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# ENVIROCRETE®

## Low carbon concrete for everyday structural performance

**ENVIROCRETE®** is a dependable low carbon concrete designed for a wide mix of general construction applications.

Using a balanced blend of alternative cementitious materials, ENVIROCRETE® achieves reduced embodied carbon while delivering consistent strength, workability and durability.

It is suited to residential slabs, pathways, footings and non-aggressive environments where reliable performance and sustainability outcomes are both required.



### ENVIROCRETE®

#### ENVIROCRETE 30%

#### ENVIROCRETE 40%

ENVIROCRETE® is suitable for all general applications where good early age strength and low drying shrinkage are not required.

#### Product Details

Boral's ENVIROCRETE® concrete is a low carbon concrete product which complies with AS 1379.

ENVIROCRETE® contains supplementary cementitious materials to reduce the portland cement content.

ENVIROCRETE® concrete is available with two levels of portland cement reduction. ENVIROCRETE® 30% has a minimum portland cement reduction of 30% compared to the GBCA<sup>1</sup> and ISC<sup>2</sup> reference case and ENVIROCRETE® 40% has a minimum portland cement reduction of 40% when compared to the GBCA and ISC reference case.

ENVIROCRETE® 30% and 40% are ideal for general applications where high-performance concrete is not required.

## ENVIROCRETE®

	ENVIROCRETE 30%	ENVIROCRETE 40%
<b>Features and Benefits</b>		
<ul style="list-style-type: none"> <li>Low portland cement.</li> <li>Low embodied carbon.</li> <li>General applications.</li> <li>Suitable for projects targeting a GBCA or ISC rating.</li> </ul>		
<b>Environmental properties</b>		
Reduction in portland cement <sup>3</sup>	$\geq 30\%$	
Reduction in portland cement <sup>3</sup> (Typical range)	30% - 70%	
Reduction in embodied carbon <sup>4</sup>	Minimum 30%	Minimum 40%
<b>Engineering and durability properties</b>		
Early age strength	Good	Superior
Drying shrinkage	Good	Superior
Durability in a marine environment	Good	Superior
Patented ZEP™ activator	N/A	
Legend: <span style="color: green;">●</span> Good <span style="color: green;">● ●</span> Very Good <span style="color: green;">● ● ●</span> Excellent <span style="color: green;">● ● ● ●</span> Superior		
<b>Applications</b>		
Standard Mixes - Footpaths, house slab, driveways and others	Good	Good
Piling - All types of piling	Good	Good
Columns - Vertical applications	Good	Good
Wall/Stairs - All wall applications	Good	Good
Blockfill - Blockfill / Corefill	Good	Good
PT Slabs - Post Tension / High early strength	Good	
Precast - High early strength	Good	
Shotcrete - All shotcrete mixes	Good	
Footing - General footing mixes	Good	Good
Colour Mixes - Boral Colori mixes	Good	
Exposed - Expose' range	Good	
Polished - Boralstone range	Good	
Tilt-up - Cast insitu / high early strength	Good	
Slipform / Jumpform - High early strength	Good	Good
High Strength - up to 65MPa	Good	Good
Legend: <span style="color: gray;">■</span> Good <span style="color: gray;">■ ■</span> Better <span style="color: gray;">■ ■ ■</span> Best		

## ENVIROCRETE®

	ENVIROCRETE 30%	ENVIROCRETE 40%
Other Applications	Council Footpaths & General Landscaping Low carbon concrete products for special applications	

Compliance		
AS 1379 Specification for Basic Assessment	Complies	Complies
Compressive Strength (MPa)	20MPa - 50MPa	20MPa - 50MPa

20MPa	
Compressive Strength - 1 day (MPa)	N/A
Compressive Strength - 7 days (MPa)	~18
Compressive Strength - 28 days (MPa)	20
Dry Shrinkage (mmmm) - microstrain (50% RH) - 56 days	<1000
Nominal Dry Shrinkage (mmmm) - microstrain (50% RH) - 56 days	AS 1379
Maximum Dry Shrinkage (mmmm) - microstrain (50% RH) - 56 days	AS 1379
Post tensioned applications (MPa@days) - 22MPa @ days	N/A
Post tensioned applications (MPa@days) - 25MPa @ days	N/A

