

## Colas VLW Asphalt Emulsion

### Description

Colas VLW is a low water content inverted asphalt emulsion specifically designed and formulated to be mixed with mineral aggregate in conventional hot mix plants. The cold patch mix can be stockpiled for winter and summer use. The Colas VLW Cold Patch is a stockpiled mix which is easy to shovel and compact during the winter months. It resists bleeding even under summer conditions and resists stripping due to the superior coating achieved during mixing. This Cold Patch is produced by combining Colas VLW emulsion and suitable mineral aggregates in a hot mix plant.

### Features

- Resists hardening in stockpile
- Easy to handle at low temperatures
- Resists bleeding and stripping
- Very high residual binder content
- Minimum air pollution during mixing
- Minimum fire hazard during mixing

### Uses

To produce a hot mixed cold patching material.

### Physical Properties

	<u>VLW-1</u>	<u>VLW-2</u>
-Handling Temperature of Mix, °C (minimum)	-5	-10
-Viscosity (SF), s at 50°C (ASTM D244)	200-250	100-150
-Water Content, % by mass (ASTM D244)	1-3	1-3
-Residue by Distillation, % by mass (ASTM D244)	95 min.	90 min.
-Tests on Residue: Viscosity (SF), s at 50°C (ASTM D244)	400-800	200-400
-Solubility in Trichloroethylene, % by mass (ASTM D244)	97.5	97.5

### Application

Colas VLW emulsion can be stored and pumped using conventional equipment available at hot mix plants. Storage temperature should be 35°C to 70°C.

Predetermined quantities of heated stone and sand are mixed with the Colas VLW emulsion in the pugmill of the hot mix plant. Upon contact with the heated aggregate, the emulsion foams giving rapid and thorough coating of the aggregate.

**Aggregates**

---

Aggregates selected shall consist of clean, hard, durable particles. The aggregate blend must conform to the following screen analysis.

<u>Sieve Designation</u>	<u>Percentage by Weight Passing</u>
12.5 mm	100
9.5 mm	85 - 100
4.75 mm	50 - 85
2.36 mm	35 - 65
1.18 mm	25 - 50
600 mm	15 - 40
300 mm	7 - 25
150 mm	2 - 13
75 mm	0 - 7

**Mixing Procedure**

---

Colas VLW asphalt emulsion is mixed with suitable aggregates in an asphalt hot mix plant as follows:

-Aggregates shall be heated from 115°C to 125°C in the dryer and blended for 20 seconds in the pugmill.

-Colas VLW asphalt emulsion at a temperature of 30°C to 60°C is added to the pugmill and blended with the aggregate for 30 seconds.

-The mixture is then discharged from the pugmill. Discharge temperature should be between 95°C to 105°C.

**Mix Design**

---

Bakor can provide assistance in proper design of mixes for use in production of Colas VLW Cold Patch. Depending upon the type of aggregates used, the quantity of Colas VLW asphalt emulsion used is normally 5% by weight. The residual asphalt content of the mix determined by the extraction process shall be 3.7-5.5% expressed as a percentage of the total mix.

The mix shall possess adequate stripping resistance and workability as determined by laboratory testing.