



Protect Environment

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Green



# Bituaqua Prime Coat\*(PEP)

## Penetrating emulsified prime coat for dense/close graded aggregate base course

### Uses

The major purpose of prime coat is to protect the underlying layers from wet weather by providing a temporary waterproofing layer, Additional benefits of penetrating prime coat is to stabilizing or binding the surface fines together and promoting bond to the HMA layer. Penetrating prime coat increased the bond strength at the interface between a compacted dense/close graded aggregate base course and asphalt layer.

### Advantages

- Penetrate rapidly into the dense/close graded surface and bind the granular material together.
- Harden or toughen the surface
- Protect environment, contain no petroleum solvent.
- Partially waterproof the treated areas to make them resistant to water erosion
- Plug capillary voids.
- Provide adhesion between the base and the next course
- Provide protection from wind, water, and traffic erosion

### Compliance to ASTM / AASHTO Standards

ASTM D140, D244, ASTM D977 & D2397  
AASHTO T-59, AASHTO T-201  
Base material meets AASHTO M-140 requirements.

### Description

**Bituaqua Primer Coat\* (PEP)** is an emulsified bitumen prime coat; it is supplied as brown liquid, and ready to use at site, normally available in two grades Medium Set & Slow Set, Rapid Set also available on request.

### Properties of base prime material AASHTO M140

Residue	: 55 - 60 %
Saybolt Furol viscosity	: 20 Sec. – 30 Sec. @ 25 °C
Particle size	: 5 – 6 microns

### Properties of (PEP) Penetrating Emulsified Prime

Appearance	: Brown liquid
Saybolt Furol viscosity	: 15 - 20 Sec. @ 25 °C
Solid contents	: 45% ± 2
Particle size	: 5 – 6 microns
Settlement 5 days	: < 3%
Setting time at 30 °C	: Medium Set      Slow Set
Initial set - hours	:            3                            6
Final set – hours	:            16                            18

**Note:- PEP coverage 0.85 Kg/m<sup>2</sup> is equal to base material coverage 0.70 Kg/m<sup>2</sup>**

### Surface Preparation

**Bituaqua Prime Coat\* (PEP)** can be applied in some situations without any preparation. However, the beneficial effects will be reduced by an extremely dry material, the presence of highly compacted areas, potholes, and high spots. To optimize the performance of **Bituaqua Prime Coat\* (PEP)**, the following steps should be employed:

**Grading:** Using a road grader, an angled dozer, or shovels and rakes, remove, mix and replace the top 50 to 150 mm (2 to 6 in.) of material. Insure that the surface is free from local high spots and potholes, and that the material is evenly mixed and distributed to avoid segregated pockets of coarse or fine gradation. In the case where planning section is not required, the top surface should be scarified for 12.5 to 25 mm

**Watering:** Water should be applied 2 to 12 hours before priming if required.

### Application

The prime coat is sprayed at about 0.85 – 1.75 Kg./m<sup>2</sup> Do a test area to check the level of penetration first. Adjust spray temperature if necessary. Spray using a standard emulsion sprayer that is properly calibrated.

Allow penetrating and drying. Usually traffic should not be allowed on to this for 24 hours but if traffic must use the road a thin layer of sand can be spread. Final surfacing may be done next day.



## Technical support

Pakistan Bitumen Company provides a technical advisory service for on-site assistance and advice on selection of prime coat grade, as per the properties of aggregate and site conditions.

## Precaution / Limitation

**Bituaqua Prime Coat\* (PEP)** shall not be applied when the ambient temperature is below 10° C (50° F), or when rain is imminent.

**Bituaqua Prime Coat\* (PEP)** may be harmful to growing plants, since like any other oil, it seals pores and interferes with intake of carbon dioxide. Reasonable care should be taken to prevent spray on crops. Also, since the product is black, reasonable care should be taken to prevent spraying on buildings, fences, and other areas where dark stains are undesirable.

Avoid skin and eye contact, in case of contact, use plenty of water and seek medical advice, use the appropriate means if self protection, the emulsion is non toxic, it must not be disposed to surface and still water.

Traffic should be kept off the treated surfaces until the product has penetrated and the surface is no longer tacky. There should be no pickup of the treated materials on shoes or tires.

If puddles develop in low spots, clean sand or soil should be applied to blot them

**Bituaqua Prime Coat\* (PEP)** does not fall into the hazardous classifications of current regulations. However, it should not be swallowed or allowed to come into contact with skin and eyes.

Suitable protective gloves and goggles should be worn. Splashes on the skin should be removed with water. In case of contact with eyes rinse immediately with plenty of water and seek medical advice. If swallowed seek medical attention immediately do not induce vomiting.

## Protect Environment

The primary pollutants of concern from asphalt paving operations are volatile organic compounds (VOC). Cutback asphalts are the major source of VOCs as only minor amounts of VOCs are emitted from emulsified asphalts and asphalt cements. VOC emissions from cutback asphalts result from the evaporation of the petroleum distillate used to liquefy the asphalt cement. VOC emissions can occur at both the job site and the mixing plant; however, the largest source of emissions was reported as from the road.

Asphalt emulsions are typically used in place of cutback asphalts to eliminate VOC emissions. The use of cutback asphalt is regulated in many jurisdictions to help reduce VOC emissions. Prohibitions on the use of cutback, either permanently or during certain times of the year, are common in jurisdictions that have either reached, or are nearing non attainment for ozone requirements of the Clean Air Act.

## Storage

**Bituaqua Prime Coat\* (PEP)** has a shelf life of 12 months provided the temperature is kept within the range of 5 °C to 50 °C. Should the temperature of the product fall outside this range then contact your local office for advice, if the material is store for long time it should be shake well before use.

**Freezing point: Approximately below 0°C**

## Health and safety

For further information consult the Material Safety Data Sheet available for this product.

## Fire

**Bituaqua Prime Coat\* (PEP)** is water base and non flammable.

## Estimating – packaging

**Bituaqua Prime Coat\* (PEP)** is available in 218 kg. Drums and bulk supply.

\* Denotes the trademark registered

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