32MPa	
Compressive Strength - 1 day (MPa)	N/A
Compressive Strength - 7 days (MPa)	~ 22
Compressive Strength - 28 days (MPa)	32
Dry Shrinkage (mmmm) - microstrain (50% RH) - 56 days	<1000
Nominal Dry Shrinkage (mmmm) - microstrain (50% RH) - 56 days	AS 1379
Maximum Dry Shrinkage (mmmm) - microstrain (50% RH) - 56 days	AS 1379
Post tensioned applications (MPa@days) - 22MPa @ days	N/A
Post tensioned applications (MPa@days) - 25MPa @ days	N/A

## ENVIROCRETE®

	ENVIROCRETE 30%	ENVIROCRETE 40%
<b>40MPa</b>		
Compressive Strength - 1 day (MPa)		N/A
Compressive Strength - 7 days (MPa)		~ 28
Compressive Strength - 28 days (MPa)		40
Dry Shrinkage (mmm) - microstrain (50% RH) - 56 days		<1000
Nominal Dry Shrinkage (mmm) - microstrain (50% RH) - 56 days		AS 1379
Maximum Dry Shrinkage (mmm) - microstrain (50% RH) - 56 days		AS 1379
Post tensioned applications (MPa@days) - 22MPa @ days	22MPa @ 5 days	N/A
Post tensioned applications (MPa@days) - 25MPa @ days		N/A
<b>50MPa</b>		
Compressive Strength - 1 day (MPa)		N/A
Compressive Strength - 7 days (MPa)		~ 38
Compressive Strength - 28 days (MPa)		50
Dry Shrinkage (mmm) - microstrain (50% RH) - 56 days		<1000
Nominal Dry Shrinkage (mmm) - microstrain (50% RH) - 56 days		AS 1379
Maximum Dry Shrinkage (mmm) - microstrain (50% RH) - 56 days		AS 1379
Post tensioned applications (MPa@days) - 22MPa @ days		N/A
Post tensioned applications (MPa@days) - 25MPa @ days		N/A
<b>&gt;50MPa</b>		
Contact Boral Technical for more information		

	ENVIROCRETE 30%	ENVIROCRETE 40%
<b>Content Declaration (% by weight) - Refer to EPD for TfNSW &amp; Special applications</b>		
General purpose cement		7–18%
Ground granulated blast furnace slag		0–4%
Fly ash		2–5%
Silica fume		-
Coarse aggregate		38–50%
Manufactured sand		8–38%
Natural sand		0–38%
Admixtures		<0.15%
Steel Fibres		-
Water		6–9%

<b>Concrete Mixes (Covered by EPD - NSW)</b>		
Low carbon concrete products for special applications	<ul style="list-style-type: none"> <li>ENVIROCRETE® 30% 20MPa</li> <li>ENVIROCRETE® 30% 25MPa</li> <li>ENVIROCRETE® 30% 32MPa</li> <li>ENVIROCRETE® 30% 40MPa</li> <li>ENVIROCRETE® 30% 50MPa</li> </ul>	<ul style="list-style-type: none"> <li>ENVIROCRETE® 40% 20MPa</li> <li>ENVIROCRETE® 40% 25MPa</li> <li>ENVIROCRETE® 40% 32MPa</li> <li>ENVIROCRETE® 40% 40MPa</li> <li>ENVIROCRETE® 40% 50MPa</li> </ul>
Concrete products for special applications	-	-
Fibrecrete products	<ul style="list-style-type: none"> <li>ENVIROCRETE® 30% 32MPa 20KG STEEL FIBRE</li> <li>ENVIROCRETE® 30% 40MPa 20KG STEEL FIBRE</li> <li>ENVIROCRETE® 30% 50MPa 20KG STEEL FIBRE</li> <li>ENVIROCRETE® 30% 32MPa 25KG STEEL FIBRE</li> <li>ENVIROCRETE® 30% 40MPa 25KG STEEL FIBRE</li> <li>ENVIROCRETE® 30% 50MPa 25KG STEEL FIBRE</li> <li>ENVIROCRETE® 30% 32MPa 30KG STEEL FIBRE</li> <li>ENVIROCRETE® 30% 40MPa 30KG STEEL FIBRE</li> <li>ENVIROCRETE® 30% 50MPa 30KG STEEL FIBRE</li> </ul>	

