, drawing on actual invoiced usage. | Full prior year data, average per cubic metre | Primary | Very good | Very good | Very good |
| **A1-3 Manufacturing** | Electricity Energy Sources | Sourced from OpenNEM https://opennem.org.au; Australian Energy Market Operator. Excludes imports. | Full year prior data, state-based, percentages | Secondary | Very good | Very good | Very good |
| **A1-3 Waste Management** | Waste and wastewater | Wastewater volume set to 9L per 1 $m^3$ | Static | Secondary | Very good | Good | Very good |
| **A4-5 Construction** | Outbound Travel | For generic EPDs: ERP report 5. Outbound travel drawing from actual deliveries from operations to customer sites. Where data not available, travel calculated based on Google Maps.<br><br>For project-specific EPDs: The project-specific travel distances from the main plant to the construction site was applied.<br><br>For both scenarios, diesel truck is used to transport deliveries to customer site/s. A5 uses default GCCA Tool settings for: 2.8 kWh electricity, 1.7 L diesel in building machine, 669 kg water, and 0.7 $m^3$ wastewater. Note that internal concrete losses are at ~1% (based on internal reports) | Generic EPD: Full prior year data, average per delivery.<br><br>Project-specific EPD: Actual travel distances between plant and construction site. | Primary | Very good | Good | Very good |
| **B. Use** | Re-carbonation | Default GCCA Tool settings | NA | Proxy | Good | Good | Very good |

# Product Data Sources

| LCA Stage | Item | Source | Timing | Data Source | Data Quality | | |
|---|---|---|---|---|---|---|---|
| | | | | | Geographical | Technical | Time |
| **C. End of Life Demolition** | Demolition | Default GCCA Tool settings (2.674 L diesel in building machine, 0.0365 mg PM2.5, 0.184 mg PM10, 0.139 mg PM>10). PM refers to particulate matter. | NA | Proxy | Good | Good | Very good |
| **C. End of Life Transport** | Transport | Default GCCA Tool settings | NA | Proxy | Good | Good | Very good |
| **C. End of Life Waste Processing** | Recycling Rate at EOL | Masonry materials recycling rate obtained from annual National Waste Report published (e. g. for National Waste Report 2022, page 41, figure 29). Referenced recycling rate is used in industry as closest to concrete-specific value.<br><br>National Waste Reports | Prior year National Waste Report if available. If not, then latest available | Proxy | Good | Good | Very good |
| **C. End of Life Disposal** | Disposal Rate at EOL | Disposal rate inverse of masonry materials recycling rate obtained from annual National Waste Report published<br><br>National Waste Reports | Prior year National Waste Report if available. If not, then latest available | Proxy | Good | Good | Very good |
| **D Benefits and Loads** | | Default GCCA Tool settings | NA | NA | NA | NA | NA |
| **General** | General | Ecoinvent database used by the GCCA tool<br><br>Note: This covers environmental information for all raw materials and energy sources. Cement, where data is available, employs specific raw material and energy data for the product manufacture and for each component draws on Eco Invent Data. | NA | Secondary | Very good | Good | Very good |

