Environmentally Friendly Cold Asphalt Premix and Soil Stabilisation Slurry Premix

Primarily applied as New Road Surfacing, Re-Surfacing of existing roads, but also suitable as permanent solution for Road Repairs & Maintenance

...Revolutionising the way roads are built
Carboncor Technology
Uses local road aggregates, carbon-based materials and specifically formulated anionic bituminous emulsion to form a permanent solution for all road use. Its benefits include:

- No Cracking
- No “Creeping”
- No Heat
- No Leaching
- No Solvents
- No Tack Coat
- No Waste
2.3 Production Process

3-stage production process with 80 - 99% of the final product sourced locally. More than 20% processed waste can be used as raw materials. Even larger quantities of RAP (Reclaimed Road Pavement) can be used.

1. Emulsion Mill
2. Mixing Station
3. Packaging

Clean Water → Anionic Emulsion → Cold pre-mix
Bitumen → Road Aggregates/RAP
PH Adjuster → Filler Powders
Carboncor Additive¹ → Carbon/Processed Waste

Asphalt or Slurry → 25 kg Bags
25 kg Bags → Store/deliver

1 Ton Bulk Bags → Store/deliver

Loose Bulk → Deliver

1 Ton IBCs → Deliver

Note 1: Carboncor Additive is the proprietary additive exclusively available from CPTL
3.1 Base surfaces

Carboncor Cold Asphalt Premix can be applied on most types of stabilized or compacted clean surfaces such as:

- Existing Asphalts
- Roughened Concrete
- Compacted Laterites
- Scoured Steel Surfaces
- Existing Rural Road Surfaces
3.2 Existing Road Resurfacing
3.3 Pothole Repairs
3.4 Rural/Soil Roads
3.5 Patch work & Maintenance
2.4 Recycled Asphalt Product
Carboncor emulsion can be used to make a solid wearing course using 80% recycled asphalt (RAP)

‘Dirty’ RAP plus limestone powder... plus quarry dust.... plus carbon black.... plus Carboncor emulsion.

Compact to a wearing course
2.5 Soil stabilisation

Carboncor emulsion can be used to make a solid wearing course using in-situ soils – at the project site or in the factory.

- ‘In-situ’ soil plus limestone powder and quarry dust
- plus biochar....
- plus Carboncor emulsion.

Compacts to a wearing course

Trial patch + 6 months

Marshall cores from different types of NT and WA soils
2.6 Product packaging

Available in:

- **25 kg Bag**
- **1 Ton Bulk Bag**
- **Loose Bulk (Tipper Truck)**
- **IBCs**

<table>
<thead>
<tr>
<th></th>
<th>Pre-mix asphalt</th>
<th>Pre-mix slurry</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2 years</strong></td>
<td>6 months</td>
<td>1-2 months</td>
</tr>
<tr>
<td><strong>6 months</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>7-10 days</strong></td>
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## TESTS AND ACCREDITATION

### 4.1 Conforming to International Standards – ASTM – BS - TRH

<table>
<thead>
<tr>
<th>Traffic class</th>
<th>International Road Properties</th>
<th>Highway Roads</th>
<th>Primary Roads</th>
<th>Secondary Roads</th>
<th>CARBONCOR ALL ROAD SURFACING</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Min</td>
<td>Max</td>
<td>Min</td>
<td>Max</td>
<td>Min</td>
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<tr>
<td>Bulk Density (kg/m³) ASTM 2726</td>
<td>8</td>
<td>18</td>
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<tr>
<td>Marshall Stability (kN) ASTM 2172</td>
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<td>-</td>
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<tr>
<td>Marshall Flow (mm) ASTM 2172</td>
<td>800</td>
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<tr>
<td>Stability / Flow (kN/mm) ASTM 2172</td>
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<td>6</td>
<td>3</td>
<td>6</td>
<td>2</td>
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<tr>
<td>Indirect Tensile Strength @25°C (kPa) ASTM D6931</td>
<td>75</td>
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<tr>
<td>Air Voids in mix (%) ASTM D2041</td>
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<td>1.5</td>
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<tr>
<td>Immersion Index (%) ASTM D1075-11</td>
<td>16</td>
<td>-</td>
<td>16</td>
<td>-</td>
<td>16</td>
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<tr>
<td>Filler / Binder ratio</td>
<td>5</td>
<td>5.7</td>
<td>5</td>
<td>5.9</td>
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<tr>
<td>Air permeability (×10⁻⁶cm²)</td>
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<td>-</td>
<td>5</td>
<td>-</td>
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<tr>
<td>Voids in MIX (%) ASTM D2041</td>
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<td>-</td>
<td>16</td>
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<td>16</td>
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<tr>
<td>Film thickness (µm)</td>
<td>5</td>
<td>-</td>
<td>5</td>
<td>-</td>
<td>5</td>
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<tr>
<td>Bitumen Content (%)</td>
<td>5</td>
<td>7</td>
<td>5</td>
<td>7</td>
<td>5.1</td>
</tr>
</tbody>
</table>
4 SPECIFICATIONS, TESTS, ACCREDITATION

4.2 Skid Resistance Test

Suggested minimum values of “skid resistance” (measured with portable tester) (TRRL. 1969)

<table>
<thead>
<tr>
<th>Category</th>
<th>Type of site</th>
<th>Min. skid resistance (surface wet)</th>
</tr>
</thead>
</table>
| A        | Difficult sites such as:  
1. Roundabouts  
2. Bends with radius less than 150m on unrestricted roads  
3. Gradients 1 in 20 or steeper of lengths greater than 100m  
4. Approaches to traffic lights on unrestricted roads | 65                                |
| B        | Motorways, trunks and class 1 roads and heavily trafficked roads in urban areas (carrying more than 2000 vehicles per day) | 55                                |
| C        | All other sites                                                              | 45                                |
4 TESTS AND ACCREDITATION

4.3 Australian Independent Lab Test

- NATA accredited lab
- IPWEA specifications
- All specifications met – especially high score for stability
Accreditations - Australia

Tested in NATA accredited laboratory
Recommendation from the Government of South Australia following successful trial

Accreditations - International

Internationally approved up to Expressway road surfacing as well as permanent road repair and maintenance.

- TRH8 Traffic Class E3 (6.7mm grading)
- TRH8 Traffic Class E4 (9.5mm grading)
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