## ENVIROCRETE®

	ENVIROCRETE 30%	ENVIROCRETE 40%
<b>Content Declaration (% by weight) - VIC</b>		
General purpose cement	6-18%	
Ground granulated blast furnace slag	0-13%	
Fly ash	0-13%	
Silica fume	–	
Coarse aggregate	40-50%	
Manufactured sand	0-20%	
Natural sand	22-41%	
Admixtures	<0.2%	
Steel Fibres	–	
Water	6-9%	
<b>Concrete Mixes (Covered by EPD - VIC)</b>		
Low carbon concrete products	<ul style="list-style-type: none"> <li>• ENVIROCRETE® 30% 20MPa</li> <li>• ENVIROCRETE® 30% 25MPa</li> <li>• ENVIROCRETE® 30% 32MPa</li> <li>• ENVIROCRETE® 30% 40MPa</li> <li>• ENVIROCRETE® 30% 50MPa</li> </ul>	<ul style="list-style-type: none"> <li>• ENVIROCRETE® 40% 20MPa</li> <li>• ENVIROCRETE® 40% 25MPa</li> <li>• ENVIROCRETE® 40% 32MPa</li> <li>• ENVIROCRETE® 40% 40MPa</li> <li>• ENVIROCRETE® 40% 50MPa</li> </ul>
Low concrete products for special applications	<ul style="list-style-type: none"> <li>• ENVIROCRETE® 20MPa - 40% SCM</li> <li>• ENVIROCRETE® 25MPa - 40% SCM</li> </ul>	
Fibrecrete products	<ul style="list-style-type: none"> <li>• ENVIROCRETE® TUNNEL BACKFILL</li> <li>• ENVIROCRETE® TUNNEL BACKFILL EXT PUMP</li> <li>• ENVIROCRETE® KERB MACHINE 320KG/M<sup>3</sup></li> <li>• ENVIROCRETE® KERB MACHINE 280KG/M<sup>3</sup></li> <li>• ENVIROCRETE® VR450 14MM DWALL</li> <li>• ENVIROCRETE® VR400 14MM IN SITU TUNNEL LINING</li> <li>• ENVIROCRETE® VR450 14MM IN SITU TUNNEL LINING</li> <li>• ENVIROCRETE® 32MPa - 65% SCM</li> </ul>	

## ENVIROCRETE®

	ENVIROCRETE 30%	ENVIROCRETE 40%
<b>Content Declaration (% by weight) - QLD</b>		
General purpose cement	7-16%	4-12%
Ground granulated blast furnace slag	-	2-7%
Fly ash	2-6%	1-5%
Silica fume	-	-
Coarse aggregate	38-50%	38-50%
Manufactured sand	0-22%	0-23%
Natural sand	12-40%	10-40%
Admixtures	<0.15%	<0.25%
Steel Fibres	-	-
Water	6-9%	6-9%