# Product environmental performance

Heidelberg Materials

# Product Environmental Performance

| | |
|---|---|
| **Comment** | All information about goal and scope necessary for results interpretation are present in the latest version of the “LCA Model” report, available in GCCA’s Industry EPD Tool.<br><br>Declared GWP-GHG results for modules A1-A3 are <10%.<br><br>The estimated impact results are only relative statements, which do not indicate the endpoints of the impact categories, exceeding threshold values, safety margins and/or risks. Since Module C is included in the EPD, the use of Module A1-A3 results without considering the results of Module C is discouraged.<br><br>EF3.0 based EN15804+A2 impact assessment methodology has been is used for the GWP indicators.<br><br>The removals and emissions associated with biogenic carbon content of i) the product and ii) the packaging are not significant or even not relevant in the sector. The only limitation is the uptake of $CO_2$ in A1-A3 (e.g. biobased insulation materials in precast elements or biobased packaging materials) and reemission in A5 (packaging end-of-life) or C3-C4 (product end-of-life). This does not affect the GWP-tot indicator.<br><br>The tool does not calculate the ‘Radioactive waste disposed’ indicator, it is considered not to be significant for the sector. |
| **Core Environmental Impact Indicators** | **GWP-GHG** (Global Warming Potential, GHG) • **GWP-tot** (Global Warming Potential total) • **GWP-fos** (Global Warming Potential fossil fuels) • **GWP-bio** (Global Warming Potential biogenic) • **GWP-luc** (Global Warming Potential land use and land use change) • **ODP** (Depletion potential of the stratospheric ozone layer) • **AP** (Acidification potential, Accumulated Exceedance) • **EP-fw** (Eutrophication potential, freshwater) • **EP-mar** (Eutrophication potential, fraction of nutrients reaching marine end compartment) • **EP-ter** (Eutrophication potential, Accumulated Exceedance) • **POCP** (Formation potential of tropospheric ozone) • **ADPE**[1] (Abiotic depletion potential for non- fossil resources) • **ADPF**[1] (Abiotic depletion for fossil resources potential) • **WDP**[1] (Water (user) deprivation potential, deprivation-weighted water consumption) |

[1] *The results of this environmental impact indicator shall be used with care as the uncertainties of the results are high and as there is limited experience with the indicator.*

# Product Environmental Performance

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|---|---|
| **Additional Environmental Impact Indicators** | **PM** (Potential incidence of disease due to PM emissions) • **IRP**[2] (Potential Human exposure efficiency relative to U235) • **ETP**[1] (Potential Comparative Toxic Unit for ecosystems) • **HTPC**[1] (Potential Comparative Toxic Unit for humans - cancer) • **HTPNC**[1] (Potential Comparative Toxic Unit for humans - non-cancer) • **SQP**[1] (Potential soil quality index) |
| **Parameters Describing Resource Use** | **PERE** (Use of renewable primary energy excluding renewable primary energy resources used as raw materials) • **PERM** (Use of renewable primary energy resources used as raw materials) • **PERT** (Total use of renewable primary energy resources) • **PENRE** (Use of non renewable primary energy excluding non-renewable primary energy resources used as raw materials) • **PENRM** (Use of non-renewable primary energy resources used as raw materials) • **PENRT** (Total use of non-renewable primary energy resources) • **SM** (Use of secondary materials) • **RSF** (Use of renewable secondary fuels) • **NRSF** (Use of non-renewable secondary fuels) • **NFW** (Net use of fresh water) |
| **Waste Categories** | **HWD** (Hazardous waste disposed) • **NHWD** (Non-hazardous waste disposed) • **RWD** (Radioactive waste disposed) |
| **Output Flows** | **CRU** (Components for re-use) • **MFR** (Materials for recycling) • **MER** (Materials for energy recovery) • **EE** (Exported energy) |
| **Extra Indicators** | **CC**[1] (Emissions from calcination and removals from carbonation) • **CWRS** (Emissions from combustion of waste from renewable sources used in production processes) • **CWNRS** (Emissions from combustion of waste from non-renewable sources used in production processes) • **GWP-prod** (Removals and emissions associated with biogenic carbon content of the bio-based product) • **GWP-pack** (Removals and emissions associated with biogenic carbon content of the bio-based packaging) |

*[1] The results of this environmental impact indicator shall be used with care as the uncertainties of the results are high and as there is limited experience with the indicator.*
*[2] This impact category deals mainly with the eventual impact of low dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure nor due to radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator.*

# Product Environmental Performance

| | |
|---|---|
| **Product identification** | **32 MPa with 4.6 kg/m$^3$ Blended Polyfibre** |
| **EPD Registration Number** | **EPD-IES-0010045 :001** |
| **Production site(s)** | **Sydney** |
| **Compressive strength** | **32** |
| **Density** | **2361 kg/m³** |
| **Reference service life** | **50 Years** |
| **Recycling Rate At EoL** | **78%** |
| **Declared unit** | **1 m$^3$** |
| **Scope** | **A1-A3 + A4-A5 + B1-B7 + C1-C4 + D, cradle-to-grave** |
| **Methodology** | **GCCA's Industry EPD Tool for Cement and Concrete (V5.0), International version** |
| **Reference Year** | **2024** |

# Product Environmental Performance

EPD Registration Number EPD-IES-0010045 :001

**Core environmental impact indicators**

| | | A1-A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 | D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GWP-GHG | kg $CO_2$ eq. | 2.57E+02 | 5.06E+00 | 1.18E+01 | -6.85E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 9.64E+00 | 1.03E+01 | 3.45E+00 | 8.03E+00 | -1.33E+01 |
| GWP-tot | kg $CO_2$ eq. | 2.57E+02 | 5.06E+00 | 1.18E+01 | -6.85E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 9.64E+00 | 1.03E+01 | 3.45E+00 | 8.03E+00 | -1.33E+01 |
| GWP-fos | kg $CO_2$ eq. | 2.57E+02 | 5.06E+00 | 1.18E+01 | -6.85E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 9.63E+00 | 1.03E+01 | 3.44E+00 | 8.03E+00 | -1.33E+01 |
| GWP-bio | kg $CO_2$ eq. | 7.65E-02 | 2.08E-04 | 3.01E-03 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.05E-03 | 2.20E-03 | 6.62E-03 | 7.74E-04 | -3.32E-02 |
| GWP-luc | kg $CO_2$ eq. | 3.41E-02 | 2.05E-03 | 2.72E-03 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 8.36E-04 | 4.93E-03 | 6.95E-03 | 1.71E-03 | -1.05E-02 |
| ODP | kg CFC 11 eq. | 2.41E-06 | 7.89E-08 | 2.22E-07 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.47E-07 | 1.49E-07 | 4.47E-08 | 9.62E-08 | -1.08E-07 |
| AP | mol H+ eq. | 1.03E+00 | 2.11E-02 | 9.07E-02 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 8.69E-02 | 5.34E-02 | 3.21E-02 | 2.42E-02 | -8.41E-02 |
| EP-fw | kg P eq. | 3.91E-02 | 1.30E-04 | 8.37E-04 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 9.17E-05 | 3.45E-04 | 7.66E-04 | 9.34E-05 | -1.20E-03 |
| EP-mar | kg N eq. | 9.62E-02 | 7.67E-03 | 3.07E-02 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 4.03E-02 | 2.00E-02 | 7.63E-03 | 9.44E-03 | -1.99E-02 |
| EP-ter | mol N eq. | 2.51E+00 | 8.36E-02 | 3.43E-01 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 4.41E-01 | 2.18E-01 | 7.95E-02 | 1.02E-01 | -2.53E-01 |
| POCP | kg NMVOC eq. | 6.91E-01 | 3.06E-02 | 1.02E-01 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.32E-01 | 7.29E-02 | 2.38E-02 | 3.58E-02 | -6.84E-02 |
| ADPE | kg Sb eq. | 1.99E-04 | 1.42E-05 | 1.99E-05 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.53E-06 | 2.81E-05 | 2.97E-05 | 5.55E-06 | -7.06E-05 |
| ADPF | MJ, net calorific value | 1.64E+03 | 7.39E+01 | 1.34E+02 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.26E+02 | 1.45E+02 | 7.43E+01 | 8.11E+01 | -1.59E+02 |
| WDP | $m^3$ world eq. deprived | 3.56E+01 | 3.54E-01 | 1.06E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.09E-01 | 8.45E-01 | 1.17E+00 | 5.37E-01 | -2.68E+01 |