Low carbon concrete products for special applications	<ul style="list-style-type: none"> <li>• ENVIROCRETE® 30% 20MPa</li> <li>• ENVIROCRETE® 30% 25MPa</li> <li>• ENVIROCRETE® 30% 32MPa</li> <li>• ENVIROCRETE® 30% 40MPa</li> <li>• ENVIROCRETE® 30% 50MPa</li> </ul>	<ul style="list-style-type: none"> <li>• ENVIROCRETE® 40% 20MPa</li> <li>• ENVIROCRETE® 40% 25MPa</li> <li>• ENVIROCRETE® 40% 32MPa</li> <li>• ENVIROCRETE® 40% 40MPa</li> <li>• ENVIROCRETE® 40% 50MPa</li> </ul>
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<b>Content Declaration (% by weight) - SA</b>	
General purpose cement	6-14%
Ground granulated blast furnace slag	3-8%
Fly ash	-
Silica fume	-
Coarse aggregate	40-42%
Manufactured sand	9-13%
Natural sand	23-29%
Admixtures	<0.2%
Steel Fibres	-
Water	7-8%

	ENVIROCRETE 30%	ENVIROCRETE 40%
<b>Concrete Mixes (Covered by EPD - SA)</b>		
Low carbon concrete products for special applications	<ul style="list-style-type: none"> <li>ENVIROCRETE® 30% 20MPa</li> <li>ENVIROCRETE® 30% 25MPa</li> <li>ENVIROCRETE® 30% 32MPa</li> <li>ENVIROCRETE® 30% 40MPa</li> <li>ENVIROCRETE® 30% 50MPa</li> </ul>	<ul style="list-style-type: none"> <li>ENVIROCRETE® 40% 20MPa</li> <li>ENVIROCRETE® 40% 25MPa</li> <li>ENVIROCRETE® 40% 32MPa</li> <li>ENVIROCRETE® 40% 40MPa</li> <li>ENVIROCRETE® 40% 50MPa</li> </ul>

<b>Content Declaration (% by weight) - WA Perth Region LOW CARBON CONCRETE PRODUCTS</b>	
General purpose cement	4-15%
Ground granulated blast furnace slag	4-13%
Fly ash	0%
Silica fume	38-46%
Coarse aggregate	7-13%
Manufactured sand	0-32%
Natural sand	<0.7%
Admixtures	0%
Steel Fibres	0%
Water	7-8%

<b>Concrete Mixes (Covered by EPD - WA Perth Region)</b>	
Low carbon concrete products for special applications	<ul style="list-style-type: none"> <li>ENVIROCRETE® 20MPa</li> <li>ENVIROCRETE® 25MPa</li> <li>ENVIROCRETE® 32MPa</li> <li>ENVIROCRETE® 40MPa</li> <li>ENVIROCRETE® 50MPa</li> <li>ENVIROCRETE® 65MPa</li> </ul>

<b>Content Declaration (% by weight) - WA Perth Region LOW CARBON CONCRETE PRODUCTS - FOR SPECIAL APPLICATIONS</b>	
General purpose cement	1-40%
Ground granulated blast furnace slag	0-27%
Fly ash	<3%
Silica fume	0-46%
Coarse aggregate	4-53%
Manufactured sand	7-37%
Natural sand	<0.7%
Admixtures	0%
Steel Fibres	0%
Water	6-35%

**Concrete Mixes (Covered by EPD - WA Perth Region)**

Low carbon concrete products for special applications

- ENVIROCRETE® 50 MPa GB
- ENVIROCRETE® PT 50 MPa 22 MPa@4DAYS
- ENVIROCRETE® 65 MPa LH
- ENVIROCRETE® 65 MPa GB
- ENVIROCRETE® 65 MPa MCC:460
- ENVIROCRETE® 65 MPa MCC:350
- ENVIROCRETE® 80 MPa
- ENVIROCRETE® 80 MPa SWC
- ENVIROCRETE® 100 MPa
- ENVIROCRETE® 40 MPa 10mm TREMIE LH
- ENVIROCRETE® 40 MPa 10mm TREMIE GB
- ENVIROCRETE® CEMENT SLURRY@1100kg/m<sup>3</sup>
- MRWA ENVIROCRETE® 40 MPa LH MCC:400
- MRWA ENVIROCRETE® 50 MPa LH MCC:420
- ENVIROCRETE® 3% STABILISED SAND
- ENVIROCRETE® 4% STABILISED SAND
- ENVIROCRETE® 6% STABILISED SAND
- ENVIROCRETE® 8% STABILISED SAND
- ENVIROCRETE® 10% STABILISED SAND
- ENVIROCRETE® 12% STABILISED SAND
- ENVIROCRETE® 15% STABILISED SAND
- ENVIROCRETE® 20% STABILISED SAND