**Parameters describing resource use**

| | | A1-A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 | D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PERE | MJ, net calorific value | 3.90E+01 | 9.71E-01 | 5.48E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 7.73E-01 | 2.83E+00 | 9.29E+00 | 7.81E-01 | -1.32E+01 |
| PERM | MJ, net calorific value | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| PERT | MJ, net calorific value | 3.90E+01 | 9.71E-01 | 5.48E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 7.73E-01 | 2.83E+00 | 9.29E+00 | 7.81E-01 | -1.32E+01 |
| PENRE | MJ, net calorific value | 6.17E+02 | 6.70E+01 | 1.24E+02 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.26E+02 | 1.32E+02 | 7.42E+01 | 8.10E+01 | -1.51E+02 |
| PENRM | MJ, net calorific value | 1.12E+02 | 6.84E+00 | 1.57E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.28E+01 | 1.28E-01 | 5.63E-02 | -8.73E+00 |
| PENRT | MJ, net calorific value | 7.29E+02 | 7.39E+01 | 1.25E+02 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.26E+02 | 1.45E+02 | 7.43E+01 | 8.11E+01 | -1.59E+02 |
| SM | kg | 1.20E+02 | 0.00E+00 | 1.20E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| RSF | MJ, net calorific value | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| NRSF | MJ, net calorific value | 8.63E+01 | 0.00E+00 | 8.63E-01 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| NFW | $m^3$ | 1.80E+00 | 1.09E-02 | 3.27E-02 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 8.19E-03 | 2.42E-02 | 3.32E-02 | 8.85E-02 | -6.32E-01 |

# Product Environmental Performance

EPD Registration Number EPD-IES-0010045 :001

**Additional environmental impact indicators**

| | | A1-A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 | D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PM | Disease incidence | 9.18E-06 | 5.18E-07 | 1.74E-06 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.47E-06 | 1.13E-06 | 3.87E-07 | 5.32E-07 | -1.36E-06 |
| IRP | kBq U235 eq. | 7.33E+02 | 6.52E-02 | 7.52E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 5.65E-02 | 1.86E-01 | 6.97E-01 | 5.28E-02 | -1.15E+00 |
| ETP | CTUe | 2.19E+02 | 1.78E+01 | 1.68E+02 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.79E+01 | 4.17E+01 | 1.82E+01 | 2.05E+01 | -8.53E+01 |
| HTPC | CTUh | 6.38E-07 | 2.53E-08 | 4.60E-08 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.77E-08 | 6.59E-08 | 1.44E-08 | 1.59E-08 | -1.57E-07 |
| HTPNC | CTUh | 1.14E-05 | 4.88E-08 | 1.70E-07 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.72E-08 | 9.29E-08 | 5.11E-08 | 2.87E-08 | -1.08E-07 |
| SQP | dimensionless | 1.23E+03 | 7.44E+01 | 3.47E+01 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 8.86E+00 | 1.35E+02 | 3.99E+01 | 1.58E+02 | -1.70E+02 |

**Other environmental information describing waste categories**

| | | A1-A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 | D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HWD | kg | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| NHWD | kg | 1.86E-01 | 0.00E+00 | 5.18E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 5.18E+02 | 0.00E+00 |
| RWD | kg | 4.55E-04 | 1.60E-05 | 4.91E-05 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.38E-05 | 4.59E-05 | 1.70E-04 | 1.29E-05 | -2.79E-04 |

**Environmental information describing output flows**

| | | A1-A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 | D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CRU | kg | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| MFR | kg | 0.00E+00 | 0.00E+00 | 1.85E+01 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.85E+03 | 0.00E+00 | 0.00E+00 |
| MER | kg | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| EE | kg | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |

**Extra indicators**

| | | A1-A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 | D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CC | kg $CO_2$ eq. | 1.16E+02 | 0.00E+00 | 1.01E+00 | -6.85E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | -2.31E+00 | 0.00E+00 | 0.00E+00 |
| CWRS | kg $CO_2$ eq. | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| CWNRS | kg $CO_2$ eq. | 6.91E+00 | 0.00E+00 | 6.91E-02 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| GWP-prod | kg $CO_2$ | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| GWP-pack | kg $CO_2$ | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |

# Product Environmental Performance

The EPD values presented are indicative of local material performance at the time of publishing and are subject to change based on material availability and seasonal factors.

| Product Identification | EPD Registration Number | Compressive strength [MPa] | A1-A3 GWP-tot[1] [kg $CO_2$ eq./$m^3$] | Full Lifecycle GWP-tot[1] [kg $CO_2$ eq./$m^3$] | Application |
|---|---|---|---|---|---|
| **25 MPa with 4.6 kg/m3 Blended Polyfibre** | EPD-IES-0010042:001 | 25 | 227 | 256 | Footpath |
| **32 MPa with 4.6 kg/m3 Blended Polyfibre** | EPD-IES-0010045:001 | 32 | 257 | 285 | Footpath |
| **Columns & Walls 65 Mpa** | EPD-IES-0010053:001 | 65 | 357 | 381 | Column & Wall |
| **Columns & Walls 80 Mpa** | EPD-IES-0010055:001 | 80 | 422 | 446 | Column & Wall |
| **Columns & Walls 65 MPa High Early Strength** | EPD-IES-0010052:001 | 65 | 460 | 482 | Column & Wall |
| **Columns & Walls 80 MPa High Early Strength** | EPD-IES-0010054:001 | 80 | 569 | 589 | Column & Wall |
| **CoreMasta 20 MPa** | EPD-IES-0010038:001 | 20 | 195 | 220 | Blockfill |
| **CoreMasta 25 MPa** | EPD-IES-0010039:001 | 25 | 208 | 233 | Blockfill |
| **Enrich-40 Normal-Class 20 MPa** | EPD-IES-0010040:001 | 20 | 174 | 200 | General |
| **Enrich-40 Normal-Class 25 MPa** | EPD-IES-0010044:001 | 25 | 187 | 213 | General |
| **Enrich-40 Normal-Class 32 MPa** | EPD-IES-0010046:001 | 32 | 210 | 236 | General |
| **Enrich-40 Normal-Class 40 MPa** | EPD-IES-0010049:001 | 40 | 251 | 278 | General |
| **Enrich-40 Normal-Class 50 MPa** | EPD-IES-0010050:001 | 50 | 306 | 335 | General |
| **Enrich-50 Normal-Class 20 MPa** | EPD-IES-0010041:001 | 20 | 143 | 170 | General |
| **Enrich-50 Normal-Class 25 MPa** | EPD-IES-0010043:001 | 25 | 156 | 183 | General |
| **Enrich-50 Normal-Class 32 MPa** | EPD-IES-0010047:001 | 32 | 176 | 202 | General |
| **Enrich-50 Normal-Class 40 MPa** | EPD-IES-0010048:001 | 40 | 215 | 243 | General |
| **Enrich-50 Normal-Class 50 MPa** | EPD-IES-0010051:001 | 50 | 256 | 283 | General |
| **Imagecrete Colour 25 MPa** | EPD-IES-0010056:001 | 25 | 221 | 245 | Decorative |
| **Imagecrete Colour 32 MPa** | EPD-IES-0010190:001 | 32 | 251 | 275 | Decorative |

[1]More detailed information is provided in the mix-specific tables and assumptions covered in Life Cycles & Processes section.

# Product Environmental Performance

The EPD values presented are indicative of local material performance at the time of publishing and are subject to change based on material availability and seasonal factors.