## ENVIROCRETE®

	ENVIROCRETE 30%	ENVIROCRETE 40%
<b>Content Declaration (% by weight) - NT</b>		
Density	2,330-2,380 kg/m <sup>3</sup> (Special Applications 2,220-2,400 kg/m <sup>3</sup> )	
General purpose cement	8-13% (Special Applications 7-15%)	
Ground granulated blast furnace slag	3-9% (Special Applications 3-11%)	
Fly ash	-	
Silica fume	(Special Applications 0.1%)	
Coarse aggregate	40-45% (Special Applications 0-50%)	
Manufactured sand	15-25% (Special Applications 10-30%)	
Natural sand	10-20% (Special Applications 5-45%)	
Admixtures	<0.2% (Special Applications <0.2%)	
Steel Fibres	-	
Water	7% (Special Applications 7-11%)	
<b>Concrete Mixes (Covered by EPD -NT)</b>		
Low carbon concrete products	<ul style="list-style-type: none"> <li>• ENVIROCRETE® 20MPa</li> <li>• ENVIROCRETE® 25MPa</li> <li>• ENVIROCRETE® 32MPa</li> <li>• ENVIROCRETE® 40MPa</li> <li>• ENVIROCRETE® 50MPa</li> <li>• ENVIROCRETE® 65MPa</li> </ul>	
Low carbon concrete products for special applications	<ul style="list-style-type: none"> <li>• ENVIROCRETE® SPECIAL CLASS 15 MPa</li> <li>• ENVIROCRETE® BLOCKFILL 20 MPa</li> <li>• ENVIROCRETE® BLOCKFILL 25 MPa</li> <li>• ENVIROCRETE® BLOCKFILL 32 MPa</li> <li>• ENVIROCRETE® EASY PLACE 20 MPa</li> <li>• ENVIROCRETE® EASY PLACE 25 MPa</li> <li>• ENVIROCRETE® EASY PLACE 32 MPa</li> <li>• ENVIROCRETE® EASY PLACE 40 MPa</li> <li>• ENVIROCRETE® HIGH SLUMP 50 MPa</li> <li>• ENVIROCRETE® HIGH SLUMP 65 MPa</li> <li>• ENVIROCRETE® TREMIE 40 MPa</li> <li>• ENVIROCRETE® TREMIE 50 MPa</li> <li>• ENVIROCRETE® KERB MACHINE 320kg/m<sup>3</sup></li> <li>• ENVIROCRETE® GROUT 400kg/m<sup>3</sup></li> <li>• ENVIROCRETE® SHOTCRETE 32 MPa</li> </ul>	

## ENVIROCRETE®

### ENVIROCRETE 30%

### ENVIROCRETE 40%

#### Content Declaration (% by weight) - TAS

Contact Boral Technical Services for information

#### Concrete Mixes (Covered by EPD -TAS)

Contact Boral Technical Services for information

<sup>1</sup> Green Building Council of Australia (GBCA).

<sup>2</sup> Infrastructure Sustainability Council (ISC).

<sup>3</sup> Using the reference case from the GBCA Design and As-Built v1.3 rating tool.

<sup>4</sup> Using a reference case calculated from the GBCA upfront embodied carbon emissions calculator for concrete with GP cement.



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#### CONTACT BORAL'S CONCRETE TEAM 1300 267 251

The information in this product sheet and any advice given should be viewed as a guide only. Boral recommends obtaining technical advice prior to construction. To ensure the information you are using is current, Boral recommends you review the latest building information available on the Boral website.

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