| Product Identification | EPD Registration Number | Compressive strength [MPa] | A1-A3 GWP-tot[1] [kg $CO_2$ eq./$m^3$] | Full Lifecycle GWP-tot[1] [kg $CO_2$ eq./$m^3$] | Application |
|---|---|---|---|---|---|
| **Imagecrete Exposed 25 MPa** | EPD-IES-0010345:001 | 25 | 219 | 246 | Decorative |
| **Imagecrete Exposed 32 MPa** | EPD-IES-0010346:001 | 32 | 252 | 276 | Decorative |
| **Imagecrete Polished 32 MPa** | EPD-IES-0010491:001 | 32 | 259 | 282 | Decorative |
| **Imagecrete Polished 40 MPa** | EPD-IES-0010539:001 | 40 | 301 | 326 | Decorative |
| **SprayMasta 32 MPa** | EPD-IES-0011642:001 | 32 | 265 | 290 | Shotcrete |
| **SprayMasta 40 MPa** | EPD-IES-0011674:001 | 40 | 296 | 320 | Shotcrete |
| **Spraymasta Tunnel 40MPa 40kg/m3 Steel Fibre, 1bag/m3 Poly Fibre** | EPD-IES-0011998:001 | 40 | 361 | 391 | Shotcrete |
| **Piling 32 MPa Enrich-50** | EPD-IES-0010692:001 | 32 | 187 | 214 | Piling |
| **Piling 40 MPa Enrich-50** | EPD-IES-0010729:001 | 40 | 217 | 245 | Piling |
| **Piling 50 MPa Enrich-50** | EPD-IES-0010854:001 | 50 | 260 | 287 | Piling |
| **Post-tensioned 40 MPa (22 MPa @ 3 days)** | EPD-IES-0011220:001 | 40 | 339 | 363 | Post-Tensioned Slab |
| **Post-tensioned 40 MPa (22 MPa @ 4 days)** | EPD-IES-0011025:001 | 40 | 324 | 349 | Post-Tensioned Slab |
| **Post-tensioned 40 MPa (22 MPa @ 5 days)** | EPD-IES-0010872:001 | 40 | 324 | 349 | Post-Tensioned Slab |
| **Post-tensioned 40 MPa (25 MPa @ 3 days)** | EPD-IES-0011053:001 | 40 | 366 | 390 | Post-Tensioned Slab |
| **Post-tensioned 40 MPa (25 MPa @ 4 days)** | EPD-IES-0011066:001 | 40 | 343 | 367 | Post-Tensioned Slab |
| **Post-tensioned 50 MPa (22 MPa @ 3 days)** | EPD-IES-0011245:001 | 50 | 381 | 405 | Post-Tensioned Slab |
| **Post-tensioned 50 MPa (22 MPa @ 4 days)** | EPD-IES-0011221:001 | 50 | 381 | 408 | Post-Tensioned Slab |
| **Post-tensioned 50 MPa (25 MPa @ 3 days)** | EPD-IES-0011580:001 | 50 | 381 | 405 | Post-Tensioned Slab |
| **Post-tensioned 50 MPa (25 MPa @ 4 days)** | EPD-IES-0011509:001 | 50 | 381 | 405 | Post-Tensioned Slab |
| **Post-tensioned 40 MPa (22 MPa @ 3 days) ECOTERA** | EPD-IES-0011829:001 | 40 | 273 | 299 | Post-Tensioned Slab |

[1]More detailed information is provided in the mix-specific tables and assumptions covered in Life Cycles & Processes section.

# Product Environmental Performance

The EPD values presented are indicative of local material performance at the time of publishing and are subject to change based on material availability and seasonal factors.

| Product Identification | EPD Registration Number | Compressive strength [MPa] | A1-A3 GWP-tot[1] [kg $CO_2$ eq./$m^3$] | Full Lifecycle GWP-tot[1] [kg $CO_2$ eq./$m^3$] | Application |
|---|---|---|---|---|---|
| **Post-tensioned 40 MPa (22 MPa @ 4 days) ECOTERA** | EPD-IES-0011830:001 | 40 | 266 | 293 | Post-Tensioned Slab |
| **Post-tensioned 40 MPa (25 MPa @ 3 days) ECOTERA** | EPD-IES-0011838:001 | 40 | 284 | 310 | Post-Tensioned Slab |
| **Post-tensioned 40 MPa (25 MPa @ 4 days) ECOTERA** | EPD-IES-0011839:001 | 40 | 280 | 306 | Post-Tensioned Slab |
| **Post-tensioned 50 MPa (22 MPa @ 3 days) ECOTERA** | EPD-IES-0011841:001 | 50 | 287 | 314 | Post-Tensioned Slab |
| **Post-tensioned 50 MPa (22 MPa @ 4 days) ECOTERA** | EPD-IES-0011860:001 | 50 | 281 | 307 | Post-Tensioned Slab |
| **Post-tensioned 50 MPa (25 MPa @ 3 days) ECOTERA** | EPD-IES-0011993:001 | 50 | 306 | 332 | Post-Tensioned Slab |
| **Post-tensioned 50 MPa (25 MPa @ 4 days) ECOTERA** | EPD-IES-0011994:001 | 50 | 292 | 318 | Post-Tensioned Slab |
| **Precast 50MPa** | EPD-IES-0011995:001 | 50 | 437 | 459 | Precast |
| **Precast 50MPa ECOTERA** | EPD-IES-0011996:001 | 50 | 314 | 340 | Precast |
| **Sydney Water 25MPa** | EPD-IES-0011823:001 | 25 | 178 | 204 | Sydney Water Structural |
| **Sydney Water 32MPa** | EPD-IES-0011824:001 | 32 | 201 | 227 | Sydney Water Structural |
| **Sydney Water 40MPa** | EPD-IES-0011831:001 | 40 | 234 | 261 | Sydney Water Structural |
| **Sydney Water Special 40MPa** | EPD-IES-0011832:001 | 40 | 267 | 293 | Sydney Water Structural |
| **Sydney Water Special 50MPa** | EPD-IES-0011861:001 | 50 | 280 | 306 | Sydney Water Structural |
| **TfNSW B80 Cast-in-place piles 40MPa B2 Exposure** | EPD-IES-0012033:001 | 40 | 248 | 275 | TfNSW Piling |
| **TfNSW B80 Cast-in-place-piles 50MPa B2 Exposure** | EPD-IES-0012389:001 | 50 | 274 | 300 | TfNSW Piling |
| **TfNSW B80 Insitu 40MPa B2 Exposure** | EPD-IES-0011828:001 | 40 | 227 | 255 | TfNSW Structural |
| **TfNSW B80 Insitu 50MPa B2 Exposure** | EPD-IES-0011840:001 | 50 | 265 | 292 | TfNSW Structural |
| **TfNSW R82 Leanmix 5MPa** | EPD-IES-0011821:001 | 5 | 120 | 139 | Lean Mix |
| **TfNSW R83 Pavement 35MPa** | EPD-IES-0011822:001 | 35 | 301 | 326 | Pavement |

[1]More detailed information is provided in the mix-specific tables and assumptions covered in Life Cycles & Processes section.

# Product Environmental Performance

The EPD values presented are indicative of local material performance at the time of publishing and are subject to change based on material availability and seasonal factors.

| Product Identification | EPD Registration Number | Compressive strength [MPa] | A1-A3 GWP-tot[1] [kg $CO_2$ eq./$m^3$] | Full Lifecycle GWP-tot[1] [kg $CO_2$ eq./$m^3$] | Application |
|---|---|---|---|---|---|
| **TfNSW Shotcrete 25MPa Low Permeability Smoothing Layer** | EPD-IES-0011997:001 | 25 | 324 | 344 | Shotcrete |

[1]More detailed information is provided in the mix-specific tables and assumptions covered in Life Cycles & Processes section.

Heidelberg Materials

# References

| | | |
|---|---|---|
| **EPD Owner** | Heidelberg Materials Australia Pty Ltd<br>L14, 35 Clarence St, Sydney NSW 2000<br>Phone: 1300 136 464<br>Online: www.heidelbergmaterials.com.au | |
| **Programme Operator** | EPD International AB Box 210 60 SE-100 31 Stockholm Sweden<br>Online: www.environdec.com<br>Email: info@environdec.com | |
| **Regional Programme** | EPD Australasia Limited, 315a Hardy St, Nelson 7010 New Zealand<br>Online: epd-australasia.com<br>Email: info@epd-Australasia.com | |
| **Process EPD Certified By** | Megan Blizzard<br><br>Epsten Group, Inc.<br>101 Marietta St. NW, Suite 2600, Atlanta, Georgia 30303, USA<br>www.epstengroup.com<br>Accredited by: A2LA, Certificate #3142.03 | |
| **Product Category Rules** | CEN standard EN 15804:A2 (PCR 2019:14 Construction Products, Version 1.3.4) served as the core PCR.<br>Environdec c-PCR-003 Concrete, concrete elements (EN 16757:2023) served as sub-PCR. | |
| **EN 15804 PCR Review** | The Technical Committee of the International EPD®System. Chair: Claudia A. Peña.<br>The review panel may be contacted via info@environdec.com. | |
| **EPD Registration Number** | EPD-IES-0010045 :001 | |
| **Independent Verification of the Declaration and Data, According to ISO 14025:** | ☒ EPD process certification<br>☐ EPD verification | |
| **Valid From** | 2025-01-28 | |
| **Valid To** | 2030-01-28 | |
| **Version** | 1.0 2025-01-28 | |
| **Description of Version Differences (if NOT VERSION 1.0)** | N/A | |
| **Geographical Scope** | NEW SOUTH WALES - SYDNEY | |
| **Important Notes** | EPDs within the same product category but from different programmes may not be comparable.<br>EPDs of construction products may not be comparable if they do not comply with EN 15804.<br><br>The EPD Owner maintains full ownership, liability and responsibility for the EPD. | |
| **Product Group Classification** | UN CPC 88 - Concrete, cement and plaster article manufacturing services | |
| **ANZSIC Classification** | 2033 Ready Mix Concrete Manufacturing | |

# References


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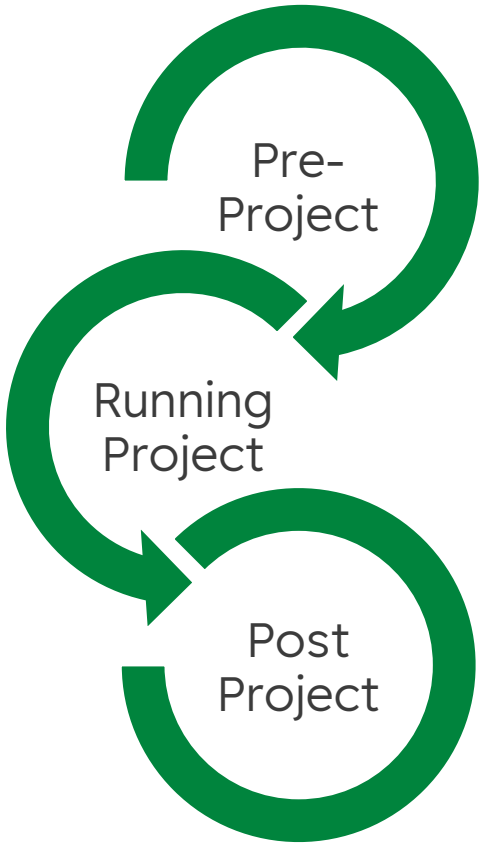
# $CO_2$ Service Offer




$CO_2$ is set to become a crucial budgeting currency in the construction sector. As such, it must be managed accordingly. Most provided embodied carbon emission data out there is based on estimates and typically handed over to the customer before a project starts.

At Heidelberg Materials Australia, we believe there's a better way to communicate carbon values, which also eliminates the current gap of carbon monitoring options during the construction phase in the market:

1) **Pre-project:** Predicting - We can provide you indicative $CO_2$ values for your specific project with our 3rd party verified $CO_2$ calculator (targeted & fast & reliable).

2) **Running project:** Monitoring - You get regular updates of your deliveries and how you track towards your carbon targets (no more surprises).

3) **Post-project:** Verification - You'll receive a final report and a project-specific EPD based on actual deliveries (highest accuracy).